SECURITIES AND EXCHANGE COMMISSION

FORM S-1

General form of registration statement for all companies including face-amount certificate companies

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SIC: **3841** Surgical & medical instruments & apparatus

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As filed with the Securities and Exchange Commission on June 26, 2025.

Registration No. 333–

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Carlsmed, Inc.

(Exact name of registrant as specified in its charter)

Delaware	3841	83-1081863
(State or other jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

Carlsmed, Inc.
1800 Aston Ave, Suite 100
Carlsbad, California 92008
(760) 766-1923

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Michael Cordonnier
Chairman, Chief Executive Officer, President, and Co-Founder
Carlsmed, Inc.
1800 Aston Ave, Suite 100
Carlsbad, California 92008
(760) 766-1923

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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Morrison & Foerster LLP	**650 Town Center Drive, 20th Floor**
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San Diego, California 92130	**(714) 540-1235**
(858) 720-5100	

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

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If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Securities Exchange Act of 1934.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. ☒

The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant files a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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Subject to completion
Preliminary Prospectus dated June 26, 2025

PROSPECTUS

Shares



Common Stock

This is an initial public offering of shares of common stock by Carlsmed, Inc. We are offering shares of common stock, par value $0.00001 per share ("common stock"). We expect that the initial public offering price will be between $ and $ per share.

Prior to this offering, there has been no public market for our shares. We have applied to list our common stock on The Nasdaq Global Select Market under the symbol "CARL" and this offering is contingent upon obtaining approval of such listing.

Upon completion of this offering, our executive officers, directors, owners of 5% or more of our capital stock and their respective affiliates will own, in the aggregate, approximately % of our common stock (assuming no exercise of the underwriters' option to purchase additional shares and no purchases of shares in this offering by anyone of this group). These stockholders will be able to exercise significant control over matters requiring stockholder approval, including the election of directors, amendment of our organizational documents, and approval of any merger, sale of assets, and other major corporate transaction.

ıy be changed. We may not sell these securities until the Securities and Exchange
nary prospectus is not an offer to sell these securities, and it is not soliciting an offer
permitted.

We are an "emerging growth company" and a "smaller reporting company" under the U.S. federal securities laws, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and may elect to do so for future filings. See the section titled "*Prospectus Summary—Implications of Being an Emerging Growth Company and a Smaller Reporting Company*."

		Per share	Total
Initial public offering price	$	$	
Underwriting discounts and commissions[(1)]	$	$	
Proceeds, before expenses, to us	$	$	

(1)See the section titled "*Underwriting*" for additional information regarding underwriting compensation.

We have granted the underwriters an option for a period of 30 days to purchase an additional shares of our common stock from us at the initial public offering price, less underwriting discounts and commissions.

Investing in our common stock involves a high degree of risk. Before buying any shares, you should carefully read the discussion of the material risks of investing in our common stock under the heading "Risk Factors" starting on page 15 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The underwriters expect to deliver the shares of common stock to the purchasers on or about , 2025.

BofA Securities **Goldman Sachs & Co. LLC** **Piper Sandler**

Truist Securities **BTIG**

, 2025

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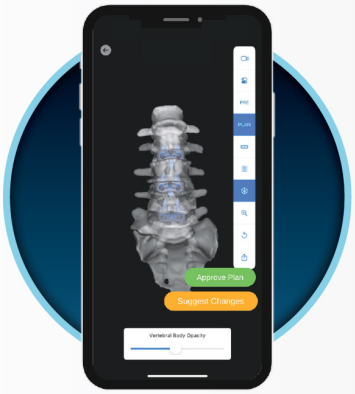


PIONEERING AI-ENABLED PERSONALIZED SPINE SURGERY

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The aprevo® Technology Platform

END-TO-END INTEGRATED DIGITAL TECHNOLOGY PLATFORM



PRE-OP

myaprevo

AI-enabled 3D planning & visualization software



INTRA-OP

aprevo

Custom-made anatomically designed interbody fusion device



POST-OP

aprevo intelligence

Post-operative data insights & analysis

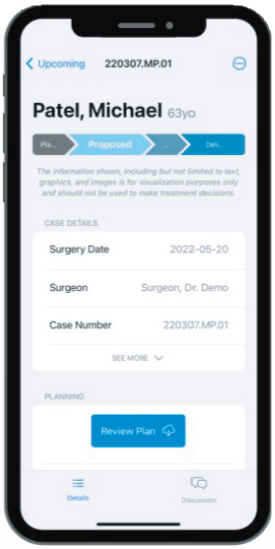
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PRE-OPERATIVE

myaprevo application provides interactive 3D visualizations

REVIEW
Case Details



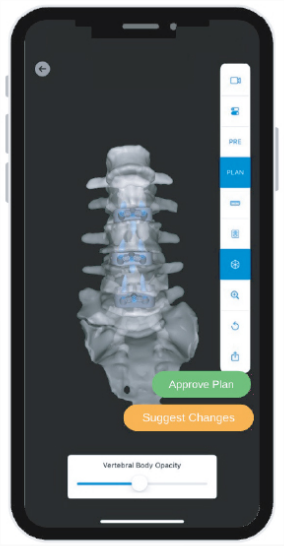
PATHOLOGY
Personalized Correction



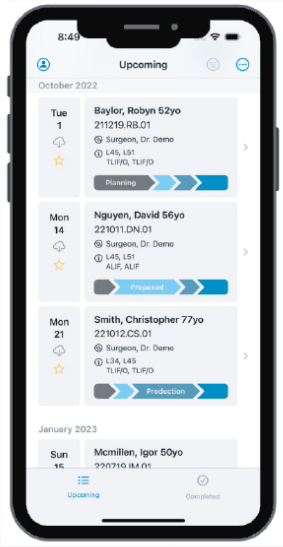
PLAN
Device Designs



APPROVE
Plan or Provide Changes



TRACK
Digital Production



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INTRA-OPERATIVE

aprevo® application provides interactive 3D visualizations

PERSONALIZED INTERBODY IMPLANTS PURPOSEFULLY DESIGNED

After the myaprevo® plan is approved by the surgeon, aprevo® interbody implants are 3D printed, sterile packed, and delivered to the OR within 10 business days.

The aprevo® interbody implants are optimized for Transforaminal, Lateral, or Anterior surgical access.

In the OR, the surgeon delivers the aprevo® interbody implant to each planned vertebral level utilizing traditional surgical techniques.



aprevo® Lateral
LLIF

aprevo® Transforaminal
TLIF-O | TLIF-C

aprevo® Anterior
ALIF | ALIF-X



Porous titanium surface lattice designed to promote bone on-growth and in-growth

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POST-OPERATIVE aprevo® intelligence™

DATA INSIGHTS PATIENT ANALYSIS

Each patient's imaging is analyzed to generate a detailed aprevo® intelligence™ case report.

The aprevo® intelligence™ report compares pre-op, planned, and post-op alignment, giving surgeons detailed analytics to evaluate patient outcomes against surgical goals.

Ongoing data and aprevo® intelligence™ reports refine our algorithms, continuously improves future planning and patient outcomes.



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To improve outcomes and
reduce the cost of healthcare for
spine surgery and beyond.

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Table of Contents

BASIS OF PRESENTATION	i
PROSPECTUS SUMMARY	1
RISK FACTORS	15
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS	73
USE OF PROCEEDS	75
DIVIDEND POLICY	76
CAPITALIZATION	77
DILUTION	79
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	82
BUSINESS	101
MANAGEMENT	150
EXECUTIVE AND DIRECTOR COMPENSATION	160
CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS	174
PRINCIPAL STOCKHOLDERS	178
DESCRIPTION OF CAPITAL STOCK	180
SHARES ELIGIBLE FOR FUTURE SALE	187
MATERIAL U.S. FEDERAL INCOME	189

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TAX CONSEQUENCES TO NON-U.S. HOLDERS

UNDERWRITING 193

LEGAL MATTERS 202

EXPERTS 202

WHERE YOU CAN FIND MORE INFORMATION 202

Unless the context otherwise requires, all references in this prospectus to "Carlsmed," the "Company," "we," "us," or "our" refers to Carlsmed, Inc., a Delaware corporation.

We have not, and the underwriters have not, authorized anyone to provide any information or to make any representation other than those contained in this prospectus, any amendment or supplement to this prospectus, or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the shares of common stock offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. The information contained in this prospectus, any amendment or supplement to this prospectus, or any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of shares of our common stock. Our business, financial condition, results of operations, and prospects may have changed since that date.

For investors outside the United States: We have not, and the underwriters have not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States. See the section titled "*Underwriting*."

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BASIS OF PRESENTATION

Our financial statements have been prepared in accordance with the generally accepted accounting principles in the United States ("GAAP"). We present our financial statements in U.S. dollars.

Our fiscal year ends on December 31 of each year.

Certain monetary amounts, percentages, and other figures included elsewhere in this prospectus have been subject to rounding adjustments. Accordingly, figures shown as totals in certain tables or charts may not be the arithmetic aggregation of the figures that precede them, and figures expressed as percentages in the text may not total 100% or, as applicable, when aggregated, may not be the arithmetic aggregation of the percentages that precede them.

Market, Industry, and Other Data

Market data and certain other statistical information used throughout this prospectus are based on independent industry publications, governmental publications, reports by market research firms, or other independent sources that we believe to be reliable sources. In addition, information regarding the number of expected lumbar and cervical fusion surgeries to be performed in 2025 is based on data from the 2024 Spinal Fusion - US Market Report (the "SmartTRAK Report") by BioMedGPS, provider of SmartTRAK Business Intelligence Solutions ("SmartTRAK"). SmartTRAK notes that it uses information from both quantitative and qualitative data sources and applies proprietary algorithms to report and/or project trends such as incidence and prevalence figures, procedure volumes and revenues. SmartTRAK data sources include the following: primary research with companies, societies, clinicians, hospitals and ASCs; attendance and coverage of industry conferences; professional societies;·U.S. government databases;·and medical claims databases. In some cases, we do not expressly refer to the sources from which this data is derived. In that regard, when we refer to one or more sources of this type of data in any paragraph, you should assume that other data of this type appearing in the same paragraph is derived from the same sources, unless otherwise expressly stated or the context otherwise requires. The content of these third-party sources, except to the extent specifically set forth in this prospectus, does not constitute a portion of this prospectus and is not incorporated herein. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosure contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the underlying data, estimates or information contained in such publications. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section titled "*Risk Factors*" and elsewhere in this prospectus. Some data are also based on our good-faith estimates. In addition, throughout this prospectus we refer to information related to clinical studies and research that evaluate the aprevo Technology Platform and related matters. Please see the section titled "*Business—Our Clinical Results and Studies*" for additional information regarding these studies and research.

Trademarks

We own certain trademarks and trademark applications used in this prospectus that are important to our business, including, among others, Carlsmed®, aprevo®, and myaprevo®. We also intend to apply for various trademarks that we use in connection with the operation of our business. This prospectus may also contain trademarks, service marks, and trade names of third parties, which are the property of their respective owners. Our use or display of third parties' trademarks, service marks, trade names, or products in this prospectus is not intended to, and does not, imply a relationship with, or endorsement or sponsorship by, us. Solely for convenience, the trademarks, service marks, and trade names referred to in this prospectus may appear without the "™," "®," or "℠" symbol, but the omission of such references is not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the right of the applicable owner of these trademarks, service marks, and trade names.

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PROSPECTUS SUMMARY

This summary highlights selected information contained in greater detail elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our common stock, you should carefully read this entire prospectus, including our financial statements and the related notes thereto included elsewhere in this prospectus. You should also consider, among other things, the information set forth under the sections titled "Risk Factors," "Special Note Regarding Forward-Looking Statements," and "Management's Discussion and Analysis of Financial Condition and Results of Operations," in each case, included elsewhere in this prospectus. You should also carefully review the section titled "Business—Our Clinical Results and Studies" for information related to clinical studies and research that evaluate the aprevo Technology Platform and related matters.

Overview

We are a commercial-stage medical technology company pioneering AI-enabled personalized spine surgery solutions with a mission to improve outcomes and decrease the cost of healthcare for spine surgery and beyond. We are focused on becoming the standard of care for spine fusion surgery. The aprevo Technology Platform consists of artificial intelligence ("AI")-enabled software solutions, and interbody implants that we custom design for each patient's unique pathology and vertebral bone topography, and single-use surgical instruments (the "aprevo Technology Platform"). The aprevo Technology Platform was designed to address the limitations of traditional spine fusion surgery and aims to optimize patient outcomes and reduce the need for revision surgeries. By providing personalized surgical plans and interbody implants for custom vertebral fit that are powered by AI-enabled, outcomes-based algorithms, the aprevo Technology Platform supports surgeons in achieving proper spinal alignment for patients with degenerative disc disease ("DDD"), which can improve clinical outcomes and reduce the likelihood of revision surgeries. We currently market the aprevo Technology Platform for lumbar spine fusion surgery, and we are further developing the aprevo Technology Platform for use in cervical spine fusion surgeries, which we expect to commercialize in 2026.

DDD is the progressive breakdown of spinal discs that are interposed between vertebrae to provide mobility and shock absorption. The disease occurs naturally with age and can be accelerated by factors such as injury, repetitive loading, obesity, or genetic predisposition. Adult spinal deformity ("ASD") is a more severe form of DDD and is a condition where the spine has systematic structural abnormalities and/or abnormal curvature often affecting multiple levels of the spine. These conditions often cause a loss of disc height and spine function, and lead to chronic pain, disability, and other chronic spinal pathologies, significantly impacting patients' lives. As the conditions progress and patients experience debilitating pain or disabilities, surgical intervention may become necessary. One study estimated that the overall prevalence of diagnosed DDD was 27.3% for individuals over the age of 65, and increased with age (Parenteau et al., 2021).

Non-surgical interventions are typically the first line of treatment for DDD and are aimed at managing symptoms and slowing disease progression without invasive procedures. When non-surgical treatments fail to alleviate debilitating symptoms or disabilities, surgical interventions may become necessary. The most common surgical intervention and current standard of care is traditional spine fusion, which we define as a spine fusion procedure with stock implants that are fixed in size and shape. According to the SmartTRAK Report, there will be approximately 445,200 lumbar fusion surgeries and approximately 372,600 cervical fusion surgeries performed in the United States in 2025. For additional information on the sources and assumptions of the SmartTRAK Report, see sections titled "*Market, Industry, and Other Data*" and "*Business—Market Overview—Our Addressable Market.*"

Despite its wide adoption, we believe traditional spine fusion surgery has several limitations and can lead to poor clinical outcomes. First, traditional spine fusion often lacks robust pre-operative planning, relying on two-dimensional ("2D") imaging without advanced tools, such as three-dimensional ("3D") modeling. This limits the surgeon's ability to plan for optimal correction. Second, the stock implants that are used during surgery are largely symmetric in shape and only come in pre-defined dimensions, which often fail to match the unique anatomy of each patient and can lead to unpredictable alignment. During the surgery, the surgeon must visually choose the correct stock implant from dozens of options, which involves a prolonged trialing process, and which we believe elevates the risk of secondary complications. Finally, post-operatively, there is no integrated means for reconciling achieved outcomes against surgical objectives and utilizing these insights systematically to improve future surgical plans. As

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a result of these limitations, traditional spine fusion surgery can fail to achieve proper alignment, leading to post-operative complications and increasing the likelihood of revision surgery. Recent publications on traditional spine fusion report rates of revision surgery for mechanical complications between 14% and 32% over a mean postoperative period of one to two years in ASD patients (Kent et al., 2024). We believe that these limitations and poor clinical outcomes not only impair patients' health and quality of life but also impose a significant economic burden on the healthcare system with the direct and indirect costs of a revision surgery frequently exceeding $100,000 (Raman et al., 2018).

The aprevo Technology Platform represents an end-to-end, integrated digital technology platform designed to deliver better surgical results, reduce the need for revision surgery, and improve long-term outcomes. The aprevo Technology Platform is the first available solution to provide personalized digital surgical plans and the accompanying aprevo interbody implants that are tailored to each patient's unique pathology and vertebral bone topography.

Our pre-operative planning software utilizes standard-of-care diagnostic imaging in combination with our AI-enabled algorithms to develop personalized digital surgical plans, allowing us to design aprevo interbody implants for each patient's unique pathology and anatomy. Additionally, the aprevo Technology Platform supports the collection of post-operative data to inform our digital surgical planning process. The aprevo Technology Platform is 510(k) cleared by the U.S. Food and Drug Administration ("FDA") and commercially available in the United States for lumbar interbody fusion surgeries. Procedures using our aprevo interbody implants are covered by Medicare, Medicare Advantage, and commercial payors; these are generally mapped to MS-DRG codes that provide for premium reimbursement for most spine fusion surgeries that utilize aprevo interbody implants relative to those that use stock implants. We believe this also helps drive surgeon adoption while also supporting patient access to our patient-centric technology. While our current commercial focus is on the U.S. market, we plan to engage in market access initiatives for strategic international regions.

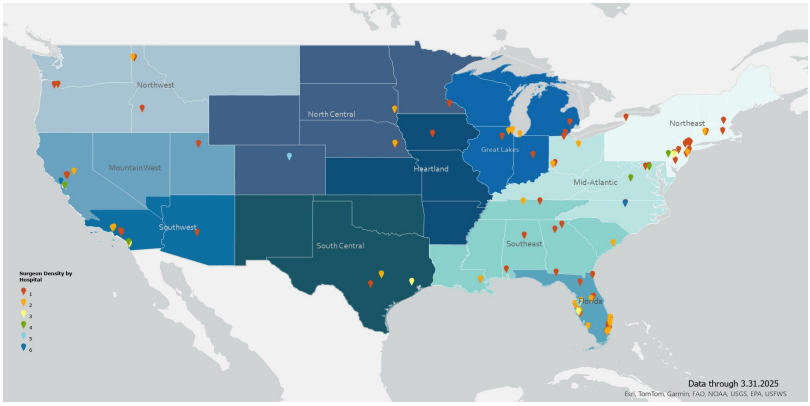
We are also developing our aprevo Technology Platform for use in cervical spine fusion surgeries. In November 2024, we received FDA 510(k) clearance for our aprevo interbody implants for cervical interbody fusion surgeries after previously receiving FDA Breakthrough Device Designation for this technology. In 2025, we plan to continue to build our aprevo Technology Platform for cervical fusion procedures by pursuing additional clearances for advancements to our cervical software platform and our personalized plating solutions. However, there is no guarantee that our cervical software platform and our personalized plating solutions will obtain FDA clearance on the expected timeline, or at all. See the section titled "*Business— Our Solution—Our 510(k) Submissions*" for more information regarding our FDA 510(k) submissions for our material products and product candidates. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. In April 2025, the Centers for Medicare and Medicaid Services ("CMS") announced proposed ICD-10-PCS ("X-codes") for the use of custom-made anatomically designed fusion devices for cervical spine fusion surgeries. While there is no guarantee that this proposal will be approved in its current form, if approved in the CMS Final Rule, these X-codes will identify claims that are eligible for hospitals to receive NTAP of up to $21,125 per cervical spine fusion procedure.

We estimate there is a total addressable market of approximately $13.4 billion for our aprevo Technology Platform in the United States, based on our current average selling price and the approximately 445,200 lumbar fusion surgeries that are expected to be performed in the United States in 2025, according to the SmartTRAK Report. Our total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if we achieve 100% market share for lumbar fusion surgeries and is not a representation that we will achieve such market share. For additional information on the sources and assumptions of the SmartTRAK Report, see sections titled "*Market, Industry, and Other Data*" and "*Business—Market Overview—Our Addressable Market.*"

We estimate there are approximately 4,000 surgeons across the United States whose patients could benefit from using the aprevo Technology Platform (Moore et al., 2021). As of March 31, 2025, 177 surgeon users had completed one or more procedures using the aprevo Technology Platform, compared to 103 surgeon users as of March 31, 2024, which we believe suggests ample opportunity to grow our surgeon user base and further penetrate the market by capturing more surgeons across the United States.

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We market and sell the aprevo Technology Platform to hospitals through a combination of our direct sales team and independent sales agents. Our direct sales team consists of Area Business Directors, Regional Sales Directors, Account Managers, and Strategic and National Account leadership, who are primarily responsible for selling the aprevo Technology Platform to surgeons and working with hospitals to secure product approval. They are also responsible for recruiting independent sales agents that cover each surgery, generating leads, and training clinics. We plan to grow our commercial infrastructure, including both our direct sales team and our number of independent sales agents, and expand various market access initiatives, including utilizing medical education programs and surgeon training at top academic institutions.

A large body of evidence supports the clinical benefits of the aprevo Technology Platform for spine fusion, including seven peer-reviewed clinical data publications and 12 peer-reviewed clinical data abstracts. Across the various studies and publications, the aprevo Technology Platform has shown favorable results in two of the most critical success measures in spine fusion surgery: (1) achieving proper post-operative alignment and (2) obviating the need for revision surgery due to implant related complications.

We continue to develop our growing base of clinical and patient reported outcomes to serve as evidence of the aprevo Technology Platform's value to all key stakeholders, including patients, clinicians, hospitals, and payors. For example, we are currently conducting a 338-patient study, our COMPASS Registry, to track clinical outcomes from procedures using the aprevo Technology Platform in both DDD and ASD patients. Based on interim data from the first 67 ASD patients in our COMPASS Registry, these patients demonstrated improved alignment and reduced mechanical complications post-operatively, with a revision rate of 1.5% at one-year follow-up that were attributable to mechanical complications unrelated to the aprevo interbody implant (Kent et al., 2024).

We have experienced sequential quarterly and annual revenue growth driven primarily by growth in our surgeon user base and increased utilization by our existing surgeon users. For the years ended December 31, 2024 and 2023, we recognized revenue of $27.2 million and $13.8 million, respectively, representing year-over-year growth of 97.2%. For the three months ended March 31, 2025 and 2024, we recognized revenue of $10.2 million and $5.1 million, respectively, representing period-over-period growth of 100.3%. For the year ended December 31, 2024, we recognized a gross margin of 73.8% and a net loss of $24.3 million, compared to a gross margin of 71.9% and a net loss of $18.9 million for the year ended December 31, 2023. For the three months ended March 31, 2025, we recognized a gross margin of 74.9% and a net loss of $5.7 million, compared to a gross margin of 72.0% and a net loss of $5.4 million for the three months ended March 31, 2024. As of March 31, 2025, we had an accumulated deficit of $76.9 million.

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Market Overview

Overview of Degenerative Disc Disease

DDD refers to the progressive breakdown of the spinal discs that occurs naturally with age and can be accelerated by factors such as injury, repetitive loading, obesity, or genetic predisposition. DDD can occur in any region of the spine; however, DDD is most prevalent in the lumbar and cervical regions. DDD often causes a loss of disc height and spine function, resulting in compressed nerves and malalignment of the spine. These conditions often lead to chronic pain (nerve impingement, discogenic pain), disability (reduced mobility), and other chronic spinal pathologies, significantly impacting patients' lives. The progression of DDD typically results in worsening symptoms. In its early phase, disc degeneration involves subtle dehydration and minor structural changes, manifesting as discomfort or reduced functionality. These issues can typically be treated with conservative treatment including physical therapy and pain medication. As the condition progresses, the discs may lose significant height and functionality. Degeneration of the discs may include ruptures, herniation, and may contribute to spinal stenosis (narrowing of the spinal canal). Patients at this phase often experience severe, debilitating pain, and substantial limitations in daily activities. These symptoms may force the patient to consider surgical solutions such as spine fusion to improve stability, restore function, and alleviate symptoms.

If multiple sections and levels of the spine are impacted by DDD, the patient may experience systematic structural abnormalities of the spine, which is broadly referred to as ASD. ASD is often characterized by conditions such as scoliosis (curvature of the spine) or spondylolisthesis (slipping of one vertebra relative to another).

Surgical Intervention

When non-surgical treatments fail to alleviate debilitating symptoms or disabilities, surgical interventions may become necessary. The most common surgical intervention and current standard of care is traditional spine fusion. The goals of spine fusion surgery are to relieve pain, improve disability, restore function, and provide a durable solution to prevent the need for subsequent surgeries to achieve positive long-term patient outcomes. During the surgery, the degenerated disc is extracted and replaced with an interbody implant made of titanium, polymer, or bone allograft. Prior to placement, the center of the interbody implant is packed with bone graft material. The role of the interbody device is to restore height (allowing the nerves to exit the canal without being impinged), establish spinal alignment (based on the needs of each patient), and stabilize the spinal segment in the desired position while the graft material promotes bone growth between the two vertebral bodies to form a solid fusion. In most instances, the interbody implants are supplemented with additional fixation devices such as rods, screws, and plates to provide added stabilization.

The alignment of the spine following surgery is critically important. Proper alignment of the spine must be considered in three dimensions, which involves coronal correction (correcting side-to-side curvature), sagittal correction (correcting front-to-back curvature), and axial correction (height restoration). If the spine is, or becomes, malaligned, as often measured by missing a desired angle by as little as 11 degrees, the patient will likely continue to have symptoms or require additional surgeries (Tempel et al., 2017). Studies have shown a strong association between spinal malalignment and the degeneration of adjacent spinal segments (adjacent segment disease), and there is a higher risk of undergoing revision surgery if proper sagittal alignment is not achieved during the primary surgery (Rothenfluh et al., 2015). The achieved alignment at each treated level can have a profound impact on overall alignment and the risk of needing additional surgery.

Limitations of Traditional Spine Fusion

Despite wide adoption, we believe traditional spine fusion is hindered by several shortcomings, which may contribute to poor clinical outcomes post-surgery. These include:

- ***Lack of Sufficient Pre-Operative Planning***: Traditional spine fusion often lacks robust pre-operative planning, relying on 2D imaging without advanced tools such as 3D modeling. This can limit the surgeons' ability to identify and develop a plan for achieving optimal correction and alignment goals.

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•***Poor Fit of Stock Interbody Implants***: Stock implants are largely symmetrical in shape and come in pre-defined dimensions, which can fail to match the unique anatomy of each patient and lead to unpredictable alignment. As a result, stock implants may not deliver proper alignment or correct coronal (side to side) imbalance of the spine. The lack of proper fit and correction often results in uneven loading and unpredictable alignment.

•***Complicated and Time-Consuming Workflow***: Given the limitations of 2D imaging, during the surgery, surgeons must visually choose the correct stock implant from dozens of options while the patient is anesthetized and with the spine exposed, which elevates the risk of secondary complications.

•***Lack of Post-Operative Feedback Incorporation into Future Decision Making***: Without a sufficient pre-operative plan, it can be difficult for surgeons to reconcile achieved outcomes against surgical objectives. In traditional spine fusion, there is no integrated means for reconciling the data and communicating these insights back to surgeons. As a result, critical insights cannot be incorporated into future surgical plans that could help to improve surgical outcomes.

•***Burdensome Inventory Management***: Due to the uniform nature of stock implants, traditional spine fusion requires multiple trays of devices. This can result in an unnecessary, upfront investment from the manufacturers to ensure that there is adequate and properly sterilized inventory on hand for every spine fusion procedure.

We believe that these limitations explain why traditional spine fusion procedures can fail to achieve the desired alignment, which often leads to post-operative complications and revision surgery. These poor outcomes not only meaningfully impair patients' health and quality of life, but also impose a significant economic burden on the healthcare system, with the direct and indirect costs of a revision surgery frequently exceeding $100,000 (Raman et al., 2018).

Our Addressable Market Opportunity

Given the limitations of traditional spine fusion surgery, we believe that DDD presents a significant unmet clinical need and economic burden to the healthcare system. We believe that the aprevo Technology Platform effectively addresses the underlying issues in this large, established market by providing personalized surgical plans, patient-specific spine implants, and holistic post-operative feedback.

Our initial focus is on the lumbar fusion market for which the aprevo Technology Platform is FDA 510(k) cleared for all lumbar levels. We estimate our total addressable market opportunity for lumbar fusion procedures to be approximately $13.4 billion, based on an estimated 445,200 lumbar fusion surgeries to be performed in the United States in 2025 and the average selling price of our aprevo Technology Platform. We arrived at the lumbar fusion procedure estimate by analyzing data from the SmartTRAK Report, documenting the number of lumbar fusion procedures performed in the United States in 2025. According to the SmartTRAK Report, these estimates are subject to certain assumptions, including a compound annual growth rate ("CAGR") of approximately 1.5% in the spinal fusion market, consistent with historical growth, resulting from, among other things, an aging U.S. population, which is expected to drive an increase in multilevel fusions in the U.S. spinal fusion market. For additional information on the sources and assumptions of the SmartTRAK Report, see sections titled "*Market, Industry, and Other Data*" and "*Business—Market Overview—Our Addressable Market.*" Total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if 100% market share is achieved for lumbar fusion surgeries, and it is not a representation that we will achieve such market share. The market share we achieve is subject to a number of assumptions, risks, and uncertainties, which could fluctuate from time to time. See the risk factor titled "*The size and expected growth of our total addressable market has not been established with precision and may be smaller than we estimate.*"

We are also developing the aprevo Technology Platform to expand its use into cervical fusion procedures. According to the SmartTRAK Report, there will be approximately 372,600 cervical fusion procedures performed in the United States in 2025. For additional information on the sources and assumptions of the SmartTRAK Report, see sections titled "*Market, Industry, and Other Data*" and "*Business—Market Overview—Our Addressable Market.*" We plan to obtain additional FDA clearances prior to commercialization of the aprevo Technology Platform into cervical fusion procedures, and there is no guarantee that we will obtain FDA clearance on the expected timeline, or

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at all. See the section titled "*Business— Our Solution—Our 510(k) Submissions*" for more information regarding our FDA 510(k) submissions for our material products and product candidates.

Given the global prevalence of spine fusion procedures, we believe that a significant market opportunity also exists for the aprevo Technology Platform in international markets. (Reisener et al., *J Spine Surg*., 2020). While we are in the early stages of planning and have no definitive timeline for international expansion, as an initial step we intend to engage in various market access initiatives for strategic international regions and obtain any necessary approvals as needed.

We also plan to develop the aprevo Technology Platform to address additional indications and spinal disease states and may target cervical corpectomy and cervical disc arthroplasty solutions. While spine surgery remains our current focus, and we do not currently have a definitive timeline to expand beyond cervical and lumbar at this time, we believe that our platform technology may also benefit other musculoskeletal applications beyond the spine, unlocking greater market potential.

Our Solution

Our aprevo Technology Platform is the first available solution to provide personalized digital surgical plans and the accompanying aprevo interbody implants that are tailored to each patient's pathology and vertebral bone topography.

The aprevo Technology Platform consists of AI-enabled software solutions, interbody implants designed for each patient's unique pathology and vertebral bone topography, and single-use surgical instruments. Our pre-operative planning software utilizes standard-of-care diagnostic imaging and AI-enabled algorithms to develop personalized digital surgical plans and to design aprevo interbody implants for each patient's pathology and vertebral bone topography. Additionally, the aprevo Technology Platform supports the collection of real-world, post-operative data to inform our digital surgical planning process. The aprevo Technology Platform is commercially available in the United States and is indicated for use in lumbar interbody fusion procedures.

Our Data Asset and Correction AI-Enabled Algorithms

Our aprevo Technology Platform supports our collection of pre- and post-operative data from each patient and utilizes this data to inform future digital surgical plans. This data forms the foundation for the use of AI in the creation of personalized digital surgical plans.

Through our extensive database of radiographic images, we have developed proprietary AI-enabled algorithms to create personalized digital surgical plans for spine surgery. As of March 31, 2025, we estimate that we have used approximately four million radiographic images to train and improve our AI models, analyzed more than one million radiographic images of patients who have undertaken a procedure using our aprevo Technology Platform, and created more than 40,000 digital twin 3D models of patients' anatomies. Our surgical planning process uses the patient's pre-operative spinopelvic parameters, current treatment guidelines, and data from prior surgeries to deliver a personalized surgical plan for surgeon review that has considered treatment protocols and outcomes for thousands of patients. We are continuously improving our AI-enabled algorithms by incorporating the latest clinical learnings and patient data.

The aprevo Technology Platform and Procedure Surgical Workflow

The aprevo Technology Platform offers solutions for the entire surgical workflow, including (i) pre-operative AI-enabled, surgical planning, (ii) intra-operative advanced visualization to support precision placement of aprevo interbody implants, and (iii) post-operative data collection and insights intended to improve the digital surgical planning process. The following describe the impact of the aprevo Technology Platform on the surgical workflow:

- *Pre-Operative*. A procedure using the aprevo Technology Platform begins with designing a personalized digital surgical plan. Utilizing standard-of-care diagnostic imaging, our proprietary AI-enabled software renders a digital twin 3D model of the patient's anatomy, including pathology and vertebral bone topography. This provides a detailed foundation for personalized digital surgical planning. The digital

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twin is then virtually manipulated to place the patient's vertebral bodies into the appropriate 3D alignment. This proper alignment creates a new intervertebral space that we then map to create aprevo interbody implants. This process results in a personalized digital surgical plan and aprevo interbody implants that are designed to match the irregular surfaces of each patient's vertebral bone topography and provide the targeted alignment. We interact with the surgeon during the pre-operating planning process through our myaprevo application. The myaprevo application is a digital tool used to display the personalized digital surgical plan and associated metrics that define the desired correction and alignment. The myaprevo application provides interactive 3D visualizations that the surgeon may share with the patient. Each patient's personalized digital surgical plan and aprevo interbody implants are visualized, reviewed, and approved through the myaprevo application.

•*Intra-Operative*. The proposed personalized digital surgical plan and aprevo interbody implant designs are approved by the surgeon, including the exact implant dimensions, the desired position on the endplate, and their preferred surgical approach. Our patient-specific aprevo interbody implants are then 3D-printed by our contract manufacturing organizations ("CMOs"). Our aprevo interbody implants are made of medical-grade titanium and designed with a lattice to promote fusion. Our streamlined digital production system ("DPS") allows us to deliver aprevo interbody implants to hospitals within 10 business days of surgical plan approval. The implants are delivered to the hospital in a sterile kit along with single-use surgical instruments. In the operating room, our myaprevo application provides the surgeon and the operating staff with access to the personalized digital surgical plan that aids in the ability to accurately place aprevo interbody implants and predictably achieve the surgical plan.

•*Post-Operative*. Following the spine fusion surgery, we collect each patient's operative and post-operative radiographs. The patient's imaging data is measured and analyzed, and a detailed case report, branded as "aprevo intelligence," is generated. The aprevo intelligence report shows pre-operative, planned, and post-operative alignment parameters. Surgeons can access comprehensive analytics for each surgery, providing the ability to conduct in-depth review and analysis of the surgical outcome against the operative goals. In addition, ongoing data collection and analysis fuels the algorithms included in the aprevo Technology Platform software. By leveraging the aprevo intelligence reports and post-operative insights, subsequent plans and designs can be improved to the benefit of future patients.

Key Benefits of the aprevo Technology Platform

We designed the aprevo Technology Platform to address the shortcomings of traditional spine fusion surgery using stock implants. The benefits demonstrated by the aprevo Technology Platform include:

•***Improved alignment and decreased risk of revision spine surgery***. The aprevo Technology Platform provides 3D anatomical correction, incorporating coronal alignment, sagittal alignment, and height restoration to help surgeons achieve their planned alignment targets. While, as of the date of this prospectus, we are not aware of any head-to-head trials that directly compare aprevo interbody implants to stock implants, retrospective reviews of clinical data suggest that the aprevo Technology Platform improves post-operative alignment, including compared to traditional spine fusion surgery, in both degenerative and deformity cases. These results may not be directly comparable as they are not from a single head-to-head trial. However, improved alignment can reduce the occurrence of post-operative complications, such as subsidence, adjacent segment disease, and mechanical failures, and ultimately lower the need for revision surgery.

•***Outcomes-driven pre-operative planning and post-operative insights.*** Our pre-operative, 3D modeling, and AI-enabled algorithms informed by large amounts of data helps surgeons plan the surgery that fits with a patient's unique pathology and anatomy. Following the procedure, the patient's post-operative images and outcome data are measured and analyzed to inform results against the surgical plan. These post-operative insights allow surgeons to reconcile their plan against the surgical results. Our aprevo Technology Platform not only enables direct feedback to the surgeon, but it also collects data that is incorporated into our algorithms to improve personalized surgical plans for subsequent patients.

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•***Seamless integration and improvement of existing surgical workflows.*** The aprevo Technology Platform does not require any additional or supplemental pre-surgical imaging beyond what is required for traditional spine fusion surgery. The surgeon can use their preferred surgical access approach and

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methods as they would with a stock implant without any additional surgical training. Our aprevo interbody implants are compatible with commercially available surgical robots and other accompanying implants, such as rods and screws. We believe this allows for ease of adoption and integration into the surgeon's workflow and preferences and enables surgeon user acquisition and account penetration. As an improvement to the surgical workflow, the surgeon does not need to test fit various interbody sizes during the surgery while the patient is under anesthesia and the spine is exposed. Instead, the surgeon can deliver the aprevo interbody implant to each planned vertebral level without any trialing required.

•***On-demand, made-to-order inventory model with short lead times.*** Our aprevo interbody implants are manufactured on-demand by our CMOs and are specific to each patient, their pathology, and vertebral bone topography. Unlike stock implants, our patient-specific aprevo interbody implants and accompanying single-use surgical instruments are delivered sterile to hospitals typically within 10 business days of surgical plan approval. Our surgical kits do not require additional processing at the hospital, which eliminates additional expenses for hospitals.

Our Success Factors

We believe that the continued growth of our company will be driven by the following success factors:

•Paradigm-shifting, patient-centric platform aiming to set the new standard of care for spine surgery.

•Large and established addressable market opportunity with a significant unmet clinical need.

•Compelling benefits for patients and providers supported by a robust body of clinical studies and real-world evidence.

•Established and distinct hospital reimbursement with favorable payment levels.

•Scalable, inventory-light business model with attractive gross margins.

•Strong competitive position supported by robust intellectual property and comprehensive data moat.

•Experienced leadership team.

Our Growth Strategies

We believe that the following strategies will advance our mission and will contribute to our future success and growth:

•Continue to drive adoption and market share capture for aprevo in lumbar fusion surgeries.

•Launch the aprevo Technology Platform for cervical spine fusion surgeries.

•Invest in further growing our base of clinical evidence.

•Continue to develop our research and development initiatives.

•Pursue international markets.

Risks Associated with Our Business

Our business is subject to a number of risks of which you should be aware before making a decision to invest in our common stock. These risks are more fully described in the section titled "*Risk Factors*" immediately following this prospectus summary. These risks include, among others, the following:

•We depend entirely on sales of aprevo interbody implants for our revenue. If we are unable to successfully achieve substantial market acceptance and adoption of the aprevo Technology Platform, or any of our future products, or if confidence in our products is diminished, our business, financial condition, results of operations, and prospects would be harmed.

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•We have a limited operating history and have experienced periods of significant business changes in a short time, making it difficult for you to evaluate our business and future prospects. If we are unable to manage our business and any fluctuations in our business effectively, our business and growth prospects could be materially and adversely affected.

•We have a history of net losses, and we expect to incur additional substantial losses in the foreseeable future.

•Our business and growth strategy depend on our ability to launch the aprevo Technology Platform for cervical spine fusion surgeries. If we are unable to do so, our future growth would be limited and our business would be harmed.

•Managing our on-demand, customized implant model to address evolving patterns of demand is expensive, time-consuming, and subject to significant uncertainties. If we are unable to manage our CMOs to consistently meet demand on a timely basis, hospitals and surgeons may choose to use our competitors' products.

•We rely on a limited number of CMOs for the manufacture, treatment, sterilization, packaging, and distribution of our products. This reliance on third parties increases the risk that we will not have sufficient quantities of our products or such quantities at an acceptable cost, and reduces our control over the manufacturing process, which could delay, prevent, or impair our development or commercialization efforts, as well as our ability to timely deliver our aprevo interbody implants.

•If the third parties on which we rely to assist us with premarket development activities for future products do not perform as contractually required or expected, we may not obtain regulatory clearance, approval, or a CE Certificate of Conformity for our future products or be able to successfully commercialize our future products.

•We operate in a highly competitive industry, and competitive pressures or any new developments by competitors could make the aprevo Technology Platform non-competitive or obsolete and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

•Any future sales in international markets will subject us to additional costs and risks that may have a material adverse effect on our business, financial condition, results of operations, and prospects.

•If we are unable to successfully develop new products and effectively manage their introduction or improve our existing products, our business may be adversely affected.

•We may be subject to product and other liability claims that could require us to pay substantial sums.

•The continued commercialization of the aprevo Technology Platform depends in part on the extent to which third-party payors provide coverage and adequate reimbursement levels. Failure to obtain and maintain coverage and adequate reimbursement for aprevo interbody implants could limit our ability to market them and decrease our ability to generate revenue.

•Actual or perceived failures to comply with applicable data privacy and security laws, regulations, standards, and other requirements could adversely affect our business, financial condition, results of operations, and prospects.

•If we fail to comply with healthcare and other governmental regulations, we could face substantial penalties, and our business, results of operations, and financial condition could be adversely affected.

•Our success will depend on our ability to obtain, maintain, enforce, and protect our intellectual property rights.

Corporate Information

We were incorporated under the laws of the State of Delaware in June 2018 under the name Carlsmed, Inc. Our principal executive offices are located at 1800 Aston Ave., Suite 100, Carlsbad, CA 92008, and our telephone number is (760) 766-1923. Our website address is https://www.carlsmed.com. The information contained in or accessible from our website is not incorporated into this prospectus, and you should not consider it part of this

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prospectus. We have included our website address in this prospectus solely as an inactive textual reference. You should not rely on any such information in deciding whether to purchase our common stock.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We qualify as an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, as amended (the "JOBS Act"). As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" disclosure in this prospectus;
- reduced disclosure about our executive compensation arrangements;
- not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, as amended (the "Sarbanes-Oxley Act"); and
- an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the U.S. Securities and Exchange Commission (the "SEC"). We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. In addition, the JOBS Act permits an emerging growth company to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have chosen to "opt out" of this provision, and, as a result, we will comply with new or revised accounting standards as required when they are adopted. This decision to opt out of the extended transition period is irrevocable.

We are also a "smaller reporting company," meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700.0 million, and our annual revenue was less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than $250.0 million or (ii) our annual revenue was less than $100.0 million during the most recently completed fiscal year and the market value of our shares held by nonaffiliates is less than $700.0 million. If we are a smaller reporting company at the time that we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K, and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

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The Offering

Shares of common stock offered by us	shares.
Underwriters' option to purchase additional shares	We have granted the underwriters a 30-day option to purchase up to additional shares of our common stock at the initial public offering price, less underwriting discounts and commissions, on the same terms as set forth in this prospectus.
Shares of our common stock to be outstanding after this offering	shares (or shares if the underwriters exercise their option to purchase additional shares in full).
Use of proceeds	We estimate that the net proceeds to us from this offering will be approximately $ million (or $ million if the underwriters exercise their option to purchase additional shares in full), assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering

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	expenses payable by us. We currently intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, to support the commercialization of the aprevo Technology Platform and expand and improve our product offerings, including approximately $ million to support our increased sales and marketing efforts and approximately $ million to fund our research and development activities to advance the aprevo Technology Platform, including the continued development of the aprevo Technology Platform for use in cervical spine fusion surgeries. See the section titled "*Use of Proceeds*."
Proposed Nasdaq listing and trading symbol	We have applied to list our shares of common stock on The Nasdaq Global Select Market ("Nasdaq") under the symbol "CARL" and this offering is contingent upon obtaining approval of such listing.
Risk Factors	Investment in our common stock involves substantial risks. You should read this prospectus carefully, including the section titled "*Risk Factors,*" before investing in our common stock.

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The number of shares of our common stock outstanding after this offering is based on 110,575,132 shares of our common stock outstanding as of March 31, 2025, after giving effect to the Preferred Stock Conversion (as defined below) and excludes:

- up to 325,988 shares of common stock issuable upon the exercise of an outstanding warrant to purchase shares of our Series B convertible preferred stock (the "Series B Warrant") outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under our loan and security agreement with Customers Bank (as amended, the "Customers Loan Agreement")), with an exercise price of $1.2402 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series B Warrant*";

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•up to 113,695 shares of common stock issuable upon the exercise of an outstanding warrant to purchase shares of our Series C convertible preferred stock (the "Series C Warrant") outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under the Customers Loan Agreement), with an exercise price of $1.9240 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series C Warrant*";

•up to 144,317 shares of common stock issuable upon the exercise of an outstanding warrant to purchase common stock (the "Common Stock Warrant") as of March 31, 2025, with a weighted-average exercise price of $0.064 per share, as more fully described in the section titled "*Description of Capital Stock—Warrants—Common Stock Warrant*";

•12,033,624 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2025, with a weighted-average exercise price of $0.43 per share under our 2019 Stock Incentive Plan (the "2019 Plan");

•465,158 shares of common stock issuable upon the exercise of stock options to purchase shares of common stock granted after March 31, 2025, with a weighted-average exercise price of $1.08 per share under the 2019 Plan;

•up to 627,630 shares of common stock issuable upon the vesting of restricted stock units ("RSUs") under the 2019 Plan that are issuable as of March 31, 2025 upon satisfaction of certain "market-based" and "performance-based" vesting conditions;

• shares of common stock reserved for future issuance under our 2025 Equity Incentive Plan, which will become effective in connection with this offering (the "2025 Plan"), as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 Plan, (including shares of common stock reserved for issuance under our 2019 Plan, which shares will be added to the 2025 Plan upon its effectiveness); and

• shares of our common stock reserved for future issuance under our 2025 Employee Stock Purchase Plan, which will become effective in connection with this offering (the "2025 ESPP"), as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 ESPP.

Except as otherwise noted, all information in this prospectus assumes or gives effect to the following:

•the automatic conversion of all of our outstanding shares of our Series A convertible preferred stock, Series B convertible preferred stock, and Series C convertible preferred stock (collectively, "convertible preferred stock") into an aggregate of 85,071,388 shares of our common stock, which will occur immediately prior to the closing of this offering (the "Preferred Stock Conversion");

•the automatic conversion of the Series B Warrant and Series C Warrant into warrants to purchase shares of our common stock immediately prior to the closing of this offering (the "Warrant Conversion");

•a for reverse stock split of our common stock effected on , 2025 (the "Reverse Stock Split");

•no exercise of the underwriters' option to purchase up to additional shares of our common stock in this offering;

•no exercise of the outstanding options or warrants described above; and

•the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the closing of this offering and the effectiveness of our amended and restated bylaws immediately prior to the closing of this offering.

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Summary Financial Data

The following tables sets forth our summary financial data for the periods and as of the dates indicated. The following summary statements of operations data for the years ended December 31, 2024 and 2023 have been derived from our audited financial statements included elsewhere in this prospectus. The following summary unaudited condensed statements of operations data for the three months ended March 31, 2025 and 2024, and the summary unaudited condensed balance sheet data as of March 31, 2025, have been derived from our unaudited condensed financial statements included elsewhere in this prospectus. Our audited financial statements and unaudited condensed financial statements included elsewhere in this prospectus have been prepared in accordance with GAAP. Our unaudited condensed financial statements were prepared on a basis consistent with our audited financial statements and include, in our opinion, all adjustments of a normal and recurring nature that are necessary for the fair statement of the financial information set forth in those statements included elsewhere in this prospectus. Our historical results are not necessarily indicative of the results that may be expected for any period in the future and results for the three months ended March 31, 2025 are not necessarily indicative of results to be expected for the year ended December 31, 2025. You should read the following summary financial data together with our audited financial statements and unaudited condensed financial statements and the related notes included elsewhere in this prospectus and the section titled "*Management's Discussion and Analysis of Financial Condition and Results of Operations*." The summary financial data included in this section are not intended to replace the financial statements and the related notes included elsewhere in this prospectus.

	Three Months Ended March 31,		Year Ended December 31,
	2025	2024	2024
(in thousands, except shares and per share amounts)			
Statements of operations data:			
Revenue	$ 10,189	$ 5,086	$ 27,165	$ 13,778
Cost of sales	2,553	1,422	7,117	3,875
Gross profit	7,636	3,664	20,048	9,903
Operating expenses:				
Research and development	3,150	3,256	14,304	7,395
Sales and marketing	6,739	3,597	21,472	15,101
General and administrative	3,466	2,140	8,394	5,998
Total operating expenses	13,355	8,993	44,170	28,494
Loss from operations	(5,719)	(5,329)	(24,122)	(18,591)
Other income (expense):				
Interest expense	(357)	(216)	(1,321)	(641)
Interest income	380	98	1,330	334
Change in fair value of warrant liabilities	(33)	—	(144)	—
Total other expense, net	(10)	(118)	(135)	(307)
Net loss and comprehensive loss	(5,729)	(5,447)	(24,257)	(18,898)

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Deemed dividend to preferred stockholders	(584)	—	(592)	—
Net loss attributable to common stockholders	$ (6,313)	$ (5,447)	$ (24,849)	$ (18,898)
Net loss per share attributable to common stockholders, basic and diluted[1]	$ (0.26)	$ (0.24)	$ (1.10)	$ (0.87)
Weighted-average shares of common stock, basic and diluted[1]	23,991,168	22,301,050	22,690,488	21,688,209
Pro forma net loss per share attributable to common stockholders, basic and diluted[2]	$ (0.06)		$ (0.27)	
Weighted-average shares used in computing pro forma net loss per share attributable to common stockholders, basic and diluted[2]	106,983,554		92,414,326	

(1)See Notes 2 and 8 to our audited financial statements and our unaudited condensed financial statements included elsewhere in this prospectus for an explanation of the calculation of our basic and diluted net loss per share attributable to common stockholders and the weighted-average number of common shares used in the computation of the per share amounts.

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(2)Unaudited pro forma net loss per share attributable to common stockholders, basic and diluted, for the year ended December 31, 2024 and for the three months ended March 31, 2025 is calculated giving effect to (i) the reversal of the change in fair value of warrant liabilities due to the reclassification of warrant liabilities to stockholders' equity and (ii) the Preferred Stock Conversion. Unaudited pro forma net loss per share attributable to common stockholders, basic and diluted, does not include the shares expected to be sold and related proceeds to be received in this offering. Unaudited pro forma net loss per share attributable to common stockholders, basic and diluted, for the year ended December 31, 2024 and for the three months ended March 31, 2025 was calculated using the weighted-average number of shares of common stock outstanding as of the beginning of the period presented, or their issuance dates, if the latter, including the pro forma effect of giving effect to the reversal of the change in fair value of warrant liabilities and the Preferred Stock Conversion.

	As of March 31, 2025		
	Actual	Pro Forma[1]	Pro Forma as Adjusted[2][3]
(in thousands)			
Balance sheet data:			
Cash and cash equivalents	$ 43,432	$ 43,432	
Total assets	57,835	57,835	
Short-term portion of term loan, net	—	—	
Long-term portion of term loan, net	15,422	15,422	
Total liabilities	25,715	25,225	
Accumulated deficit	(76,900)	(76,900)	
Total stockholders' (deficit) equity	(76,609)	32,610	

(1)Gives effect to (i) the Preferred Stock Conversion into an aggregate of shares of our common stock, (ii) the reclassification of warrant liabilities to stockholders' equity, and (iii) the filing and effectiveness of our amended and restated certificate of incorporation, which will occur immediately prior to the closing of this offering.

(2)Gives effect to (i) the pro forma adjustments set forth in footnote (1) above and (ii) our sale of shares of common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

(3)Pro forma as adjusted balance sheet data is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) each of our pro forma as adjusted cash and cash equivalents, total assets and total stockholders' equity by approximately $ million, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each one million share increase (decrease) in the number of shares offered by us would increase (decrease) each of our pro forma as adjusted cash and cash equivalents, total assets and total stockholders' equity by approximately $ million, assuming that the assumed initial offering price to the public remains the same, and after deducting the underwriting discounts and commissions and estimated offering expenses payable by us.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus, including our financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations," before deciding whether to invest in our common stock. The occurrence of any of the events or developments described below could have a material adverse effect on our business, financial condition, results of operations, and prospects. In such an event, the market price of our common stock could decline, and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe are not material may also impair our business, financial condition, results of operations, and prospects.

Business and Industry Risk Factors

We depend entirely on sales of aprevo interbody implants for our revenue. If we are unable to successfully achieve substantial market acceptance and adoption of the aprevo Technology Platform, or any of our future products, or if confidence in our products is diminished, our business, financial condition, results of operations, and prospects would be harmed.

We expect that revenue from sales of aprevo interbody implants will continue to account for all of our revenue for the foreseeable future. Continued and widespread market acceptance and adoption of the aprevo Technology Platform are critical to our future success. The size of our hospital and surgeon base, our ability to acquire new hospitals and surgeon users, and our ability to retain existing hospitals and surgeons are critical to our success as well. Thus, our commercial success will depend in large part on further adoption of the aprevo Technology Platform by hospitals and surgeons, and an increase in the number of patients receiving personalized spine surgery with aprevo interbody implants.

Various factors can contribute to the growth in market acceptance of our products and the ability to effectively engage and retain hospitals and surgeons, and their use of the aprevo Technology Platform. For example, hospitals and surgeons may be reluctant to purchase or use aprevo interbody implants due to familiarity with stock implants that are well established and known to them. Our ability to grow our sales and drive market adoption will depend on the availability of coverage and adequate reimbursement for procedures using the aprevo Technology Platform from third-party payors, including government payors, or the willingness of patients to pay out-of-pocket in the absence of coverage and adequate reimbursement by third-party payors, including government payors. In addition, successfully educating hospitals, surgeons, and patients of the relative benefits of the aprevo Technology Platform compared to stock implants, as well as educating such hospitals, surgeons, and patients regarding the advantages and limitations of the aprevo Technology Platform, will be essential to our ability to grow sales of aprevo interbody implants and drive market acceptance and adoption. If hospitals and surgeons do not perceive our products to be useful, effective, reliable, and trustworthy, or if we are unable to provide sufficient training to hospitals and surgeons, we may not be able to attract or retain customers. Hospitals and surgeons may perceive the aprevo Technology Platform to be less useful if they lack familiarity or trust in the aprevo Technology Platform. In addition, negative clinical research results or publicity or an adverse change to published or unpublished guidelines or recommendations from third parties (including, without limitation, medical societies) relating to the use, clinical benefit, or risk profile of the aprevo Technology Platform, AI technologies, aprevo interbody implants, or surgical planning software in general could result in negative perception by hospitals and surgeons, and could affect our brand and reputation. While we constantly work to improve the aprevo Technology Platform, the technologies we work with are novel and complex, and we cannot assure you that there will not be negative reports on the aprevo Technology Platform in the future. Further, patients, hospitals, or surgeons who are dissatisfied with their experiences with the aprevo Technology Platform may post negative reviews, and we may become the subject of blog, forum, or other social media postings that contain negative statements about us, which are outside of our control and may be inaccurate. Any negative publicity, whether real or perceived, disseminated by word-of-mouth, the general media, electronic or social networking platforms, competitor materials, or other methods, could harm our reputation and brand. Lack of support for our products from hospitals or surgeons can affect how receptive other surgeons are to use the aprevo Technology Platform for their patients and could result in decreased demand for our products. Negative perception by hospitals or surgeons could also render us less attractive to future hospital customers, which could result in decreased sales of our products. A number of other factors, including the impacts of economic conditions and regulatory changes on hospital budgets and spending patterns, could potentially negatively affect the increase in adoption by hospitals and surgeons of the aprevo Technology Platform and demand for aprevo interbody implants.

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We have a limited operating history and have experienced periods of significant business changes in a short time, making it difficult for you to evaluate our business and future prospects. If we are unable to manage our business and any fluctuations in our business effectively, our business and growth prospects could be materially and adversely affected.

Since our formation in 2018, our efforts have been primarily related to organizing and staffing our company, business planning, raising capital, developing the aprevo Technology Platform, undertaking preclinical studies and clinical studies, obtaining FDA clearance for the aprevo Technology Platform products, establishing our supply chain and network of suppliers and CMOs and, most recently, commercializing the aprevo Technology Platform. We have a limited operating history, which makes evaluation of our future prospects difficult. Consequently, any predictions you make about our future success, performance, or viability may not be as accurate as they could be if we had more experience or a longer history of successfully developing and commercializing the aprevo Technology Platform. Since our inception, we have had periods of significant growth in revenue and employees, which have required us to scale the size of our organization as our business has rapidly changed. For example, since we began commercializing the aprevo Technology Platform in 2021, we have grown from 24 employees as of December 31, 2021, to 100 employees as of March 31, 2025. Our growth objectives will require us to further expand our sales and marketing and research and development personnel (including those with software and hardware expertise). Our results of operations have fluctuated in the past, and our future quarterly and annual results of operations may fluctuate as we focus on increasing the demand for our products. Among other factors, future changes in the level of reimbursement for procedures using the aprevo Technology Platform could have a significant impact on our results of operations, either positively or negatively. We may need to make business decisions that could adversely affect our results of operations and prospects, such as modifications to our pricing and reimbursement strategy, business structure, or operations.

The challenges we face in managing our business, including the changing reimbursement and regulatory landscapes, place significant demands on our management, financial, operational, manufacturing, technological, and other resources. We expect that managing our business will continue to place significant demands on our management and other resources and will require us to continue developing and improving our operational, financial, and other internal controls, reporting systems, and procedures. In particular, continued growth increases the challenges involved in a number of areas, including recruiting and retaining sufficient skilled personnel, providing adequate training and supervision to maintain our high-quality product standards and regulatory compliance, and preserving our culture and values. We may not be able to address these challenges in a cost-effective manner, or at all. As we grow, we may also need to invest significant resources to improve and expand our manufacturing partnerships and technology, and we may not be able to do so in a cost-effective manner, or at all. We cannot assure you that any changes in scale, related quality, or compliance assurance, including those related to any future additional improvements and modifications to the aprevo Technology Platform, will be successfully implemented or that appropriate personnel will be available to facilitate the management of, and changes to, our business. Failure to implement necessary quality and compliance procedures, transition to new manufacturing processes or supply chains, or hire or maintain necessary personnel could result in higher costs or an inability to meet demand. In addition, our business is affected by general macroeconomic and business conditions around the world, including the impacts of inflation, increased interest rates, market instability, geopolitical conditions and conflicts, health crises, and natural disasters. If we do not effectively manage our business through the various challenges we face, we may not be able to execute our business plan, respond to competitive pressures, take advantage of market opportunities, satisfy patient and healthcare professional requirements, or maintain high-quality products, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We have a history of net losses, and we expect to incur additional substantial losses in the foreseeable future.

We have incurred net losses since inception, and we expect to incur additional losses in the near future. For the years ended December 31, 2024 and 2023 and the three months ended March 31, 2025, we incurred net losses of $24.2 million, $18.9 million, and $5.7 million, respectively. As of March 31, 2025, we had an accumulated deficit of $76.9 million. We also expect our operating expenses to increase in future periods, and if our revenue growth does not increase to more than offset these anticipated increases in our operating expenses, we may not be able to achieve or maintain profitability, and our business, financial condition, results of operations, and prospects will be harmed. Since inception, we have spent significant amounts to develop the aprevo Technology Platform, to fund clinical

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studies and gain FDA clearance for the aprevo Technology Platform products, to develop our manufacturing processes, to scale our commercial operations, and to recruit and retain key talent.

We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies, including increasing expenses as we continue to grow our business. We expect our operating expenses to increase significantly over the next several years as we continue to expand our operations and infrastructure and continue to develop the aprevo Technology Platform, including for any future additional improvements and modifications. In addition to the anticipated costs of growing our business, we also expect to incur additional legal, accounting, and other expert expenses as we grow. These investments may be more costly than we expect, and if we do not achieve the benefits anticipated from these investments, or if the realization of these benefits is delayed, they may not result in increased revenue or growth in our business. If our growth rate were to decline significantly or become negative, it could adversely affect our business, financial condition, results of operations, and prospects.

We cannot assure you that we will achieve profitability in the future or that, if we do become profitable, we will be able to sustain or increase profitability. Our prior losses, combined with potential future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital.

Our business and growth strategy depend on our ability to launch the aprevo Technology Platform for cervical spine fusion surgeries. If we are unable to do so, our future growth would be limited and our business would be harmed.

As part of our overall growth strategy, we are developing the aprevo Technology Platform for use in cervical spine fusion surgeries. In November 2024, we received FDA 510(k) clearance for our aprevo Technology Platform for cervical spine fusion surgery, and we are currently pursuing necessary additional FDA 510(k) regulatory clearances for advancements to our cervical software platform and our personalized plating solutions. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. We can provide no assurances as to the timing or our ability to ultimately obtain the requisite marketing authorization to facilitate a successful launch of the aprevo Technology Platform in cervical spine fusion surgeries, or that our efforts to attain such regulatory clearances and appropriate reimbursement will be successful. In addition, the successful launch and commercialization of the aprevo Technology Platform for cervical spine fusion surgeries will depend on a number of circumstances, including the risks identified in these "*Risk Factors*." One or more of these factors, many of which are beyond our control, could cause significant delays or an inability to launch the aprevo Technology Platform for use in cervical spine fusion surgeries. Any such delay or failure to obtain the necessary regulatory clearances and appropriate reimbursement, or delay or failure in the launch and successful commercialization of the aprevo Technology Platform for use in cervical spine fusion surgeries could have a material adverse effect on our business, financial condition, results of operations, and prospects, and could significantly impact our growth and growth strategy. Managing our on-demand, customized implant model to address evolving patterns of demand is expensive, time-consuming, and subject to significant uncertainties. If we are unable to manage our CMOs to consistently meet demand on a timely basis, hospitals and surgeons may choose to use our competitors' products.

Managing our on-demand, customized implant model to address evolving patterns of demand is expensive, time-consuming, and subject to significant uncertainties. If we are unable to manage our CMOs to consistently meet demand on a timely basis, hospitals and surgeons may choose to use our competitors' products.

We currently market the aprevo Technology Platform directly to hospitals and surgeons in the United States, where we face the risk of significant changes in the demand for the aprevo Technology Platform. Our business model depends on our ability to timely deliver aprevo interbody implants in order to allow surgeons to maintain their surgical schedule. We rely entirely on CMOs to produce and deliver our aprevo interbody implants. A sudden increase in demand could cause delays in delivering aprevo interbody implants to surgeons and hospitals. If we are not able to manage our CMOs, our CMOs are not able to consistently deliver aprevo interbody implants on a timely basis, surgical schedules may be put in jeopardy and cause surgeons to use our competitors' products, even if they are inferior to ours, which could cause harm to our reputation and cause our sales to decline. Any increase or decrease in demand would put pressure on our CMOs and their supply and manufacturing processes. For example, a sudden increase in demand could require increased production of aprevo interbody implants so that our surgeons can timely use aprevo interbody implants with their patients. Unlike our competitors, we operate an asset-light business

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model given that aprevo interbody implants are manufactured on-demand by our CMOs and customized for each patient. As a result, in the event of a sudden increase in demand, our CMOs may lack sufficient capital equipment and materials or inventory on hand to create aprevo interbody implants and deliver them to hospitals within 10 business days of surgical plan approval. Adapting to changes in demand inherently lags behind the actual changes because it takes time to identify the change that the market is undergoing and to implement any measures to take as a result. Finally, capacity adjustments are inherently risky because there is imperfect information, and sales trends may rapidly intensify, ebb, or even reverse. We may be unable to accurately or timely predict trends in demand and customer behavior or to take appropriate measures to mitigate risks and react to opportunities resulting from such trends. Any inability in the future to identify or to adequately and effectively react to changes in demand could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We rely on a limited number of CMOs for the manufacture, treatment, sterilization, packaging, and distribution of our products. This reliance on third parties increases the risk that we will not have sufficient quantities of our products or such quantities at an acceptable cost, and reduces our control over the manufacturing process, which could delay, prevent, or impair our development or commercialization efforts, as well as our ability to timely deliver our aprevo interbody implants.

Our business model depends on our ability to timely deliver aprevo interbody implants in order to allow surgeons to maintain their surgical schedule. We do not own or operate manufacturing facilities for clinical or commercial production of aprevo interbody implants. We have limited experience in medical device manufacturing and lack the resources and the capability to manufacture aprevo interbody implants on a commercial scale. Our products are manufactured to our specifications by CMOs who meet our manufacturer qualification standards. We have developed a streamlined DPS that manages both the upstream and downstream processes involved in producing our aprevo interbody implants; however, we rely entirely on a limited number of CMOs, only one of which is vertically integrated, to perform all the various processes in connection with the manufacture of our aprevo interbody implants. Under this manufacturing model, our CMOs electronically receive the aprevo interbody implant design; perform all of the various processes in connection with the manufacture of our products, including 3D printing, heat treatment, post-processing, cleaning and packaging, and sterilization; and then ship the completed aprevo interbody implant and accompanying single-use surgical instruments directly for use in surgery. If our CMOs are unable to produce our products in the amounts, timing, or pricing that we require, we may not be able to coordinate with our alternative CMOs to manufacture our products on a timely basis and in the quantities or pricing we require. Additionally, if our CMOs are not able to consistently deliver aprevo interbody implants on a timely basis, surgical schedules may be put in jeopardy and cause surgeons to use our competitors' products, even if they are inferior to ours, which could cause harm to our reputation and cause our sales to decline. We expect to depend on CMOs for the foreseeable future.

Our CMOs are critical to us, and there are relatively few alternative sources of supply. Our CMOs are not currently under long-term contracts with us and may experience delays or issues, stop producing aprevo interbody implants, increase the prices they charge us, or elect to terminate their relationships with us. In any such cases, we could encounter a delay of several months to identify and evaluate suitable alternative manufacturing partners, qualify them, and perform audits to ensure that their processes comply with the Federal Food, Drug, and Cosmetic Act (the "FDCA"). Supply delays may, and the loss of our vertically integrated CMO likely would, result in our inability to timely deliver aprevo interbody implants within 10 business days of surgical plan approval, resulting in surgeons having to rely on stock implants to complete the procedures. These events could materially and adversely affect our ability to retain and attract hospitals and surgeons and could have a material negative impact on our operations, business, financial results, and financial condition.

We do not have complete control over all aspects of the manufacturing process of, and are dependent on, our CMOs for compliance with current Good Manufacturing Practice ("cGMP") regulations applicable to our products, including compliance with the FDA's quality systems regulations (the "QSR"). CMOs may not be able, or may fail, to comply with cGMP regulations. If our CMOs cannot successfully manufacture aprevo interbody implants that conform to our specifications and the strict regulatory requirements of the FDA, they will not be able to secure and/or maintain registration for their manufacturing facilities.

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We also do not have complete control over the ability of our CMOs to maintain adequate quality control, quality assurance, and qualified personnel. The failure of our CMOs to maintain acceptable quality requirements could result in quality issues, including recalls of our products. If one of our CMOs fails to maintain acceptable quality requirements or perform as agreed, we may have to identify and qualify a new supplier or develop in-house manufacturing capabilities, which could require significant capital investments. Although we require our CMOs to supply us with aprevo interbody implants that meet our specifications and comply with applicable provisions of the QSR and other applicable legal and regulatory requirements in our agreements and contracts, and we perform incoming inspection, testing, or other acceptance activities in an effort to ensure that they meet our requirements, there is a risk that they may not supply aprevo interbody implants that meet our requirements or supply them in a timely manner. Moreover, our failure, or the failure of our CMOs, to comply with applicable cGMP requirements could result in sanctions being imposed on us, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, seizures or recalls, operating restrictions, and criminal prosecutions, any of which could significantly and adversely affect our financial position.

The number of CMOs with the necessary regulatory expertise and facilities to produce aprevo interbody implants is limited, and qualification of a new CMO may be complex and time consuming. Any delay or interruption would likely lead to a delay or interruption in our manufacturing operations. The added time and cost to arrange for alternative CMOs could harm our business. Obtaining the necessary FDA or international marketing authorizations or other qualifications under applicable regulatory requirements could result in a significant interruption of supply and could require the new supplier to bear significant additional costs that may be passed on to us.

Our current and anticipated future dependence upon others for the manufacture of our products may adversely affect our future profit margins and our ability to commercialize our products on a timely and competitive basis.

If the third parties on which we rely to assist us with premarket development activities for future products do not perform as contractually required or expected, we may not obtain regulatory clearance, approval, or a CE Certificate of Conformity for our future products or be able to successfully commercialize our future products.

We often must rely on third parties to assist in conducting our pre-market development activities for our product candidates. If these third parties do not successfully carry out their contractual duties, comply with applicable regulatory obligations, or meet expected deadlines, or if these third parties need to be replaced, or if the quality or accuracy of the work product, including data, they produce is compromised due to failing to adhere to clinical protocols, to applicable regulatory requirements, or otherwise, our premarket development activities may be extended, delayed, suspended, or terminated. Under these circumstances, we may not be able to obtain regulatory clearance, approval, or a CE Certificate of Conformity for our future products or be able to successfully commercialize our future products on a timely basis, if at all, and our business, operating results, and prospects may be materially and adversely affected.

We operate in a highly competitive industry, and competitive pressures or any new developments by competitors could make the aprevo Technology Platform non-competitive or obsolete and could have a material adverse effect on our business, financial condition, results of operations, and prospects.

The medical device industry is highly competitive, subject to rapid technological change and significantly affected by new product introductions and market activities of other participants. Our currently marketed products, and any future products we commercialize, will compete against manufacturers of conventional spine and orthopedic devices.

Many of our competitors, which primarily include manufacturers of stock implants, may be able to develop products, manufacturing processes, or surgical plans competitive with, or superior to, our own. Our competitors may also have stronger intellectual property portfolios; broader spinal surgery product offerings and products supported by significantly more extensive clinical data; more established distribution networks; entrenched relationships with hospitals and surgeons; significantly greater name recognition and more recognizable trademarks for products similar to the products we sell; more established relationships with hospitals and surgeons; greater experience in obtaining and maintaining FDA and other regulatory clearances or approvals for products and product enhancement; and greater experience in launching, marketing, and selling products than we do.

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The introduction by competitors of products that are, or claim to be, superior to aprevo interbody implants, or that are alternatives to our existing or planned products, may also create market confusion that may make it difficult to differentiate the benefits of our products over competing products. In addition, the entry of multiple new products and competitors may lead some of our competitors to employ pricing strategies that could adversely affect the pricing of our products and pricing in the spine surgery market generally. Additionally, the failure of procedures using the aprevo Technology Platform to present a cost-effective alternative to procedures using stock implants, including as a result of changes to the spine fusion Medicare Severity-Diagnosis Related Groups ("MS-DRGs") reimbursements applicable to aprevo interbody implants, could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, the spine and orthopedic medical device industry in which we compete is characterized by rapid and significant technological change. We expect competition to intensify as technological advances are made. New technologies and products developed by other companies are regularly introduced into the market, which may render the aprevo Technology Platform non-competitive or obsolete.

If we are unable to meet customer demands for new technology, or if the technologies we introduce are viewed less favorably than our competitors' products, our results of operations and future prospects may be negatively affected.

For us to remain competitive, it is essential to be at the forefront of new technologies, including in the rapidly evolving area of AI. If we are unable to meet customer demands for new technology, or if the technologies we introduce are viewed less favorably than our competitors' products, our results of operations and future prospects may be negatively affected. To meet our customers' needs in these areas, we must continuously work on our product design, develop our algorithms, and invest in and develop new technologies to improve the aprevo Technology Platform. We will also need to anticipate hospital and surgeon demand with respect to these technologies and which technological advances are most desirable in personalized surgery plans and aprevo interbody implants and any future additional products that we may market. This need will result in requiring our employees to continue learning and adapting to new technologies, and us competing for highly skilled talent in a competitive market. Our operating results depend to a significant extent on our ability to anticipate and adapt to technological changes in the spinal surgery and implant market, maintain and protect innovation, maintain a strong product pipeline, and reduce or maintain low costs for producing high-quality surgical plan and spinal implant products. Any inability to do so could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our business and growth strategy depend on our ability to maintain and expand our aprevo Personalized Spine Provider program. If we are unable to do so, our future growth would be limited, and our business would be harmed.

Our achievement of rapid organic adoption of the aprevo Technology Platform among hospitals and surgeons is dependent upon our continued ability to maintain a network of established surgeons. Fulfilling our obligations requires a robust supply of surgeons. If we are unable to maintain and grow our network of surgeons who have interest in the aprevo Technology Platform, it would harm our business and ability to grow and would adversely affect our results of operations. Our ability to develop and maintain satisfactory relationships with these providers also may be negatively impacted by other factors not associated with us, such as changes in Medicare and/or Medicaid reimbursement levels and other pressures on surgeons and consolidation activity among hospitals, physician groups, and healthcare providers. The failure to maintain or to secure new surgeons with interest in the aprevo Technology Platform may result in a loss of or inability to grow our hospital and surgeon base, higher costs, healthcare provider network disruptions, less-attractive service for our customers, and/or difficulty in meeting regulatory or accreditation requirements, any of which could harm our business.

Any future sales in international markets will subject us to additional costs and risks that may have a material adverse effect on our business, financial condition, results of operations, and prospects.

As of the date of this prospectus, all of our sales have been to hospitals and surgeons in the United States. We intend to pursue regulatory clearances and establish a commercial pathway in attractive international markets in the near term, and there are significant costs and risks inherent in conducting business in international markets. Upon our expansion into foreign markets, we will be subject to new business risks, in addition to regulatory risks. We can

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give no assurance as to the timing of regulatory authorizations in any markets or that such efforts will be successful. See the risk factor titled "*We face risks related to obtaining necessary foreign marketing authorizations*." In addition, expansion into foreign markets will impose additional burdens on our executive and administrative personnel, finance and legal teams, sales and marketing teams, and general managerial resources.

We have limited experience with international regulatory regimes and market practices, and we may not be able to penetrate or successfully generate sales in new markets. We may also encounter difficulty expanding into international markets because of limited brand recognition in certain parts of the world and our limited experience with international manufacturing and distribution, leading to delayed acceptance of our products by potential customers in these international markets. In addition, international markets may have different reimbursement pathways that present additional challenges and make those markets less commercially viable. If we are unable to expand internationally and manage the complexity of international sales operations successfully, it could have a material adverse effect on our business, financial condition, results of operations, and prospects. If our efforts to introduce our products into foreign markets are not successful, we may have expended significant resources without realizing the expected benefit. Ultimately, the investment required for expansion into foreign markets could exceed the results of operations generated from this expansion.

If we fail to attract and retain senior management and other key personnel, our business may be materially and adversely affected.

Our success depends in part on our continued ability to attract, retain, and motivate highly qualified management, sales and marketing, and research and development personnel, including those with hardware expertise and software expertise, in particular in the area of AI and machine learning. We are highly dependent upon our senior management team as well as our senior technology personnel. We are also dependent on our direct sales team. We have experienced, and may in the future experience, planned or unplanned departures of members of our senior management team, our senior technology personnel, and our direct sales team. Any loss of services, whether planned or unplanned, of any of the members of our senior management team could adversely affect our business until a suitable replacement can be found.

Competition for qualified personnel in the medical device field in general and the personalized surgery field specifically is intense, due to the limited number of individuals who possess the training, skills, and experience required by our industry. We intend to continue to review and, where necessary, strengthen our senior management as the needs of our business develop, including through internal promotion and external hires. However, there may be a limited number of people with the requisite competencies to serve in these positions, and we cannot assure you that we will be able to locate or employ such qualified personnel on terms acceptable to us, or at all. We also face significant competition for personnel where our main office is located in San Diego County, California. We also intend to continue to increase our sales territories, and we may not be successful in attracting qualified personnel to staff our direct sales team in our desired new territories. To attract and maintain key personnel, we need to remain competitive in our "total rewards" offers to employees, including attractive cash compensation, equity, and benefits packages. While we regularly assess market trends for any changes in compensation across all functions, we need to remain diligent in our compensation benchmarking, especially for key personnel, to ensure that we are providing attractive offers to new employees and compensating existing employees well. Therefore, the loss of one or more of our key personnel, whether planned or unplanned, or our failure to attract and retain additional key personnel, could have a material adverse effect on our business, financial condition, results of operations, and prospects. In addition, to the extent that we hire personnel from competitors, we may be subject to allegations that they have been improperly solicited, that they have divulged proprietary or other confidential information, or that their former employers own their research output.

We rely on our independent sales agents to generate revenue, which subjects us to various risks.

We rely on, and expect to continue to rely on, the efforts of both our direct sales team and our independent sales agents to promote and market the aprevo Technology Platform to solicit sales of our aprevo interbody implants, and we expect to continue to rely on our direct sales team with the support of independent sales agents to generate a substantial portion of our net sales in the future while we continue to dedicate meaningful resources to significantly grow our direct sales force as we continue to expand. The impairment or termination of our relationships with our independent sales agents for any reason, or the failure of these parties to diligently promote,

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market, and sell the aprevo Technology Platform and aprevo interbody implants and comply with applicable laws and regulations could materially and adversely affect our ability to generate revenue and profits. Because our independent sales agents control the relationships with certain of our end customers or surgeon users of our products, if our relationship with any independent sales agent ends, we may also lose our customer and surgeon relationships. Furthermore, our success is partially dependent on the willingness and ability of the independent sales agents and other employees of our independent sales agents to diligently sell our aprevo interbody implants. However, we can make no assurances that our independent sales agents will be successful in promoting and marketing our products or in providing adequate clinical support to surgeon users. In addition, because our independent sales agents do not sell aprevo interbody implants exclusively, they may focus their sales efforts and resources on other products that produce better margins or greater commissions for them or are incorporated into a broader strategic relationship with a partner. Because we do not control the independent sales agents and other employees of our independent sales agents, we cannot guarantee that our sales processes, regulatory compliance, and other priorities will be consistently communicated and executed. While we may take steps to mitigate the risks associated with non-compliance by our independent sales agents, there remains a risk that they will not comply with regulatory requirements or our requirements and policies. Actions by the sales representatives and other employees of our independent sales agents that are beyond our control could adversely impact sales in that territory or result in harm to our reputation or our products or legal liability, any of which could have a material adverse effect on our business, financial condition, and results of operations. In addition to the risk of losing customers, the operation of local laws and our agreements with our independent sales agents may make it difficult for us to replace an independent sales agent that we believe is underperforming.

We expect to continue to increase our sales territories and our independent sales agents in the United States to deepen our penetration in the United States in our existing markets and expand into new geographic territories. However, we may not be successful in doing so. If we are unable to establish new independent sales agent relationships and maintain our relationships with our existing independent sales agents on commercially reasonable terms, we may be unable to increase sales of aprevo interbody implants, which, in turn, could materially and adversely affect our business, financial condition, and results of operations.

If we are unable to successfully develop new products and effectively manage their introduction or improve our existing products, our business may be adversely affected.

We must successfully manage introductions of new or enhanced medical devices, such as the development of the aprevo Technology Platform to expand its use into cervical fusion, or new or enhanced features of the aprevo Technology Platform, including those related to any future indications. Introductions of new medical devices or features of the aprevo Technology Platform could also adversely impact the sales of our existing medical devices. For instance, the introduction or announcement of new aprevo interbody implants or an advanced aprevo Technology Platform could cause sales channel conflicts to arise or shorten the life cycle of our existing aprevo interbody implants or reduce demand for them, potentially reducing any benefits of successful new product or enhancement introductions and leading to challenges in managing the portfolio of existing aprevo Technology Platform products. In addition, new or enhanced medical devices may have higher manufacturing, marketing, information technology, or other costs than our existing medical devices, or lower market acceptance and adoption, which could negatively impact our gross margins and operating results. As the technological complexity of the aprevo Technology Platform products increases, the infrastructure to support them, such as our design and manufacturing processes and technical support for our products, may also become more complex. Accordingly, if we fail to effectively manage introductions of new or advanced medical devices, our business may be adversely affected.

We spend significant amounts on marketing and brand-building initiatives to acquire and retain customers, which may not be successful or cost effective.

We spend significant amounts in marketing initiatives to increase market awareness of the aprevo Technology Platform and the benefits of a personalized surgery plan and aprevo interbody implants. We believe our marketing programs are essential to increasing adoption of the aprevo Technology Platform by hospitals and surgeons and expanding the use of the aprevo Technology Platform to a greater number of patients.

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While we have developed robust marketing initiatives, we may fail to identify marketing opportunities that satisfy our anticipated return on marketing spend or accurately predict customer acquisition or product-related concerns. If any of our marketing efforts prove less successful than anticipated in attracting new or retaining existing customers, we may not be able to recover our marketing spend, and our rates of customer acquisition and/or customer retention may fail to meet market expectations, which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Our marketing efforts may not result in increased sales of our products, and we may be unable to compete effectively in the long term.

In addition, we believe that building a strong brand and developing and achieving broad awareness of the aprevo Technology Platform is critical to achieving market success. If any of our brand-building activities prove less successful than anticipated, or such activities are inhibited by the negative perceptions of surgeons, including with respect to AI technologies, including proprietary artificial intelligence and machine learning algorithms and models (collectively, "AI Technologies"), aprevo interbody implants, surgical planning software, or lack of confidence in our processes in general, or the safety, reliability, and efficacy of the aprevo Technology Platform, our ability to attract new and retain existing customers and the rate of use of our products by existing customers could be materially adversely impacted. If this were to occur, we may not be able to recover our brand-building spend, and our rates of customer acquisition and retention and product usage may fail to meet market expectations, any of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We may be subject to product and other liability claims that could require us to pay substantial sums.

We are subject to an inherent risk of, and adverse publicity associated with, product liability and other liability claims, whether or not such claims are valid. Lumbar spine and cervical spine surgeries involve significant risk of serious complications, including bleeding, tissue injury, nerve injury, paralysis, and even death. In addition, if surgeons are not sufficiently trained in the use of aprevo interbody implants, they may misuse or ineffectively use them, which may result in unsatisfactory patient outcomes or patient injury. We could become the subject of product liability lawsuits alleging that component failures, malfunctions, manufacturing flaws, design defects, or inadequate disclosure of product-related risks or product-related information resulted in an unsafe condition or injury to patients.

Product liability claims are expensive to defend, divert our management's attention, and, if we are not successful in defending the claim, can result in substantial monetary awards against us or costly settlements. Further, successful product liability claims made against one or more of our competitors could cause claims to be made against us or expose us to a perception that we are vulnerable to similar claims. Any product liability claim brought against us, with or without merit and regardless of the outcome or whether it is fully pursued, may result in decreased demand for our products, injury to our reputation, significant litigation costs, product recalls, loss of revenue, the inability to commercialize new products or product candidates, and adverse publicity regarding our products. Any of these may have a material adverse effect on our reputation with existing and potential customers and on our business, financial condition, and results of operations. In addition, a recall of some of our products, whether or not the result of a product liability claim, could result in significant costs and loss of customers.

Even a meritless or unsuccessful product liability claim could harm our reputation, impair our ability to sell one or more of our products in the future, result in significant legal fees, and cause significant diversion of management's attention from managing our business.

We maintain product liability insurance coverage in amounts and scope that we believe are reasonable and adequate. There can be no assurance, however, that product liability or other claims will not exceed our insurance coverage limits or that such insurance will continue to be available on reasonable, commercially acceptable terms, or at all. A successful product liability claim that exceeds our insurance coverage limits could require us to pay substantial sums and could have a material adverse effect on our financial condition. In addition, any product liability claim brought against us, with or without merit, could result in an increase of our product liability insurance rates. See the risk factor titled "*Our insurance may not cover all potential losses or liabilities that may arise*."

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The off-label use of aprevo interbody implants may harm our reputation in the marketplace or result in injuries that lead to fines or sanctions by regulatory bodies if we are deemed to have engaged in the promotion of these uses, either of which could have a material adverse effect on our business, financial condition, and results of operations.

Our products and any marketing authorization we may receive for future products are, and will be, cleared by the FDA for specific indications. We train our direct sales team and independent sales agents to not promote aprevo interbody implants for uses outside of the FDA-cleared indications for use, known as "off-label uses." We cannot, however, prevent a surgeon from using aprevo interbody implants off-label, when in the surgeon's or healthcare provider's independent professional medical judgment he or she deems it appropriate. In addition, there may be increased risk of injury to patients if surgeons attempt to use aprevo interbody implants off-label. Furthermore, the use of our products for indications other than those cleared by the FDA or approved by any foreign regulatory body may not effectively treat such conditions, which could harm our reputation in the marketplace among surgeons, healthcare providers, and patients.

If the FDA or any foreign regulatory body determines that our promotional materials or trainings constitute promotion of an off-label use, it could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance or imposition of a warning or untitled letter, injunction, seizure, civil fine, or criminal penalties. It is also possible that other federal, state, or foreign enforcement authorities might take action under another regulatory authority, such as false claims laws, if they consider our business activities to constitute promotion of an off-label use, which could result in significant penalties, including, but not limited to, criminal, civil, and administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs, and the curtailment of our operations.

A recall of our products, either voluntarily or at the direction of the FDA or another governmental authority, or the discovery of serious safety issues with our products, could have a significant adverse impact on us.

The FDA has the authority to require the recall of commercialized products based on a finding that there is reasonable probability that the device could cause serious, adverse health consequences or death. Manufacturers may, under their own initiative, recall a product if any material deficiency in a device is found or if they believe that the product could be in violation of the FDCA. Even if voluntary, the FDA requires that a medical device manufacturer report to the FDA any corrective action or removal of a device initiated to reduce a risk to health posed by the device. A government-mandated or voluntary recall could occur as a result of risk to health, component failures, manufacturing errors, design or labeling defects, or other deficiencies and issues. Recalls of any of our products would divert managerial and financial resources and have an adverse effect on our reputation, results of operations, and financial condition, which could impair our ability to produce our products in a cost-effective and timely manner in order to meet our customers' demands. We may also be required to bear other costs or take other actions that may have a negative impact on our future sales and our ability to generate profits.

Any adverse event involving our products could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection, mandatory recall, or other enforcement action. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business, and may harm our reputation and financial results.

Any of our products and technologies may have unforeseen adverse events or undesirable side effects, which may require our products to be taken off the market, require our products to include safety warnings, or otherwise limit sales of our products.

Unforeseen adverse events or undesirable side effects related to the use of any of our products or technologies may arise either during clinical development or, if cleared or approved, after the product has been marketed. If we or others identify unforeseen adverse events or undesirable side effects caused by one or more of our products or technologies:

- sales of the affected product may decrease significantly, and we may not achieve the anticipated market share;

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•regulatory authorities may require changes to the labeling of the affected product, which may include the addition of labeling statements, specific warnings, and contraindications, and issuing field alerts to surgeons and patients;

•we may be required to modify the affected product, change instructions regarding the way the product is used, or conduct additional clinical trials;

•we may be subject to limitations on how we may promote the affected product;

•regulatory authorities may require us to take our approved affected product off the market (temporarily or permanently) or to conduct other field safety corrective actions; and

•we may be subject to fines, litigation costs, or product liability claims; and our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the affected product or could substantially increase our commercialization costs and expenses, which in turn could delay or prevent us from generating sufficient revenue to achieve or sustain profitability.

The size and expected growth of our total addressable market has not been established with precision and may be smaller than we estimate.

Our estimated total addressable market is based on the data and assumptions of the SmartTRAK Report, including a compound annual growth rate ("CAGR") of approximately 1.5% in the spinal fusion market, consistent with historical growth, resulting from, among other things, an aging U.S. population, which is expected to drive an increase in multilevel fusions in the U.S. spinal fusion market. We estimate our total addressable market opportunity for lumbar fusion procedures based on the estimated number of lumbar fusion surgeries to be performed in the United States in 2025, according to the SmartTRAK Report, and the current average selling price of our aprevo Technology Platform. Our total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if we achieve 100% market share for lumbar fusion surgeries and is not a representation that we will achieve such market share. While we believe that the data underlying our estimates is reasonable, these assumptions and estimates may not be correct. As a result, our estimates of our total addressable market may prove to be incorrect. If the actual number of patients who would benefit from the aprevo Technology Platform, the price at which we can sell the aprevo Technology Platform, or our total addressable is smaller than we estimate, it could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Discovery of alternative technologies or other personalized spinal implant technologies could materially adversely affect our business, financial condition, results of operations, and prospects.

If medical research were to lead to the discovery of alternative technologies or devices that address the same indications as the aprevo Technology Platform in a way that is or is perceived to be more accurate, reliable, cost-effective, or otherwise improved relative to the aprevo Technology Platform, for example, through alternative analysis and surgical planning software or other personalized implant technologies or devices, the demand for our products could decrease significantly, leading to a material adverse effect on our business, financial condition, results of operations, and prospects.

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Our quarterly and annual results may fluctuate significantly and may not fully reflect the underlying performance of our business.

Our quarterly and annual results of operations, including our revenue, profitability, and cash flow, may vary significantly in the future, and period-to-period comparisons of our operating results may not be meaningful. Accordingly, the results of any one quarter or period should not be relied upon as an indication of future performance. Our quarterly and annual financial results may fluctuate as a result of a variety of factors, many of which are outside our control and, as a result, may not fully reflect the underlying performance of our business. Fluctuation in quarterly and annual results may decrease the value of our common stock. Factors that may cause fluctuations in our quarterly and annual results include, without limitation:

- market acceptance of the aprevo Technology Platform and other products and solutions that we may develop in the future;
- our ability to obtain marketing approval for the aprevo Technology Platform in international markets that we enter in the future or for other products and solutions that we may develop in the future, and the timing and scope of any such approvals that we may receive;
- the availability of reimbursement for aprevo interbody implants at acceptable reimbursement rates;
- the cost of manufacturing of aprevo interbody implants, which may vary depending on the quantity of production and the terms of our agreements with manufacturers and other vendors;
- our ability to attract, hire, train, and retain qualified personnel;
- the amount and timing of costs and expenses related to the maintenance and expansion of our business and operations;
- changes in our future pricing policies or those of our competitors;
- the level of demand for the aprevo Technology Platform and whether it receives the necessary marketing and other regulatory approvals, which may vary significantly;
- general economic, industry, and market conditions, or extraordinary external events, such as a recession;
- changes in our regulatory environment;
- expenses associated with unforeseen product quality issues;
- the timing and success or failure of clinical trials or post-approval studies for the aprevo Technology Platform or competing product candidates;
- any other change in the competitive landscape of our industry, including consolidation amongst our competitors or partners;
- litigation or other claims against us for intellectual property infringement or otherwise;
- expenses associated with indemnification obligations to third parties that are subject to litigation or claims, including in relation to intellectual property infringement, or incur other losses as a result of their use of our products;
- our ability to obtain additional financing as necessary; and
- advances and trends in new technologies and industry standards.

In addition, we typically experience a seasonal slowing of demand for our products in our third and fourth quarters due to customer availability patterns, such as vacations or travel around the summer and winter holidays. We believe this is attributable to the postponement of elective surgeries during the holidays and for summer vacation plans of healthcare providers and patients. We expect these seasonal factors to become more pronounced in absolute value of our reported results in the future as our business grows. The cumulative effects of these factors could result in large fluctuations and unpredictability in our quarterly and annual operating results. As a result, comparing our operating results on a period-to-period basis may not be meaningful. This variability and

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unpredictability could also result in our failing to meet the expectations of industry or financial analysts or investors for any period. If our

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revenue or operating results fall below the expectations of analysts or investors or below any forecasts that we may provide to the market, or if the forecasts that we provide to the market are below the expectations of analysts or investors, the price of our common shares could decline substantially. Such a share price decline could occur even if we meet any previously publicly stated guidance that we may have provided.

Macroeconomic conditions could materially adversely affect our business, financial condition, results of operations, and prospects.

Macroeconomic conditions, such as persistent inflation, changes to monetary policy, high interest rates, volatile currency exchange rates, credit and debt concerns, decreasing consumer confidence and spending, including capital spending, concerns about the stability and liquidity of certain financial institutions, the introduction of or changes in tariffs or trade barriers, pandemics and other health crises, and global recessions can adversely impact demand for our products, which could negatively impact our business, financial condition, results of operations, and prospects. Recent macroeconomic conditions have been adversely impacted by geopolitical instability and military hostilities in multiple geographies, including tariffs, the Russian invasion of Ukraine and the conflicts in the Middle East, and monetary and financial uncertainties.

The impacts of these macroeconomic conditions, and the actions taken by governments, central banks, companies, and consumers in response, have resulted in, and may continue to result in, higher inflation in the United States and globally, which is likely, in turn, to lead to an increase in costs and may cause changes in fiscal and monetary policy, including additional increases in interest rates. Tariffs on equipment or materials that we may rely on or use for our products could cause our costs to increase. In addition, spine surgery procedures are often considered elective procedures, depending on the level of disability or pain of the patient. As a result, the COVID-19 pandemic had an impact on availability of elective spine surgery procedures due to restrictions imposed by governments and hospitals, and future pandemics or other health crises could also limit the availability of surgeries, which could negatively impact our business, financial condition, results of operations, and prospects. Other adverse impacts of recent macroeconomic conditions have been, and may continue to be, supply chain constraints, logistics challenges, liquidity concerns in the broader financial services industry, and fluctuations in labor availability.

In a higher inflationary environment, we may be unable to raise the prices of our products sufficiently to keep up with the rate of inflation. A higher inflationary environment can also negatively impact equipment, material, and logistics costs that, in turn, may increase the costs of producing and distributing our products.

Also, we may experience supply chain constraints, including difficulties obtaining a sufficient supply or increased prices of equipment and materials used in the manufacture of our products by our manufacturing partners. Increased interest rates may make access to credit more difficult, which may result in the insolvency of key suppliers, which would exacerbate supply chain challenges. Such supply chain constraints could cause us to fail to meet product demand or maintain our margins.

Risk Related to Regulatory Matters

The continued commercialization of the aprevo Technology Platform depends in part on the extent to which third-party payors provide coverage and adequate reimbursement levels. Failure to obtain and maintain coverage and adequate reimbursement for aprevo interbody implants could limit our ability to market them and decrease our ability to generate revenue.

While third-party payors generally currently cover and provide reimbursement for procedures using the aprevo Technology Platform, there is significant uncertainty related to the commercial payor coverage and reimbursement of newly approved products that have not yet been launched. In the United States, the level of reimbursement that hospitals receive from third-party payors, including commercial and governmental payors such as the Medicare and Medicaid programs, has a substantial impact on the prices that we are able to charge to hospitals and how widely the aprevo Technology Platform is accepted. The Medicare and Medicaid programs increasingly are used as models in the United States for how commercial payors and other governmental payors develop their coverage and reimbursement policies for medical devices. Some third-party payors may require pre-approval of coverage for new or innovative devices before they will reimburse healthcare providers who use such devices.

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Our aprevo interbody implants are typically used in a hospital inpatient setting, where governmental payors, such as Medicare, generally reimburse hospitals a single bundled payment that is based on the patient's principal diagnosis, up to 24 additional diagnoses, and up to 25 procedures performed during the stay. Cases are classified into MS-DRGs for payment under the Medicare Inpatient Prospective Payment System ("IPPS") for all items and services provided to the patient during a single hospitalization, regardless of whether procedures utilizing the aprevo Technology Platform are performed during such hospitalization. The MS-DRG codes to which procedures using the aprevo Technology Platform are assigned provide premium reimbursement for procedures that utilize aprevo interbody implants relative to those that use stock implants. Reimbursement for professional services performed at the hospital by physicians is reported under a separate billing code and different payment methodology. Although they are not required to, commercial third-party payors often follow Medicare's coverage and payment policies. Payment rates of other third-party payors may be consistent with Medicare rates, or they may be higher or lower, depending on their particular reimbursement methodology. As a result, hospitals' and physicians' access to adequate reimbursement by government and private insurance plans is central to the acceptance of our products. We may be unable to sell our products on a profitable basis if third-party payors refuse to cover procedures using the aprevo Technology Platform or reduce their current levels of reimbursement, or if our costs of production increase faster than increases in reimbursement levels.

In addition, hospitals and surgeons that use aprevo interbody implants may be subject to reimbursement claim denials upon submission of their claims. Hospitals and surgeons may also be subject to recovery of overpayments if a third-party payor makes payment for the claim and subsequently determines that such payor's coding, billing, or coverage policies were not followed. These events, or any other decline in the amount that payors are willing to reimburse our customers, could make it difficult for existing customers to continue using or to adopt the aprevo Technology Platform and could create additional pricing pressure for us. If we are forced to lower the price that we charge for aprevo interbody implants, our gross margins will decrease, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Obtaining coverage and reimbursement can be a time-consuming process that could require us to provide supporting scientific, clinical, and cost-effectiveness data for the use of our products. We may not be able to provide data sufficient to satisfy governmental and other third-party payors that procedures using the aprevo Technology Platform should be covered and reimbursed. In addition, third-party payors continually review new and existing technologies for possible coverage and can, without notice, deny or reverse coverage for new or existing products. There can also be no assurance that third-party payor policies will provide coverage for procedures using the aprevo Technology Platform.

Further, we believe that future coverage and reimbursement may be subject to increased restrictions, such as additional prior authorization requirements, both in the United States and in international markets, which may impact utilization of our products and have a material adverse effect on our business, financial condition, results of operations, and prospects. Third-party coverage and reimbursement for our products or any of our products in development for which we may receive regulatory clearance, certification, or approval may not be available or adequate in either the United States or international markets. If demand for our products is adversely affected by third-party reimbursement policies and decisions, it could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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We are subject to certain federal and state fraud and abuse laws and transparency laws, and any failure to comply could subject us to substantial penalties or other adverse consequences. In addition, any challenge to or investigation into our practices under these laws could cause adverse publicity and be costly to respond to, and thus could harm our business.

There are numerous U.S. federal and state laws pertaining to healthcare fraud and abuse, including anti-kickback, false claims, and transparency laws regarding payments and other transfers of value made to physicians and other healthcare professionals. Our business practices and relationships with providers are subject to scrutiny under these laws. The healthcare laws and regulations that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons and entities from soliciting, offering, paying, receiving, or providing remuneration, directly or indirectly, in cash or in kind, to induce either the referral of an individual for, or the purchase, order, or recommendation, of any item or service for which payment may be made, in whole or in part, under federal healthcare programs, such as Medicare and Medicaid. The U.S. government has interpreted this law broadly to apply to the marketing and sales activities of medical device manufacturers. In addition, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- the federal civil and criminal false claims laws, including the federal civil False Claims Act, and civil monetary penalties laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other federal healthcare programs that are false or fraudulent; knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim or obligation to pay or transmit money or property to the federal government, or knowingly making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government. In addition, certain marketing practices that, for example, induce providers to up-code to a higher reimbursement service or site of service may also violate false claims laws. Moreover, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act. Private individuals can bring False Claims Act "qui tam" actions on behalf of the government, and such individuals, commonly known as "whistleblowers," may share in amounts paid by the entity to the government in fines or settlement;

- the federal Civil Monetary Penalties Law, which prohibits, among other things, offering or transferring remuneration to a federal healthcare beneficiary that a person knows or should know is likely to influence the beneficiary's decision to order or receive items or services reimbursable by the government from a particular provider or supplier;

- the federal Health Care Fraud Statute, which prohibits, among other things, executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;

- the federal Physician Payments Sunshine Act, which requires certain applicable manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under certain federal healthcare programs, to monitor and report to CMS certain payments and other transfers of value to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors), certain other non-physician practitioners (physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, anesthesiology assistants, and certified nurse midwives), and teaching hospitals, and to report annually ownership and investment interests held by physicians and their immediate family members;

- U.S. federal consumer protection and unfair competition laws, which broadly regulate marketplace activities and activities that potentially harm customers; and

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- analogous state law equivalents of each of the above federal laws, state anti-kickback, and false claims laws; state laws requiring device companies to comply with specific compliance standards, restrict payments made to healthcare providers and other potential referral sources, and report information related to payments and other transfers of value to healthcare providers or marketing expenditures; and state laws related to insurance fraud in the case of claims involving private insurers.

These laws and regulations, among other things, constrain our business, marketing, and other promotional and research activities by limiting the kinds of financial arrangements, including sales programs, that we may have with hospitals and surgeons. In particular, these laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs, and other business arrangements, as well as interactions with hospitals and surgeons through consultant and advisory board arrangements, product training, sponsorships, or other activities. Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare and other laws and regulations will involve substantial costs. We have entered into advisory board and consulting agreements with physicians, including some who have ownership interests in us and/or influence the ordering of or use our products in procedures they perform. Compensation under some of these arrangements includes the provision of stock or stock options. It is possible that governmental authorities will conclude that these and other business practices, including our aprevo Personalized Spine Provider program and use of independent sales agents, do not comply with current or future statutes, regulations, agency guidance, or case law involving applicable fraud and abuse or other healthcare laws and regulations. Due to the breadth of these laws, the narrowness of statutory exceptions and regulatory safe harbors available, and the range of interpretations to which they are subject, governmental authorities may possibly conclude that our business practices may not comply with healthcare laws and regulations.

To enforce compliance with the healthcare regulatory laws, certain enforcement bodies have recently increased their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of investigations, prosecutions, convictions, and settlements in the healthcare industry. Responding to investigations can be time- and resource-consuming and can divert management’s attention from the business. We may be subject to private qui tam actions brought by individual whistleblowers on behalf of the federal or state governments, with potential liability under the federal False Claims Act including mandatory treble damages and significant per-claim penalties. In addition, as a result of these investigations and qui tam actions, we may have to agree to additional compliance and reporting requirements as part of a consent decree or corporate integrity agreement. Any such investigation or settlement could increase our costs or otherwise have a material adverse effect on our business, financial condition, results of operations, and prospects. Even an unsuccessful challenge or investigation into our practices could cause adverse publicity and be costly to respond to.

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If our operations are found to be in violation of any of the federal and state laws described above or any other current or future fraud and abuse or other healthcare laws and regulations that apply to us, we may be subject to significant penalties, including significant criminal, civil, and administrative penalties, damages, fines, exclusion from participation in government programs, such as Medicare and Medicaid, imprisonment, contractual damages, reputation harm, oversight if we become subject to a consent decree or corporate integrity agreement, or disgorgement, and we could be required to curtail, restructure, or cease our operations. Any of the foregoing consequences will have an adverse effect on our business, financial condition, results of operations, and prospects.

Our employees, independent sales agents, consultants, and other commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent sales agents, consultants, and other commercial partners and business associates may engage in fraudulent or illegal activity. Misconduct by these parties could include intentional, reckless, or negligent conduct or other unauthorized activities that violate the regulations of the FDA and other regulators (both domestic and foreign), including those laws requiring the reporting of true, complete, and accurate information to such regulators, manufacturing standards, healthcare fraud and abuse laws, and regulations in the United States and internationally, or laws that require the true, complete, and accurate reporting of financial information or data. In particular, sales, marketing, and business arrangements in the healthcare industry, including the sale of medical devices, are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing, and other abusive practices. It is not always possible to identify and deter misconduct by our employees, independent sales agents, consultants, and other third parties, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us and we are not successful in defending ourselves or asserting our rights, those actions could result in the imposition of significant fines or other sanctions, including the imposition of civil, criminal, and administrative penalties, damages, monetary fines, possible exclusion from participation in Medicare, Medicaid, and other federal healthcare programs, contractual damages, reputational harm, diminished profits and future earnings, oversight if we become subject to a consent decree or corporate integrity agreement, and curtailment of operations, any of which could adversely affect our business, financial condition, results of operations, and prospects. Whether or not we are successful in defending against such actions or investigations, we could incur substantial costs, including legal fees and reputational harm, and divert the attention of management in defending ourselves against any of these claims or investigations.

We may be subject to damages resulting from claims that we or our employees or our independent sales agents have wrongfully used or disclosed alleged trade secrets or proprietary or confidential information of our competitors or are in breach of non-competition or non-solicitation agreements with our competitors.

Many of our employees were previously employed at other medical device companies, including our competitors or potential competitors, in some cases until recently. Many of our independent sales agents market, promote, and sell, or in the past have marketed, promoted, and sold, products of our competitors. We may be subject to claims that we, our employees, or our independent sales agents have inadvertently or otherwise used or disclosed trade secrets or other proprietary information of these former employers or competitors. In addition, we may in the future be subject to claims that we caused an employee to breach the terms of his or her non-competition or non-solicitation agreement. Litigation may be necessary to defend against these claims. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management. If our defense to those claims fails, in addition to paying monetary damages, we may lose valuable personnel. Any future litigation or the threat thereof may adversely affect our ability to hire additional members of our direct sales team. A loss of key personnel or their work product could hamper or prevent our ability to commercialize product candidates, which could have an adverse effect on our business, results of operations, and financial condition.

Healthcare policy changes, including recently enacted legislation reforming the U.S. healthcare system, could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In the United States, there have been and continue to be a number of legislative and regulatory initiatives to contain healthcare costs. Federal and state lawmakers regularly propose and, at times, enact legislation that would result in significant changes to the healthcare system, some of which are intended to contain or reduce the costs of

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medical products and services. Current and future legislative proposals to further reform healthcare or reduce patient access to new technology may limit coverage of or lower reimbursement for the procedures using the aprevo Technology Platform. The cost containment measures that payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could impact our revenue from the sale of our products.

By way of example, in the United States, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (the "ACA"), made a number of substantial changes in the way healthcare is financed by both governmental and private insurers. Among other ways in which it may affect our business, the ACA implemented payment system reforms including a national pilot program on payment bundling to encourage hospitals, physicians, and other providers to improve the coordination, quality, and efficiency of certain healthcare services through bundled payment models and expanded the eligibility criteria for Medicaid programs. There have been executive, judicial, and congressional challenges to certain aspects of the ACA.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. The Budget Control Act of 2011 (the "Budget Control Act"), among other things, reduced Medicare payments to providers, effective on April 1, 2013, and, due to subsequent legislative amendments to the statute, will remain in effect through 2032, unless additional congressional action is taken. In addition, the American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

We expect additional state and federal healthcare policies and reform measures to be adopted in the future, any of which could limit reimbursement for healthcare products and services or otherwise result in reduced demand for our products or additional pricing pressure and have a material adverse effect on our industry generally and on our customers. We cannot predict what other healthcare programs and regulations will ultimately be implemented at the federal or state level or how any future legislation or regulation in the United States may negatively affect our business, financial condition, results of operations, and prospects. The continuing efforts of the government, insurance companies, managed care organizations, and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect our ability to set a price that we believe is fair for our products, our ability to generate revenue and achieve or maintain profitability, and the availability of capital. Any changes of, or uncertainty with respect to, future coverage or reimbursement rates could affect demand for our products, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our products and operations are subject to extensive government regulation and oversight in the United States, and our failure to comply with applicable requirements could harm our business.

Our products are regulated as medical devices in the United States. Medical devices and their manufacturers and product developers are subject to extensive regulation in the United States, including by the FDA. The FDA regulates, among other things, with respect to medical devices: design, development, and manufacturing; testing, labeling, content, and language of instructions for use and storage; clinical trials; product safety; establishment registration, and device listing; marketing, sales, and distribution; premarket clearance, classification, and approval or certification; recordkeeping procedures; advertising and promotion; recalls and field safety corrective actions; post-market surveillance, including reporting of deaths or serious injuries and malfunctions that, if they were to recur, could lead to death or serious injury; post-market studies; and product import and export.

The regulations to which we are subject are complex and burdensome to understand and apply and have tended to become more stringent over time. Regulatory changes could result in restrictions on our ability to carry on or expand our operations, higher than anticipated costs, or lower than anticipated sales. The FDA enforces its regulatory requirements through, among other means, periodic unannounced inspections. We do not know whether we or any of our CMOs will be found compliant in connection with any future FDA or foreign inspections. Failure to comply with applicable regulations could jeopardize our ability to sell our products and result in enforcement actions such as: warning letters; fines; injunctions; civil penalties; termination of distribution; import alerts; recalls or seizures of products; delays in the introduction of products into the market; total or partial suspension of production; refusal to grant future clearances or approvals; withdrawals or suspensions of clearances or approvals, resulting in prohibitions on sales of our products; and, in the most serious cases, criminal penalties.

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Failure to maintain marketing authorizations for our products, or to timely obtain necessary marketing authorizations for our future products, may have a material adverse effect on our business, financial condition, results of operations, and prospects.

In the United States, before we can market a new medical device, or a new use of or other significant modification to an existing, marketed medical device, we must first receive either clearance under Section 510(k) of the FDCA, approval of a premarket approval application from the FDA ("PMA"), or grant of a *de novo* classification request from the FDA, unless an exemption applies. In the 510(k)-clearance process, before a device may be marketed, the FDA must determine that a proposed device is "substantially equivalent" to a legally marketed "predicate" device, which includes a device that has been previously cleared through the 510(k) process, a device that was legally marketed prior to May 28, 1976 (pre-amendments device), a device that was originally on the U.S. market pursuant to an approved PMA and later down-classified, or a 510(k)-exempt device. To be "substantially equivalent," the proposed device must have the same intended use as the predicate device, and either have the same technological characteristics as the predicate device or have different technological characteristics and not raise different questions of safety or effectiveness than the predicate device. Clinical data are sometimes required to support substantial equivalence. In the process of obtaining PMA approval, the FDA must determine that a proposed device is safe and effective for its intended use based, in part, on extensive data, including, but not limited to, technical, pre-clinical, clinical trial, manufacturing, and labeling data. The PMA process is typically required for devices that are deemed to pose the greatest risk, such as life-sustaining, life-supporting, or implantable devices. In the *de novo* classification process, a manufacturer whose novel device under the FDCA would otherwise be automatically classified as Class III and require the submission and approval of a PMA prior to marketing is able to request down-classification of the device to Class I or Class II on the basis that the device presents a low or moderate risk. If the FDA grants the *de novo* classification request, the applicant will receive authorization to market the device. This device type may be used subsequently as a predicate device for future 510(k) submissions.

The PMA approval, 510(k) clearance, and *de novo* classification processes can be expensive, lengthy, and uncertain. The FDA's 510(k) clearance process usually takes from three to 12 months, but can take longer. The process of obtaining a PMA is much more costly and uncertain than the 510(k)-clearance process and generally takes from one to three years, or even longer, from the time the application is submitted to the FDA. In addition, a PMA generally requires the performance of one or more clinical trials. Clinical data may also be required in connection with an application for 510(k) clearance or a *de novo* classification request. Despite the time, effort, and cost, a device may not obtain marketing authorization by the FDA. We have obtained 510(k) clearances for our commercialized medical devices, and we must obtain marketing authorization for any future devices we develop, unless they are exempt. Marketing authorizations for any of our future products, if granted, may include significant limitations on the indicated uses for the device, which may limit the potential commercial market for the device.

In the United States, any modification to a medical device for which we have obtained marketing authorization may require us to submit a new 510(k) premarket notification and obtain clearance, to submit a PMA and obtain FDA clearance, or to submit a *de novo* request prior to implementing the change. For example, any modification to a 510(k)-cleared device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, design, or manufacture, generally requires a new 510(k) clearance or other marketing authorization. The FDA requires every manufacturer to make such determinations in the first instance, but the FDA may review any manufacturer's decision. The FDA may not agree with a manufacturer's decisions regarding whether new clearances or approvals are necessary. We have made and expected to continue making certain modifications or add additional features in the future to our medical devices that we believe do not require a new 510(k) clearance, *de novo* classification request, or approval of a PMA. If the FDA disagrees with our determination and requires us to seek new marketing authorizations for the modifications for which we have concluded that new marketing authorizations are unnecessary, we may be required to cease marketing or to recall the modified product until we obtain such marketing authorization, and we may be subject to significant regulatory fines or penalties. If the FDA requires us to go through a lengthier, more rigorous examination for future products or modifications to existing products than we had expected, product introductions or modifications could be delayed or canceled, which could adversely affect our business.

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The FDA can delay, limit, or deny marketing authorization of a device for many reasons, including:

•our inability to demonstrate to the satisfaction of the FDA that our products are substantially equivalent to a predicate device or are safe and effective for their intended uses;

•the disagreement of the FDA with the design or implementation of our clinical trials or the interpretation of data from preclinical studies or clinical trials;

•serious and unexpected adverse device effects experienced by participants in our clinical trials;

•the data from our preclinical studies and clinical trials may be insufficient to support clearance, *de novo* classification, or approval, where required;

•our inability to demonstrate that the clinical and other benefits of the device outweigh the risks;

•the manufacturing process or facilities that we use may not meet applicable requirements; and

•the potential for marketing authorization regulations of the FDA to change significantly in a manner rendering our clinical data or regulatory filings insufficient for marketing authorization.

In addition, even though we have received Breakthrough Device Designation and FDA clearance with respect to the development or use of certain patient-specific interbody devices for specific indications in the correction of adult lumbar spinal deformity and degenerative cervical conditions, we can provide no assurances that we will obtain Breakthrough Device Designation or FDA clearance in connection with our future products, which could have an adverse impact on our results of operations. Breakthrough Device Designation provides certain benefits, including more interactive and timely communications with FDA staff, potential use of post-market data collection to facilitate expedited development and review, opportunities for more efficient and flexible clinical study design, and prioritized review of premarket submissions. However, even if we obtain Breakthrough Device Designation for any future product candidate, there can be no guarantee that these benefits will materialize or significantly impact our development and regulatory approval process. We may not experience a faster development process, review, or approval compared to conventional FDA procedures. Breakthrough Device Designation does not alter the regulatory standards for marketing authorization or guarantee that we will ultimately obtain FDA marketing authorization. Furthermore, the FDA may rescind Breakthrough Device Designation if it believes that the designation is no longer supported by data from our clinical development program.

The risk that future trials and studies of the aprevo Technology Platform fail to replicate positive results observed as of the date of this prospectus is increased because most of our studies and trials are conducted on small samples, not powered for statistical significance, controlled for other clinical variables, or have other design limitations, and almost all such studies were conducted or sponsored by us. Independent studies with larger samples or different designs may not replicate results observed as of the date of this prospectus. Furthermore, others, including healthcare professionals and regulators, may perceive a conflict of interest with studies supported, sponsored, or funded by us or conducted by our employees or consultants, and may not find results of such studies to be compelling or credible. As a result of the foregoing, we may decide, or regulators may require us, to conduct additional clinical and non-clinical testing in addition to those that we have planned. The initiation and completion of clinical studies may be prevented, delayed, or halted for numerous reasons. We may experience delays in our clinical studies or trials for a number of reasons, which could adversely affect the costs, timing, or successful completion of our clinical studies or trials, including related to the following:

•regulators may disagree as to the design or implementation of our clinical studies or trials;

•regulators and/or institutional review boards (“IRBs”) or other bodies may not authorize us or our investigators to commence a clinical study or trial, or to conduct or continue a clinical study or trial at a prospective or specific trial site;

•we may not reach agreement on acceptable terms with third-party researchers, clinical sites, or prospective contract research organizations (“CROs”), the terms of which can be subject to extensive negotiation and may vary significantly among different researchers, sites, and CROs;

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•the number of subjects or patients required for clinical studies or trials may be larger than we anticipate, enrollment in these clinical studies or trials may be insufficient or slower than we anticipate, and the number of clinical studies or trials being conducted at any given time may be high and result in fewer available patients for any given clinical study or trial, or patients may drop out of these clinical trial studies or at a higher rate than we anticipate;

•our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;

•we might have to suspend or terminate clinical studies or trials for various reasons, including occurrence of adverse events or other findings that the subjects are being exposed to unacceptable health risks;

•we may have to amend clinical study or trial protocols or conduct additional studies to reflect changes in regulatory requirements or guidance, which we may be required to submit to an IRB or other bodies and/or regulatory authorities for re-examination;

•regulators, IRBs, other bodies, or other parties may require or recommend that we or our investigators suspend or terminate clinical research for various reasons, including safety signals or non-compliance with regulatory requirements;

•the cost of clinical studies or trials may be greater than we anticipate;

•clinical sites may not adhere to the clinical protocol or may drop out of a clinical study or trial;

•we may be unable to recruit a sufficient number of clinical sites;

•regulators, IRBs, or other bodies may fail to approve or subsequently find fault with our manufacturing processes or facilities of third-party manufacturers with which we enter into agreements for clinical and commercial supplies; the supply of devices or other materials necessary to conduct clinical studies or trials may be insufficient, inadequate, or not available at an acceptable cost; or we may experience interruptions in supply;

•marketing authorization or regulations of the FDA may change in a manner rendering our clinical data insufficient for marketing authorization;

•we may be required to submit an investigational device exemption ("IDE") application to the FDA, which must become effective prior to commencing certain human clinical studies or trials of medical devices, and the FDA may reject our IDE application and notify us that we may not begin clinical studies or trials, or place restrictions on the conduct of such efforts; similar requirements may apply in foreign jurisdictions; and

•our current or future products may have undesirable side effects or other unexpected characteristics.

Any of these occurrences may significantly harm our business, financial condition, results of operations, and prospects. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of marketing authorization of any medical device.

Patient enrollment in clinical studies or trials and completion of patient follow-up, if applicable, depend on many factors, including the size of the patient population, the nature of the protocol, the eligibility criteria for the clinical study or trial, competing clinical trials, and clinicians' and patients' perceptions as to the potential advantages of the product being studied. Patients participating in our clinical studies or trials may drop out before completion or experience adverse medical events unrelated to an investigational device. Delays in patient enrollment or failure of patients to continue to participate in a clinical study or trial may delay commencement or completion of the clinical study or trial, cause an increase in the costs of the clinical study or trial and delays, or result in the failure of the clinical study or trial.

Clinical studies or trials must be conducted in accordance with the laws and regulations of the FDA and other applicable regulatory authorities' legal requirements, regulations, or guidelines, and are subject to oversight by these governmental agencies and IRBs, or other bodies at the medical institutions where the clinical studies or trials are conducted. In addition, clinical studies or trials must be conducted with supplies of our devices produced under

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cGMP or similar foreign requirements and other regulations applicable to the location where the clinical study or trial is conducted. We rely on third-party researchers and clinical sites, and may in the future rely on CROs, to ensure the proper and timely conduct of our clinical studies or trials, and while we have agreements governing their committed activities, we have limited influence over their actual performance. We depend on these third parties to conduct our clinical studies or trials in compliance with good clinical practice ("GCP") requirements. To the extent that they fail to enroll participants for our clinical studies or trials, fail to conduct the study to GCP standards, or are delayed for a significant time in the execution of trials, including achieving full enrollment, we may be affected by increased costs, delays, or both. In addition, if we conduct clinical studies or trials in other countries in the future, we may be subject to further delays and expenses as a result of increased shipment costs and additional regulatory requirements, and the engagement of non-U.S. third-party contractors may expose us to risks associated with clinical investigators who are unknown to the FDA and different standards of diagnosis, screening, and medical care. See the risk factor titled "*If the third parties on which we rely to assist us with premarket development activities for future products do not perform as contractually required or expected, we may not obtain regulatory clearance, approval, or a CE Certificate of Conformity for our future products or be able to successfully commercialize our future products*."

Interim, "top-line," and preliminary data from our clinical studies or trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose interim, top-line, or preliminary data from our clinical studies or trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial or additional data collected at a later time. We also make assumptions, estimations, calculations, and conclusions as part of our analyses of data, and we may not have received or had the opportunity to evaluate all data fully and carefully. As a result, the interim, top-line, or preliminary results that we report may differ from future results of the same study or trial, or different conclusions or considerations may qualify such results once additional data have been received and fully evaluated. Interim, top-line, or preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the interim, top-line, or preliminary data that we previously announced. As a result, interim, top-line, and preliminary data should be viewed with caution until the final data are available. Adverse differences between interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in our share price.

Further, others, including regulatory agencies or other bodies, may not accept or agree with our assumptions, estimates, calculations, conclusions, or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular trial, or the approvability or potential for commercialization of the particular medical device. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure. The interim, top-line, or preliminary data that we report may differ from final results, and regulatory authorities and other bodies may disagree with the conclusions reached, which may harm our ability to obtain marketing authorization for, and commercialize, our future products, which could harm our business, financial condition, results of operations, and prospects.

We are subject to ongoing regulatory review and scrutiny. Failure to comply with post-marketing regulatory requirements could subject us to enforcement actions, including substantial penalties, and might require us to recall or withdraw a product from the market.

We are subject to ongoing and extensive regulatory requirements governing, among other things, the manufacture, marketing, advertising, medical device reporting, sale, promotion, import, export, registration, and listing of devices. For example, medical device manufacturers must submit certain reports to the FDA and keep required records as a condition of obtaining and maintaining marketing authorization. These reports include information about failures and certain adverse events potentially associated with the device after its marketing authorization. Failure to submit such reports, or failure to submit the reports in a timely manner, could result in enforcement action by the FDA. Following its review of the periodic reports, the FDA might ask for additional information or initiate further investigation.

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Regulatory changes could result in restrictions on our ability to continue or expand our operations, higher than anticipated costs, or lower than anticipated sales. We have ongoing responsibilities under FDA regulations, and the FDA and state regulatory authorities have broad enforcement powers. Our failure to comply with applicable regulatory requirements could result in enforcement action by the FDA or state regulatory authorities, which may include any of the following or other sanctions:

- untitled letters or warning letters;
- fines, injunctions, consent decrees, and civil penalties;
- recalls, termination of distribution, administrative detention, or seizure of our products;
- customer notifications or repair, replacement, or refunds;
- operating restrictions or partial suspension or total shutdown of production;
- delays in or refusal to grant our requests for future clearances, *de novo* classifications or approvals, or comparable foreign marketing authorizations of new products, new intended uses, or modifications to existing products;
- withdrawals or suspensions of any granted marketing authorizations, resulting in prohibitions on sales of our products;
- FDA refusal to issue certificates to foreign governments needed to export products for sale in other countries; and
- criminal prosecution.

Any of these sanctions could result in negative publicity, higher than anticipated costs or lower than anticipated sales, and could have a material adverse effect on our reputation, business, financial condition, results of operations, and prospects.

In addition, the FDA may change its marketing authorization policies affecting future products, adopt additional regulations or revise existing regulations, or take other actions, which may prevent or delay marketing authorization of any products under development or impact our ability to modify any products authorized for market on a timely basis. Such changes may also occur in foreign jurisdictions where we may market our products in the future. Such changes could impose additional requirements upon us that could delay our ability to obtain future marketing authorizations, increase the costs of compliance, or restrict our ability to maintain any marketing authorizations that we have obtained. See the risk factor titled "*Legislative or regulatory reforms in the United States may make it more difficult and costly for us to manufacture, market, or distribute our products, or to obtain marketing authorizations for any future products*."

Our products must be manufactured in accordance with applicable laws and regulations, and we could be forced to recall our devices or terminate production if we fail to comply with these regulations.

In the United States, the methods used in, and the facilities used for, the manufacture of medical devices must comply with the FDA's cGMPs for medical devices, known as the QSR, which is a complex regulatory scheme that covers the procedures and documentation of the design, testing, production, process controls, quality assurance, labeling, packaging, handling, storage, distribution, installation, servicing, and shipping of medical devices. However, on February 23, 2024, the FDA issued a Final Rule to amend the QSR to align more closely with the International Organization for Standardization ("ISO") standards. Specifically, this Final Rule, which the FDA expects to go into effect on February 2, 2026, replaces the QSR with the Quality Management System Regulation ("QMSR"), and among other things, incorporates by reference the quality management system requirements of ISO 13485:2016. Although the FDA has stated that the standards contained in ISO 13485:2016 are substantially similar to those set forth in the QSR, it is unclear the extent to which this Final Rule, once effective, could impose additional or different regulatory requirements on us that could increase the costs of compliance or otherwise create market pressure that may negatively affect our business. Furthermore, we are required to verify that our suppliers and third-party manufacturers maintain facilities, procedures, and operations that comply with our quality standards and applicable regulatory requirements. The FDA enforces the QSR, and is expected to enforce the QMSR, through periodic announced or unannounced inspections of medical device manufacturing facilities. Our products are also subject to similar state regulations governing manufacturing.

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Failure to comply with applicable FDA requirements or later discovery of previously unknown problems with our products or manufacturing processes could result in, among other things: warning letters or untitled letters; fines, injunctions, or civil penalties; suspension or withdrawal of marketing authorizations; voluntary market withdrawals or stock recoveries; seizures or recalls of our products; total or partial suspension of production or distribution; administrative or judicially imposed sanctions; the FDA's refusal to grant pending or future clearances or approvals for our products or similar decisions by foreign regulatory authorities or notified bodies; clinical holds; refusal to permit the import or export of our products; and criminal prosecution of us, our suppliers, or our employees. If any of these events occurs, our reputation could be harmed, we could be exposed to product liability claims, and we could lose customers and experience reduced sales and increased costs.

aprevo interbody implants may cause or contribute to adverse medical events that we may be required to report to the FDA, and if we fail to do so, we would be subject to sanctions that could harm our reputation, business, financial condition, results of operations, and prospects. In addition, the discovery of serious safety issues with aprevo interbody implants, or a recall of them either voluntarily or at the direction of the FDA, could have a negative impact on us.

It is possible that there may be side effects and adverse events associated with the use of our medical devices or any future devices we develop. For example, aprevo interbody implants may be rejected by a patient's body, migrate, or fracture, resulting in an adverse event. The FDA's medical device reporting regulations require us to assess reportability of adverse events that come to our attention and report to the FDA when we receive or become aware of information that reasonably suggests that one or more of our products may have caused or contributed to a death or serious injury or malfunctioned in a way that, if the malfunction were to recur, it could cause or contribute to a death or serious injury. The timing of our obligation to report is triggered by the date we become aware of the event as well as the nature of the event. We may fail to report events of which we become aware within the prescribed timeframe. We may also fail to recognize that we have become aware of a reportable event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of the product. The FDA may also disagree with our determinations that an event was not reportable. If we fail to comply with our reporting obligations, the FDA could take action, including warning letters, untitled letters, administrative actions, criminal prosecution, imposition of civil monetary penalties, revocation of our marketing authorizations, seizure of our products, or delay in obtaining marketing authorizations for our future products.

The FDA has the authority to require the recall of commercialized products in the event of material deficiencies or defects in design or manufacture of a product or in the event that a product poses an unacceptable risk to health. The FDA's authority to require a recall must be based on a finding that there is reasonable probability that the device could cause serious injury or death. We may also choose to voluntarily recall a product if any material deficiency is found or if we believe that the product could be in violation of the FDCA. A government-mandated or voluntary recall by us could occur as a result of an unacceptable risk to health, component failures, malfunctions, manufacturing defects, labeling or design deficiencies, packaging defects, or other deficiencies or failures to comply with applicable regulations. Product defects or other errors may occur in the future.

Depending on the corrective action we take to redress a product's deficiencies or defects, the FDA may require us to, or we may decide, that we will need to, obtain new marketing authorizations for the device before we may market or distribute the corrected device. Seeking such clearances or approvals may delay our ability to replace the recalled devices in a timely manner. Moreover, if we do not adequately address problems associated with our devices, we may face additional regulatory enforcement action, including FDA warning letters, product seizure, injunctions, administrative penalties, or civil or criminal fines.

Companies are required to maintain certain records of recalls and corrections, even if they are not reportable to the FDA. We may initiate voluntary withdrawals or corrections for our products in the future that we determine do not require notification of the FDA. If the FDA disagrees with our determinations, it could require us to report those actions as recalls, and we may be subject to enforcement action. A future recall announcement could harm our reputation with customers, potentially lead to product liability claims against us, and negatively affect our sales. Any corrective action, whether voluntary or involuntary, as well as defending ourselves in a lawsuit, will require the dedication of our time and capital, distract management from operating our business, and may harm our reputation, business, financial condition, results of operations, and prospects.

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Legislative or regulatory reforms in the United States may make it more difficult and costly for us to manufacture, market, or distribute our products, or to obtain marketing authorizations for any future products.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the regulation of medical devices. In addition, the FDA may change its policies, adopt additional regulations, or revise existing regulations, or take other actions, which may prevent or delay marketing authorization of any future products under development or impact our ability to modify any products for which we have already obtained marketing authorizations on a timely basis. It is unclear the extent to which any other legislative or regulatory proposal, if adopted, could impose additional or different regulatory requirements on us that could increase the costs of compliance or otherwise create competition that may negatively affect our business.

In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. Any new statutes, regulations, or revisions or reinterpretations of existing regulations may make it more difficult and costly to manufacture, market, or distribute our commercialized products, or may impose additional costs, lengthen marketing authorization review times, or make it more difficult to obtain marketing authorizations for any future products we develop. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may be subject to enforcement action, and we may not achieve or sustain profitability.

Disruptions at the FDA and other government agencies caused by funding shortages, staffing limitations, or global health concerns could hinder their ability to hire, retain, or deploy key leadership and other personnel and prevent new or modified products from being developed, reviewed, approved, or commercialized in a timely manner, or at all, which could negatively impact our business.

The ability of the FDA and foreign regulatory authorities to review and approve new products can be affected by a variety of factors, including government budget and funding levels; statutory, regulatory, and policy changes; the FDA's or foreign regulatory authorities' ability to hire and retain key personnel and accept the payment of user fees; and other events that may otherwise affect the FDA's or foreign regulatory authorities' ability to perform routine functions. Average review times at the FDA and foreign regulatory authorities have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable. Disruptions at the FDA and other agencies may also slow the time necessary for new drugs or modifications to approved drugs and biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, in recent years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities. In addition, the current U.S. presidential administration has issued certain policies and Executive Orders directed toward reducing the employee headcount and costs associated with U.S. administrative agencies, including the FDA, and it remains unclear the degree to which these efforts may limit or otherwise adversely affect the FDA's ability to conduct routine activities.

Separately, in response to the COVID-19 pandemic, the FDA postponed most inspections at domestic and foreign manufacturing facilities at various points. If a prolonged government shutdown occurs, or if renewed global health concerns, funding shortages, or staffing limitations hinder or prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other such regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

We face risks related to obtaining necessary foreign marketing authorizations.

We intend to enter into international markets in the future. Upon our expansion into foreign markets, we will be subject to foreign regulatory requirements that we have limited experience with and vary widely from country to country and from the United States. The time required to obtain authorizations required by other countries may be longer than that required for FDA clearance or approval, and requirements for such approvals may differ from FDA requirements. We may be unable to obtain regulatory authorizations and may also incur significant costs in attempting to obtain foreign regulatory approvals. If we experience delays in receipt of approvals to market our products in new jurisdictions, or if we fail to receive these approvals, we may be unable to market our products in

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international markets in a timely manner, if at all, which could materially impact our international expansion and adversely affect our business as a whole. If any of these risks were to materialize, they could limit our expected international growth and profitability, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Failure to comply with the Foreign Corrupt Practices Act (the "FCPA"), economic and trade sanctions regulations, and similar laws could subject us to penalties and other adverse consequences.

We are subject to the FCPA and other laws in the United States and elsewhere that prohibit improper payments or offers of payments to foreign governments and their officials and political parties for the purpose of obtaining or retaining business. Certain suppliers of the materials or components used to produce our products are located in countries known to experience corruption. Business activities in these countries create the risk of unauthorized payments or offers of payments by one of our employees, contractors, or agents that could be in violation of various laws, including the FCPA and anti-bribery laws in these countries, even though these parties are not always subject to our control. While we have implemented policies and procedures designed to discourage these practices by our employees, consultants, and agents, and to identify and address potentially impermissible transactions under such laws and regulations, we cannot assure you that none of our employees, consultants, or agents will take actions in violation of our policies, for which we may be ultimately responsible.

We are also subject to certain economic and trade sanctions programs that are administered by the U.S. Department of the Treasury's Office of Foreign Assets Control which prohibit or restrict transactions to or from or dealings with specified countries, their governments, and, in certain circumstances, their nationals, and with individuals and entities that are specially designated nationals of those countries, narcotics traffickers, and terrorists or terrorist organizations. If it is determined that our third-party suppliers or CMOs produce or manufacture aprevo interbody implants wholly or in part with individuals and entities that are specially designated nationals of those countries, narcotics traffickers, and terrorists or terrorist organizations, then we could be prohibited from importing aprevo interbody implants into the United States.

Failure to comply with any of these laws and regulations or changes in this regulatory environment, including changing interpretations and the implementation of new or varying regulatory requirements by the government, may result in significant financial penalties or reputational harm, which could adversely affect our business, financial condition, results of operations, and prospects.

Data Privacy Risk Factors

Actual or perceived failures to comply with applicable data privacy and security laws, regulations, standards, and other requirements could adversely affect our business, financial condition, results of operations, and prospects.

The global data protection landscape is rapidly evolving, and we, and the third-party service providers on which we rely, are or may become subject to numerous U.S., state, federal, and/or foreign laws, requirements, and regulations, in addition to contractual obligations and research protocols governing privacy and data security, including the collection, use, disclosure, retention, processing, maintenance, transfer, and security of personal information, such as information that we and our third-party service providers collect in connection with the use and development of the aprevo Technology Platform and algorithm and in clinical trials or studies, including patient data. Implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet determine the impact future laws, regulations, standards, or perception of their requirements may have on our business. This evolution may create uncertainty in our business; affect our ability to operate in certain jurisdictions or to collect, store, transfer, use, and share personal information; necessitate the acceptance of more onerous obligations in our contracts; result in liability; or impose additional costs on us. The cost of compliance with these laws, regulations, and standards is high and is likely to increase in the future. Our actual or perceived failure to comply with privacy and data security regulation could lead to regulatory inquiries or enforcement actions, litigation, fines and penalties, disruptions to our business operations, reputational harm, loss of revenue business changes or delays, and other adverse business consequences.

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In the United States, numerous state and federal laws, regulations, standards, and other legal obligations, including consumer protection laws and regulations, which govern the collection, dissemination, use, access to, confidentiality, security, transfer, disclosure, and processing of personal information and health-related information could apply to our operations or the operations of our partners. For example, the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, and the regulations that implement both laws ("HIPAA"), imposes privacy, security, and breach notification obligations on certain healthcare providers, health plans, and healthcare clearinghouses, known as covered entities, as well as their business associates that perform certain services that involve creating, receiving, maintaining, or transmitting individually identifiable health information for or on behalf of such covered entities and their covered subcontractors. Among other requirements, HIPAA requires business associates to develop and maintain policies with respect to the protection, use, and disclosure of protected health information ("PHI"), including the adoption of administrative, physical, and technical safeguards that govern the protection of PHI, as well as certain notification requirements in the event of a breach of unsecured PHI (i.e., requirements to report breaches of unsecured PHI to covered entities, affected individuals, and the Department of Health and Human Services, if applicable). While we do not believe that we are currently subject to HIPAA as a covered entity or business associate, should we engage in certain functions or activities that involve the use or disclosure of PHI such that we are required to comply with HIPAA as a business associate, depending on the facts and circumstances, we could be subject to significant civil, criminal, and administrative fines and penalties and/or additional reporting and oversight obligations if found to be subject to and in violation of HIPAA.

Further, states continue to adopt new laws or amend existing laws related to data privacy, requiring attention to frequently changing regulatory requirements. For example, the California Consumer Privacy Act, as amended by the California Privacy Rights Act (collectively, the "CCPA"), gives California residents expanded rights to access and delete their personal information, opt out of certain personal information sharing, and receive detailed information about how their personal information is used. As such, the CCPA requires covered businesses that process the personal information of California residents to, among other things: (i) provide certain disclosures to California residents regarding the business's collection, use, and disclosure of their personal information; (ii) receive and respond to requests from California residents to access, delete, and correct their personal information, or to opt out of certain disclosures of their personal information; and (iii) enter into specific contractual provisions with service providers that process California resident personal information on the business's behalf. The CCPA provides for civil penalties for violations, as well as a private right of action for data breaches, which may increase data breach litigation. Additional states, such as Virginia, Colorado, Connecticut, and Utah, have passed similar comprehensive privacy legislation, which imposes similar obligations to those in the CCPA. Further, other states, such as Nevada and Washington, have enacted privacy laws specifically governing consumer health information, with Washington providing for a private right of action. Although many of these laws currently exempt certain health-related information, the laws may increase our compliance costs and potential liability related to our data processing activities. Similar laws have been proposed in other states and at the federal level, and, if passed, such laws may have potentially conflicting requirements that would make compliance challenging.

Additionally, we may in the future become subject to rapidly evolving data protection laws, rules, and regulations in foreign jurisdictions, including foreign laws governing the privacy and security of personal data, many of which have developed privacy and data protection requirements that impose requirements that differ from those that apply within the United States. For example, in Europe, the European Union General Data Protection Regulation (the "EU GDPR") went into effect in May 2018 and governs the collection, use, disclosure, transfer, and other processing of personal data of individuals within the European Economic Area (the "EEA") and imposes stringent requirements for data processors and controllers of such personal data or in the context of their activities within the EEA. Companies that must comply with the EU GDPR face increased compliance obligations and risk, including robust regulatory enforcement of data protection requirements and potential fines for non-compliance of up to €20 million or 4% of the annual global revenues of the non-compliant undertaking, whichever is greater. In addition to fines, a breach of the EU GDPR may result in regulatory investigations, reputational damage, orders to cease/change our data processing activities, enforcement notices, assessment notices (for a compulsory audit), and/or civil claims (including class actions). The processing of "special category personal data" (such as personal data related to health and genetic information) may also impose heightened compliance burdens under European data protection laws and is of interest to relevant regulators. Among other requirements, the EU GDPR regulates transfers of personal data subject to the EU GDPR to third countries that have not been found to provide adequate protection to such personal data, including the United States, and the efficacy and longevity of current transfer

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mechanisms between the EEA and the United States remain uncertain. Case law from the Court of Justice of the European Union states that reliance on the standard contractual clauses—a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism—alone may not necessarily be sufficient in all circumstances and that transfers must be assessed on a case-by-case basis. On July 10, 2023, the European Commission adopted its Adequacy Decision in relation to the new EU-U.S. Data Privacy Framework ("DPF"), rendering the DPF effective as a GDPR transfer mechanism to U.S. entities self-certified under the DPF.

We expect the existing legal complexity and uncertainty regarding international personal data transfers to continue. In particular, we expect the DPF Adequacy Decision to be challenged and international transfers to the United States and to other jurisdictions more generally to continue to be subject to enhanced scrutiny by regulators. As a result, we may have to make certain operational changes, and we will have to implement revised standard contractual clauses and other relevant documentation for existing data transfers within required timeframes. As supervisory authorities issue further guidance on personal data export mechanisms, including circumstances where these cannot be used, and/or start taking enforcement action, we could suffer additional costs, complaints, and/or regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results.

Since early 2021, after the end of the transition period following the United Kingdom's departure from the European Union, we are subject to the United Kingdom under the United Kingdom General Data Protection Regulation and Data Protection Act 2018 (collectively, the "UK GDPR"), which imposes separate but similar obligations to those under the EU GDPR and comparable penalties, including fines of up to £17.5 million or 4% of a non-compliant company's global annual revenue for the preceding financial year, whichever is greater. On October 12, 2023, the UK Extension to the DPF came into effect (as approved by the UK government), as a data transfer mechanism from the UK to U.S. entities self-certified under the DPF. As we expand into foreign countries and jurisdictions, we will become subject to additional laws and regulations that will affect how we conduct business, and we expect the existing legal complexity and uncertainty regarding international personal data transfers to continue. Our operations could suffer additional costs, complaints, and regulatory investigations or fines, and/or if we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we provide our services, the geographical location or segregation of our relevant systems and operations, and could adversely affect our financial results. Compliance with applicable privacy and data security laws and regulations is a rigorous and time-intensive process, and we may be required to put in place additional mechanisms ensuring compliance with new data protection rules. Failure or perceived failure to comply with the EU GDPR, the UK GDPR, or any such laws or regulations puts us at risk of facing significant fines and penalties that could adversely affect our business, financial condition, reputation, and results of our operations. Furthermore, conflicting requirements across applicable privacy and data security laws would complicate our compliance efforts and increase both legal risk and compliance costs for us and the third parties upon whom we rely.

The Federal Trade Commission (the "FTC") also has authority to initiate enforcement actions against entities that make deceptive statements about privacy and data sharing in privacy policies, fail to limit third-party use of personal health information, fail to implement policies to protect personal health information, or engage in other unfair practices that harm customers or that may violate Section 5 of the FTC Act. Failing to take appropriate steps to keep consumers' personal information secure may constitute unfair acts or practices in or affecting commerce under the FTC Act. The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information that it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities.

Although we work to comply with applicable laws, regulations and standards, our contractual obligations, research protocols, and other obligations, any actual or perceived failure by us or our employees, representatives, contractors, consultants, or other third parties to comply with such requirements or adequately address data privacy and security concerns, even if unfounded, could result in, among other adverse impacts, damage to our reputation, loss of customer confidence in our security measures, withdrawal or withholding of customer consent for using patient data, government investigations, and enforcement actions and litigation and claims by third parties, any of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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We may face risks associated with our use and development of AI models.

We use and develop AI Technologies, throughout our business, and are making significant investments in this area. For example, we use AI Technologies to power the aprevo Technology Platform and drive continuous improvements in the production and performance of the platform. New products that we develop, including expansion into new indications, are also likely to incorporate AI Technologies.

We expect that increased investment will be required in the future to continuously improve our use and development of AI Technologies. As with many technological innovations, there are significant risks involved in developing, maintaining, and deploying these technologies, and there can be no assurance that the usage of or our investments in such technologies will always enhance our products or be beneficial to our business, including our efficiency or results of operations.

In particular, if the models underlying our AI Technologies are: incorrectly designed or implemented; trained or reliant on incomplete, inadequate, inaccurate, biased, or otherwise poor quality data, or on data to which we do not have sufficient rights or in relation to which we and/or the providers of such data have not implemented sufficient legal compliance measures; used without sufficient oversight and governance to ensure their responsible use; misused or used outside of scope of applicable regulatory authorizations; and/or adversely impacted by unforeseen defects, technical challenges, cybersecurity threats, or material performance issues, the performance of our products and business, as well as our reputation and the reputations of our customers, could suffer or we could incur liability resulting from the violation of laws or contracts to which we are a party, regulatory enforcement actions, or civil claims.

With respect to our products or services that incorporate AI Technologies, the market for such products and services is rapidly evolving, and important assumptions about the characteristics of targeted markets, pricing, sales cycles, cost, performance, and perceived value associated with our services or products may be inaccurate. We cannot be sure that the market will continue to grow or that it will grow in ways that we anticipate. In addition, market acceptance and consumer perceptions of products and services that incorporate AI Technologies are uncertain. Our failure to successfully develop and commercialize our products or services involving AI Technologies could depress the market price of our stock and impair our ability to: raise capital; expand our business; provide, improve, and diversify our product offerings; continue our operations and efficiently manage our operating expenses; and respond effectively to competitive developments.

For the aprevo Technology Platform, as well as for any potential future AI Technology-driven products, performance of the algorithms is generally assessed by comparing the output of the algorithms against a clinically derived reference standard (“ground truth”) for a specified dataset. This applies to internal evaluation of an algorithm’s performance, supporting external presentations and publications, and testing to support regulatory submissions. The aprevo Technology Platform output will not always agree with the opinion of a surgeon or healthcare professional, and in some cases, multiple surgeons will not agree with each other. However, while the AI Technologies we work with are novel and complex, and while we constantly work to improve our products and algorithms, we cannot assure you that our AI Technologies will be able to perform as intended under all circumstances.

Further, the data that we use to train our AI Technologies includes data collected from evaluations and tests performed on patients by third-party surgeons, and we depend upon our ability to obtain the right to use such data to continue to develop our products, including within appropriate timeframes and on commercially reasonable terms. If we are deemed to not have sufficient rights to the data we use to train our generative AI Technologies, we may be subject to litigation by the owners of the content or other materials that comprise such data, similar to the litigation that is currently pending in various U.S. courts against other developers of generative AI Technologies, and in which the outcome of such litigation is uncertain. If we are unable to obtain sufficient rights to use such data under applicable regulatory frameworks or our agreements with our customers, or our customers were to withdraw or withhold their data from us, our ability to continue to develop our products and services to our customers, and our revenue prospects, could be materially adversely impacted.

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We are in varying stages of development in relation to our products and platforms involving AI Technologies. The continuous development, maintenance, and operation of our AI Technologies is expensive and complex, and may involve unforeseen difficulties including material performance problems, undetected defects, or errors. For instance, the models underlying AI Technologies can experience decay (also known as "model drift") in which its performance and accuracy decreases over time without further human intervention to correct such decay.

We may not be successful in our ongoing development and maintenance of these technologies in the face of novel and evolving technical, reputational, and market factors. Our efforts to develop proprietary AI models could increase our operating costs. Our ability to develop proprietary AI models may be limited by our access to processing infrastructure or training data, and we may be dependent on third-party providers for such resources.

A number of aspects of intellectual property protection in the field of AI and machine learning are currently under development, and there is uncertainty and ongoing litigation in different jurisdictions as to the degree and extent of protection warranted for AI and machine learning systems and relevant system input and outputs. The law is also uncertain across jurisdictions regarding the copyright ownership of content that is produced in whole or in part by generative AI tools. If we fail to obtain protection for the intellectual property rights concerning our AI Technologies, or later have our intellectual property rights invalidated or otherwise diminished, our competitors may be able to take advantage of our research and development efforts to develop competing products that could adversely affect our business, reputation, and financial condition.

Given the long history of development of AI Technologies, other parties may have (or in the future may obtain) patents or other proprietary rights that would prevent, limit, or interfere with our ability to make, use, or sell our own AI Technologies.

The regulatory framework for AI Technologies is rapidly evolving as many federal, state, and foreign government bodies and agencies have introduced or are currently considering additional laws and regulations. The FDA has issued guidance documents relating to the incorporation of AI Technologies into medical devices. In addition, existing laws and regulations may be interpreted in ways that would affect the operation of our AI Technologies, or could be rescinded or amended as new administrations take differing approaches to evolving AI Technologies. As a result, implementation standards and enforcement practices are likely to remain uncertain for the foreseeable future, and we cannot yet completely determine the impact that future laws, regulations, standards, or market perception of their requirements may have on our business and may not always be able to anticipate how to respond to these laws or regulations.

Certain existing legal regimes (e.g., relating to FDA submissions or data privacy) regulate certain aspects of AI Technologies, and new laws regulating AI Technologies either entered into force in the United States in 2024 or are expected to enter into force in 2025. In the United States, the Trump administration has rescinded an executive order relating to AI Technologies that was previously implemented by the Biden administration. The Trump administration may continue to rescind other existing federal orders and/or administrative policies relating to AI Technologies, or may implement new executive orders and/or other rule making relating to AI Technologies in the future. Any such changes at the federal level could require us to expend significant resources to modify our products, services, or operations to ensure compliance or that we remain competitive. U.S. legislation related to AI Technologies has also been introduced at the federal level and is advancing at the state level. For example, the California Privacy Protection Agency is currently in the process of finalizing regulations under the CCPA regarding the use of automated decision-making. California also enacted 17 new laws in 2024 that further regulate use of AI Technologies and provide consumers with additional protections around companies' use of AI Technologies, such as requiring companies to disclose certain uses of generative AI. Other states have also passed AI-focused legislation, such as Colorado's Artificial Intelligence Act, which will require developers and deployers of "high-risk" AI systems to implement certain safeguards against algorithmic discrimination, and Utah's Artificial Intelligence Policy Act, which establishes disclosure requirements and accountability measures for the use of generative AI in certain consumer interactions. Such additional regulations may impact our ability to develop, use, and commercialize AI Technologies in the future.

It is possible that further new laws and regulations will be adopted in the United States and in other non-U.S. jurisdictions, or that existing laws and regulations, including competition and antitrust laws, may be interpreted in ways that would limit our ability to use AI Technologies for our business, or require us to change the way we use AI

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Technologies in a manner that negatively affects the performance of our system and business and the way in which we use AI Technologies. We may need to expend resources to adjust our system in certain jurisdictions if the laws, regulations, or decisions are not consistent across jurisdictions. Further, the cost to comply with such laws, regulations, or decisions, and/or guidance interpreting existing laws, could be significant and would increase our operating expenses (such as by imposing additional reporting obligations regarding our use of AI Technologies). Such an increase in operating expenses, as well as any actual or perceived failure to comply with such laws and regulations, could materially and adversely affect our business, financial condition, results of operations, and prospects.

Our business and operations may suffer in the event of information technology system failures, cyberattacks, or deficiencies in our cybersecurity.

We collect and maintain information in digital form that is necessary to conduct our business, and we are increasingly dependent on information technology systems and infrastructure to operate our business. In the ordinary course of our business, we collect, store, transmit, and process large amounts of confidential information, including intellectual property, proprietary business information, preclinical and clinical trial data, and personal information of clinical study participants, patients, healthcare professionals, and our employees and contractors (confidentially, "Confidential Information"). We may also share Confidential Information with our partners or other third parties in conjunction with our business, which we must do in a secure manner to maintain the confidentiality and integrity of such Confidential Information.

Our information technology systems and those of our customers, third-party service providers, manufacturer, and other contractors or consultants are vulnerable to attack, damage, and interruption from computer viruses and malware (e.g., ransomware), misconfigurations, "bugs" or other vulnerabilities, malicious code, natural disasters, terrorism, war, telecommunication and electrical failures, hacking, cyberattacks, phishing attacks and other social engineering schemes, employee theft or misuse, human error, unauthorized access, fraud, denial or degradation of service attacks, and sophisticated nation-state and nation-state-supported actors. We have also outsourced elements of our information technology infrastructure, and, as a result, a number of third-party vendors may or could have access to our confidential information. There can also be no assurance that our and our customers', third-party service providers', contractors', and consultants' cybersecurity risk management programs and processes, including policies, controls, or procedures, will be fully implemented, complied with, or effective in protecting our systems, networks, and Confidential Information.

If we or our third-party vendors were to experience a significant cybersecurity breach of our or their information systems or data, the costs associated with the investigation, remediation, and potential notification of the breach to counterparties and data subjects could be material. In addition, our remediation efforts may not be successful. If we do not allocate and effectively manage the resources necessary to build and sustain the proper technology and cybersecurity infrastructure, we could suffer significant business disruption, including transaction errors, supply chain or manufacturing interruptions, processing inefficiencies, data loss, or the loss of or damage to intellectual property or other proprietary information. There can also be no assurance that our and our third-party service providers', strategic partners', contractors', consultants', CROs', and collaborators' cybersecurity risk management program and processes, including policies, controls, or procedures, will be fully implemented, complied with, or effective in protecting our systems, networks, and Confidential Information.

Although we maintain cybersecurity policies, procedures, and trainings and undergo routine audits, we and certain of our customers and service providers may be subject to cyberattacks and security incidents from time to time. Attacks upon information technology systems are increasing in their frequency, levels of persistence, sophistication, and intensity, and are being conducted by sophisticated and organized groups and individuals with a wide range of motives and expertise. Furthermore, because the techniques used to obtain unauthorized access to, or to sabotage, systems change frequently and often are not recognized until launched against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. We may also experience data security incidents, and without proper detection, monitoring, and alerting technologies in place, may remain undetected for an extended period. Even if identified, we may face challenges in investigating or remediating data security incidents due to attackers increasingly using tools and techniques that are designed to circumvent controls, to avoid detection, and to remove or obfuscate forensic evidence.

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Any adverse impact to the availability, integrity, or confidentiality of our or third-party information technology systems or Confidential Information, whether actual or perceived, could result in liability, legal claims, or proceedings (such as class actions), regulatory investigations and enforcement actions, fines, and penalties, negative reputational impacts that cause us to lose existing or future customers, and/or significant incident response, system restoration or remediation, and future compliance costs, any of which could materially and adversely affect our business, financial condition, results of operations, and prospects.

As of the date of this prospectus, while we do not have evidence that we have experienced any significant system failure, accident, or security incident, if such an event were to occur and cause interruptions to our operations, it could result in a material disruption of our development programs and our business operations, whether due to a loss, corruption or unauthorized disclosure or misappropriation of our trade secrets, personal information, patient data collected from our customers, or other Confidential Information or other similar disruptions. It could also expose us to risks, including an inability to provide our services and fulfill contractual demands, and could require us to devote significant financial and other resources to address and mitigate such incident, which would increase our future information security costs, including through organizational changes, deploying additional personnel, reinforcing administrative, physical and technical safeguards, further training of employees, evaluating, and, if needed, altering third-party vendor control practices, and engaging third-party subject matter experts and consultants to address any such incident. If a security incident were to result in the unauthorized access to or unauthorized use, disclosure, release, or other processing of personal information, including the patient data of our customers, it may be necessary to notify individuals, governmental authorities, supervisory bodies, the media, and other parties pursuant to privacy and security laws and the costs associated with the investigation, remediation, and potential notification of the incident to third parties and data subjects could be material. For example, in the United States, all 50 states and several territories have laws requiring entities to notify individuals, and, in most jurisdictions, regulators, of security incidents of information involving certain personal information.

Notifications and responsive actions related to a data security incident could impact our reputation and cause us to incur significant costs, including significant legal expenses and remediation costs. We expect to incur significant costs in an effort to detect and prevent security incidents, and we may face increased costs and requirements to expend substantial resources in the event of an actual or perceived security incident. However, we cannot guarantee that we will be able to detect or prevent any such incidents, or that we can remediate any such incidents in an effective or timely manner. Our efforts to improve security and protect data from compromise may also identify previously undiscovered instances of data breaches or other cybersecurity incidents. To the extent that any data breach, disruption, or security incident were to result in any loss, destruction, or alteration of, damage, unauthorized access to, or inappropriate or unauthorized disclosure or dissemination of, our data, including personal data, or other information that is processed or maintained on our behalf, we could be exposed to litigation and governmental investigations and inquiries, the further development and commercialization of our drug candidates could be delayed, and we could be subject to significant fines or penalties for any non-compliance with applicable state, federal, and foreign privacy and security laws, rules, regulations, and standards.

Our existing general liability and cyber liability insurance policies may not cover, or may cover only a portion of, any potential claims related to security incidents to which we are exposed or may not be adequate to indemnify us for all or any portion of liabilities that may be imposed. We also cannot be certain that our existing insurance coverage will continue to be available on acceptable terms or in amounts sufficient to cover the potentially significant losses that may result from a security incident or that the insurer will not deny coverage of any future claim. Accordingly, if our cybersecurity measures, and those of our customers and service providers, fail to protect against unauthorized access, attacks (which may include sophisticated cyberattacks), and the mishandling of data, then our reputation, business, financial condition, results of operations, and prospects could be materially and adversely affected.

Risks Related to Our Intellectual Property

Our success will depend on our ability to obtain, maintain, enforce, and protect our intellectual property rights.

Our success and ability to compete depends in part on our ability to obtain, maintain, enforce, and protect issued patents, trademarks, trade secret, and other intellectual property rights and proprietary technology in the United States and elsewhere. If we cannot adequately obtain, maintain, and enforce our intellectual property rights

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and proprietary technology, competitors may be able to use our technologies or the goodwill we have acquired in the marketplace and erode or negate any competitive advantage we may have and our ability to compete, which could harm our business and ability to achieve profitability and/or cause us to incur significant expenses. We generally seek to protect our proprietary position by filing patent applications that are important to our business. We also seek to protect our proprietary position by acquiring or in-licensing relevant issued patents or pending patent applications or other intellectual property or proprietary rights from third parties. If we are unable to obtain or maintain patent protection with respect to any proprietary technology, our business, financial condition, results of operations, and prospects could be materially harmed.

We rely on a combination of contractual provisions, confidentiality procedures, and patent, trademark, copyright, trade secret and other intellectual property laws to protect the proprietary aspects of the aprevo Technology Platform, our aprevo interbody implants, software, brand, technologies, trade secrets, know-how, and data. These legal measures afford only limited protection, and competitors or others may gain access to or use our intellectual property rights and proprietary information. In addition, although various extensions may be available, the term of a patent, and the protection it affords, is limited. In the United States, for example, the natural expiration of a utility patent is generally 20 years from the earliest effective non-provisional filing date. Even if patents covering our technologies or products are obtained, once the patent term has expired, we may be open to competition. In addition, although upon issuance in the United States, a patent's term can be increased based on certain delays caused by the U.S. Patent and Trademark Office (the "USPTO"), this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. Our success will also depend, in part, on preserving our trade secrets, maintaining the security of our data and know-how, and obtaining, maintaining, and enforcing other intellectual property rights. We may not be able to obtain, maintain, and/or enforce our intellectual property or other proprietary rights necessary to our business or in a form that provides us with a competitive advantage.

The patent prosecution process is expensive, time consuming, and complex, and we may not be able to file, prosecute, maintain, enforce, defend, or license all necessary or desirable patents or patent applications at a reasonable cost or in a timely manner, or in all jurisdictions. Moreover, pending patent applications cannot be enforced against third parties practicing the technology claimed in such applications unless, and until, patents issue from such applications, and then only to the extent that the issued claims cover relevant product, service, or the technology. There can be no assurance that our current or future patent applications will result in patents being issued or that our issued patents will afford sufficient protection against competitors or other third parties with similar products, services, or technologies competitive with ours, nor can there be any assurance that the patents issued will not be infringed, designed around, or invalidated by third parties.

Even issued patents may later be found invalid or unenforceable or may be modified or revoked in proceedings instituted by third parties before various patent offices or in courts. The degree of future protection for our intellectual property or other proprietary rights is uncertain. Only limited protection may be available and may not adequately protect our rights or permit us to gain or keep any competitive advantage. These uncertainties and/or limitations in our ability to properly protect the intellectual property or other proprietary rights relating to our products, services, and technologies could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We cannot be certain that the claims in our U.S. pending patent applications, corresponding international patent applications, and patent applications in certain foreign territories will be considered patentable by the USPTO courts in the United States or by the patent offices and courts in foreign countries, nor can we be certain that the claims in our future issued patents will not be found invalid or unenforceable if challenged. Our ability to obtain and maintain valid and enforceable patents depends in part on whether our inventions are eligible for patent prosecution and, if so, whether the differences between our inventions and the prior art allow our inventions to be patentable over the prior art. Additionally, regardless of when filed, we may fail to identify relevant third-party patents or patent applications, or we may incorrectly conclude that a third-party patent is invalid or not infringed by our products, services, technologies, or activities. Therefore, we cannot be certain that we were the first to make the inventions claimed in any of our owned or in-licensed patents or pending patent applications, or that we were the first to file for patent protection of such inventions.

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Failure to obtain, maintain, and/or enforce intellectual property rights necessary to our business and failure to protect, monitor, and control the use of our intellectual property rights could negatively impact our ability to compete and cause us to incur significant expenses. The intellectual property laws and other statutory and contractual arrangements in the United States and other jurisdictions we may in the future depend upon may not provide sufficient protection in the future to prevent the infringement, use, violation, or misappropriation of our patents, trademarks, data, technology, and other intellectual property rights by others, and may not provide an adequate remedy if our intellectual property rights are infringed, misappropriated, or otherwise violated by others.

The degree of future protection for our intellectual property rights is uncertain, and we cannot ensure that:

•others will not develop, manufacture, and/or commercialize similar or alternative products, services, or technologies that do not infringe, misappropriate, or violate any patents or other intellectual property rights that we own or have rights to;

•any patents issued to us will provide a basis for an exclusive market for our products, services, or technologies; will provide us with any competitive advantages; or will not be challenged, invalidated, modified, revoked, or circumvented by third parties;

•any of our challenged patents will ultimately be found to be valid and enforceable;

•any of our patents, or any of our pending patent applications, if issued, will include claims having a scope sufficient to protect our products, services, or technologies;

•any of our pending patent applications will issue as patents, or even if issued, will include claims with a scope sufficient to protect our products, services, or technologies;

•we will be able to successfully develop, manufacture, and commercialize our products, services, or technologies on a substantial scale before relevant patents we may have expire;

•we were the first to make the inventions covered by each of our patents and pending patent applications, or we were the first to file patent applications for such inventions;

•we will develop additional proprietary inventions, products, services, or technologies that are separately patentable; or

•our commercial activities, products, services, or technologies will not infringe upon the patents of others.

If we fail to identify our patentable inventions or adequately protect our patent rights, the commercial value of our products, services, or technologies may be adversely affected, and our competitive position may be harmed.

We rely in part on our portfolio of issued patents and pending patent applications in the United States and other countries to protect our intellectual property and competitive position. However, it is also possible that we may fail to identify patentable aspects of inventions made in the course of the development, manufacture, and commercial activities conducted by or on behalf of us before it is too late to obtain patent protection on such inventions. If we fail to timely file for patent protection in any jurisdiction, we may be precluded from doing so at a later date. Although we enter into non-disclosure and confidentiality agreements with parties who have access to patentable aspects of our research and development output, such as our employees, outside scientific collaborators, suppliers, consultants, advisors, and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. Furthermore, publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in any of our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Moreover, should we become a licensee of a third party's patents or patent applications, depending on the terms of any future in-licenses to which we may become a party, we may not have the right to control the preparation, filing, and prosecution of patent applications, or to maintain or enforce the patents, covering technology in-licensed from third parties. Therefore, these patents and patent applications may not be prosecuted, maintained, and/or enforced in a manner consistent with the best interests of our business. While we expect that we will generally apply for patents in commercially significant countries other than the United States, where we will intend to make, use, import, offer

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for sale, or sell our products or services, or otherwise practice our technology, we may not accurately predict all of the countries where patent protection will ultimately be desirable. Furthermore, the issuance of a patent does not give us the right to practice the patented invention. Third parties may have blocking patents that could prevent us from importing, using, manufacturing, and/or commercializing our own products or services, or otherwise practicing our own technology. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

The patent positions of companies, including our patent position, may involve complex legal and factual questions that have been the subject of much litigation in recent years, and, therefore, the scope of any patent claims that we have or may obtain cannot be predicted with certainty. Accordingly, we cannot provide any assurances about which of our patent applications will issue; the breadth of any resulting patent; whether any of the issued patents will be found to be infringed, invalid, or unenforceable, or will be threatened or challenged by third parties; or which of our issued patents have, or whether any of our currently pending or future patent applications that mature into issued patents will include, claims with a scope sufficient to protect our products, services, or technology. Our pending and future patent applications may not result in the issuance of patents or, if issued, may not issue in a form that will be advantageous to us.

The coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. We cannot offer any assurances that the breadth of our issued patents will be sufficient to stop a competitor from developing, manufacturing, and commercializing one or more products, services, or technologies in a non-infringing manner that would be competitive with one or more of our products, services, or technologies, or otherwise provide us with any competitive advantage. Furthermore, any successful challenge to these patents or any other patents owned by or licensed to us after patent issuance could deprive us of rights necessary for our commercial success. Further, there can be no assurance that we will have adequate resources to enforce our patents.

Though an issued patent is presumed valid and enforceable, its issuance is not conclusive as to its validity or its enforceability, and it may not provide us with adequate proprietary protection or competitive advantages against competitors with similar products or services. Patents, if issued, may be challenged, deemed unenforceable, invalidated, narrowed, or circumvented. Proceedings challenging our patents or patent applications could result in either loss of the patent or denial of the patent application or loss or reduction in the scope of one or more of the claims of the patent or patent application. Any successful challenge to our patents and patent applications could deprive us of exclusive rights necessary for our commercial success. In addition, defending such challenges in such proceedings may be costly. Thus, any patents that we own or in-license may not provide the anticipated level of, or any, protection against competitors. Furthermore, an adverse decision may result in a third party receiving a patent right sought by us, which in turn could affect our ability to develop, manufacture, commercialize, import, or otherwise use our products, services, or technologies.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment, and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment, and other similar provisions during the patent application process. In addition, periodic maintenance fees, renewal fees, annuity fees, and various other government fees on issued patents often must be paid to the USPTO and foreign patent agencies over the lifetime of the patent and/or applications and any patent rights we may obtain in the future. While an unintentional lapse of a patent or patent application can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include, but are not limited to, failure to respond to official actions within prescribed time limits, non-payment of fees, and failure to properly legalize and submit formal documents. If we or our patent licensors fail to maintain the patents and patent applications that we in-license, we may not be able to stop a competitor from marketing products, services, or technologies that are the same as or similar to our products, services, or technologies, which would have a material adverse effect on our business, financial condition, results of operations, and prospects.

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Changes in U.S. or foreign patent laws or their interpretations could diminish the value of our patents in general, thereby impairing our ability to protect our current and future products, services, or technologies, and could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our current or future patents.

Our ability to obtain patents and the breadth of any patents obtained are uncertain in part because, as of the date of this prospectus, some legal principles remain unresolved, and there has not been a consistent policy regarding the breadth or interpretation of claims allowed in patents in the United States and other countries. Changes in either patent laws or interpretations of patent laws in the United States and other countries may diminish the value of our intellectual property rights or narrow the scope of our patent protection, which in turn could diminish the commercial value of our products, services, and technologies.

Patent reform legislation may pass in the future that could lead to additional uncertainties and increased costs surrounding the prosecution, enforcement, and defense of our patents and applications. Furthermore, the U.S. Supreme Court and the U.S. Court of Appeals for the Federal Circuit have made, and will likely continue to make, changes in how the patent laws of the United States are interpreted. The U.S. Supreme Court has ruled on several patent cases in recent years, either narrowing the scope of patent protection available in certain circumstances or weakening the rights of patent owners in certain situations.

In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on actions by the U.S. congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that would weaken our ability to obtain new patents or to enforce patents that we own or that we might obtain or license in the future. An inability to obtain, enforce, and defend patents covering our proprietary technologies would materially and adversely affect our business, financial condition, results of operations, and prospects.

Similarly, foreign courts have made, and will likely continue to make, changes in how the patent laws in their respective jurisdictions are interpreted. Changes in patent laws and regulations in other countries or jurisdictions, changes in the governmental bodies that enforce them, or changes in how the relevant governmental authority enforces patent laws or regulations may weaken our ability to obtain new patents or to enforce patents that we own or may obtain in the future. Further, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. In addition, any protection afforded by foreign patents may be more limited than that provided under U.S. patent and intellectual property laws. We may encounter significant problems in enforcing and defending our intellectual property both in the United States and abroad. For example, if the issuance in a given country of a patent covering an invention is not followed by the issuance in other countries of patents covering the same invention, or if any judicial interpretation of the validity, enforceability, or scope of the claims or the written description or enablement in a patent issued in one country is not similar to the interpretation given to the corresponding patent issued in other countries, our ability to protect our intellectual property rights in those countries may be limited. We cannot predict future changes in the interpretation of patent laws in the United States and other countries or changes to patent laws that might be enacted into law by U.S. and foreign legislative bodies. Those changes may materially affect our patents or patent applications and our ability to obtain additional patent protection in the future. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

In June 2023, the European Unitary Patent system and the European Unified Patent Court (“UPC”) were launched. European patent applications now have the option, upon grant of a patent, of becoming a Unitary Patent, which is subject to the jurisdiction of the UPC. In addition, conventional European patents, both already granted at the time the new system began and granted thereafter, are subject to the jurisdiction of the UPC, unless actively opted out. This was a significant change in European patent practice and deciding whether to opt in or opt out of Unitary Patent practice entails strategic and cost considerations. The UPC provides third parties with a new forum to centrally revoke our European patents and makes it possible for a third party to obtain pan-European injunctions against us. It will be several years before we will understand the scope of patent rights that will be recognized and the strength of patent remedies that will be provided by the UPC. While we have the right to opt our patents out of the UPC over the first seven years of the court’s existence, doing so may preclude us from realizing the benefits of the UPC. Moreover, the decision whether to opt in or opt out of Unitary Patent status will require coordinating with co-applicants, if any, adding complexity to any such decision.

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The legal systems in certain countries may also favor state-sponsored or companies headquartered in particular jurisdictions over our first-in-time patents and other intellectual property protection. We are aware of incidents where such entities have stolen the intellectual property of domestic companies in order to create competing products, and we believe that we may face such circumstances ourselves in the future. For example, through its "Annual Special 301 Report on Intellectual Property," the Office of the United States Trade Representative has been reporting on the adequacy and effectiveness of intellectual property protection in a number of foreign countries that are U.S. trading partners and their protection and enforcement of intellectual property rights. Placement of a country on the Priority Watch List indicates that particular problems exist in that country with respect to intellectual property protection, enforcement, or market access for persons relying on intellectual property rights. Countries placed on the Priority Watch List are the focus of increased bilateral attention concerning the specific problem areas. It is possible that we will not be able to enforce our intellectual property rights against third parties that misappropriate our proprietary technology in those countries.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, and defending patents on our products, services, and technologies in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. The requirements for patentability may differ in certain countries, particularly in developing countries. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products, services, or technologies and, further, may export otherwise infringing products, services, or technologies to territories where we have patent protection, including importing competing products or transmitting competing technology into the United States. Patent enforcement in foreign jurisdictions is often not as strong as that in the United States. These products, services, or technologies may compete with our products, services, or technologies, and our patents or other intellectual property rights may not be effective or sufficient to prevent such competition.

Various companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of certain countries may not favor the enforcement of patents and other intellectual property protection, particularly those relating to medical devices and related services and technologies, which could make it difficult for us to stop the infringement of our patents or marketing of competing products, services, and technologies in violation of our intellectual property and proprietary rights. In addition, some jurisdictions, such as Europe, Japan, and China, may have a higher standard for patentability than the United States, including, for example, imposing a high standard for making claim amendments and for the submission of supplemental experimental data during patent examination. Under those heightened patentability requirements, we may not be able to obtain sufficient patent protection in certain jurisdictions, even though the same or similar patent protection can be secured in the United States and other jurisdictions.

Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patent rights at risk of being invalidated or interpreted narrowly, could put our owned or in-licensed patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license. Various countries outside the United States, including certain countries in Europe, India, and China, have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. If we are forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected. In addition, many countries limit the enforceability of patents against government agencies or government contractors. As a result, a patent owner in such countries may have limited remedies in certain circumstances, which could materially diminish the value of such patent. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

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Further, the standards applied by the USPTO and foreign patent offices in granting patents are not always applied predictably. As such, we do not know the degree of worldwide uniform protection that we will have on our technologies and products in the future.

If we cannot successfully enforce our intellectual property rights, the commercial value of our products, services, or technologies may be adversely affected, and our competitive position may be harmed.

Third parties, including our competitors, may currently, or in the future, infringe, misappropriate, or otherwise violate our issued patents or other intellectual property rights, and we may file lawsuits or initiate other proceedings to protect or enforce our patents or other intellectual property rights, which could be expensive, time consuming, and unsuccessful. We regularly monitor for unauthorized use of our intellectual property rights and, from time to time, analyze whether to seek to enforce our rights against potential infringement, misappropriation, or violation of our intellectual property rights. However, the steps we have taken, and are taking, to protect our proprietary rights may not be adequate to enforce our rights as against such infringement, misappropriation, or violation of our intellectual property rights. In certain circumstances, it may not be practicable or cost effective for us to enforce our intellectual property rights fully, particularly in certain developing countries or where the initiation of a claim might harm our business relationships. We may also be hindered or prevented from enforcing our rights with respect to a government entity or instrumentality because of the doctrine of sovereign immunity. Our ability to enforce our patent or other intellectual property rights depends on our ability to detect infringement. It may be difficult to detect infringers who do not advertise the components or methods that are used in connection with their products, services, or technologies. Moreover, it may be difficult or impossible to obtain evidence of infringement in a competitor's or potential competitor's product, services, or technologies. Thus, we may not be able to detect unauthorized use of, or take appropriate steps to enforce, our intellectual property rights. Any inability to meaningfully enforce our intellectual property rights could harm our ability to compete and reduce demand for our products, services, and technologies. We may in the future become involved in lawsuits to protect or enforce our intellectual property rights. An adverse result in any litigation proceeding could harm our business. In any lawsuit we bring to enforce our intellectual property rights, a court may refuse to stop the other party from manufacturing, commercializing, using, or importing the product, service, offering, or technology at issue on grounds that our intellectual property rights do not cover, and the other party is not infringing, violating, or otherwise misappropriating our intellectual property, through the manufacture, commercialization, use, or importation of the product, service, offering, or technology in question. Any claims we assert against perceived infringers could also provoke these parties to assert counterclaims against us, alleging that we infringe, misappropriate, or otherwise violate their intellectual property rights. If we initiate legal proceedings against a third party to enforce a patent covering a product, service, offering, or technology, the defendant could counterclaim that such patent is invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are common, and there are numerous grounds upon which a third party can assert invalidity or unenforceability of a patent. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of patentable subject matter, novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Mechanisms for such challenges include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings). In a patent or other intellectual property proceeding, a court may decide that a patent or other intellectual property right of ours is invalid or unenforceable, in whole or in part, construe the patent's claims or other intellectual property narrowly, or refuse to stop the other party from manufacturing, commercializing, using, or importing the product, service, offering, or technology at issue on the grounds that our patents or other intellectual property do not cover the manufacture, commercialization, use, or importation of the product, service, offering, or technology in question. Furthermore, even if our patents or other intellectual property rights are found to be valid and infringed, a court may refuse to grant injunctive relief against the infringer and instead may grant us monetary damages and/or ongoing royalties. Such monetary compensation may be insufficient to adequately offset the damage to our business caused by the infringer's competition in the market. An adverse result in any litigation or administrative proceeding could put one or more of our patents or other intellectual property rights at risk of being invalidated or interpreted narrowly, which could adversely affect our competitive business, financial condition, results of operations, and prospects. Moreover, even if we are successful in any litigation, we may incur significant expense in connection with such proceedings, and the amount of any monetary damages may be inadequate to compensate us for damage as a result of the infringement and the proceedings.

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We may become a party to intellectual property litigation or administrative proceedings that could be expensive, time consuming, and unsuccessful, and could interfere with our ability to develop, manufacture, commercialize, import, or otherwise use our products, services, or technologies.

Our commercial success depends, in part, on our ability to develop, manufacture, commercialize, import, or use our products, services, and technologies without infringing, misappropriating, or otherwise violating the intellectual property rights of third parties. Our industry has been characterized by extensive litigation regarding patents, trademarks, trade secrets, and other intellectual property rights, and companies in the industry have used intellectual property litigation to gain a competitive advantage. While we take steps to ensure that we do not infringe upon, misappropriate, or otherwise violate the intellectual property rights of others, there may be other more pertinent rights of which we are presently unaware.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating, or otherwise violating their intellectual property rights. The outcomes of such proceedings are uncertain and could have a negative impact on the success of our business. It is possible that U.S. and foreign patents and pending patent applications controlled by third parties may be alleged to cover our products, services, and technologies, or that we may be accused of misappropriating third parties' trade secrets or infringing third parties' trademarks. We may in the future become party to, or be threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our products, services, or technologies, including interference proceedings, post-grant review, and *inter partes* review before the USPTO or equivalent foreign regulatory authority. Furthermore, we may also become involved in other proceedings, such as reexamination, derivation, or opposition proceedings before the USPTO or other jurisdictional body relating to our intellectual property rights or the intellectual property rights of others. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of their merit. Because patent applications can take many years to issue and because publication schedules for pending applications vary by jurisdiction, there may be applications now pending of which we are unaware and which may result in issued patents, which our current or future products, services, or technologies infringe. Also, because the claims of published patent applications can change between publication and patent grant, there may be published patent applications that may ultimately issue with claims that we infringe. There is a risk that third parties may choose to engage in litigation with us to enforce or to otherwise assert their patent rights against us. Even if we believe that such claims are without merit, a court of competent jurisdiction could hold that these third-party patents are valid and enforceable, and infringed by the use of our products, services, or technologies, which could have a negative impact on the commercial success of our current and any future products, services, or technologies. If we were to challenge the validity of any such third party U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent. We will have similar burdens to overcome in foreign courts in order to successfully challenge a third-party claim of patent infringement.

Our defense of any litigation or interference proceedings may fail, and, even if successful, defending such claims brought against us would cause us to incur substantial expenses and distract our management and other employees. If such claims are successfully asserted against us, we could be forced to pay substantial damages. Further, if a patent infringement or other intellectual property rights-related lawsuit were brought against us, we could be forced, including by court order, to cease developing, manufacturing, commercializing, importing, or using the infringing product, service, or technology. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right. Although patent, trademark, trade secret, and other intellectual property disputes have often been settled through licensing or similar arrangements, costs associated with such arrangements may be substantial and could include ongoing royalties. We may not be able to obtain licenses on commercially reasonable terms or at all, in which event, our business would be materially and adversely affected. Even if we were able to obtain a license, the rights may be non-exclusive, which could result in our competitors and other third parties gaining access to the same intellectual property. Ultimately, if we are unable to obtain such licenses or make any necessary changes to our products, services, or technologies, we could be forced to cease some aspect of our business operations, which could harm our business significantly.

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A finding of infringement or an unfavorable interference or derivation proceedings outcome could prevent us from developing, manufacturing, commercializing, importing, or using our products, services, or technologies, or force us to cease some or all of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business, financial condition, results of operations, and prospects. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of litigation or administrative proceedings more effectively than we can because of greater financial resources and more mature and developed intellectual property portfolios. We could encounter delays in product introductions while we attempt to develop alternative products or technologies.

If third parties assert infringement, misappropriation, or other claims against our customers, these claims may require us to initiate or defend protracted and costly litigation on behalf of our customers, regardless of the merits of these claims. If any of these claims succeed or settle, we may be forced to pay damages or settlement payments on behalf of our customers or may be required to obtain licenses for the products, services, or technologies they use. If we cannot obtain all necessary licenses on commercially reasonable terms, our customers may be forced to stop using our products, services, or technologies.

Our competitors, many of which have substantially greater resources and have made substantial investments in patent portfolios, trade secrets, trademarks, and competing technologies, may have applied for or obtained, or may in the future apply for or obtain, patents or trademarks that will prevent, limit, or otherwise interfere with our ability to make, use, sell, import, and/or export our products, services, or technologies. As the number of competitors in our market grows and the number of patents issued in this area increases, the possibility of patent infringement claims against us may increase. Moreover, individuals and groups that are non-practicing entities, commonly referred to as “patent trolls,” purchase patents, and other intellectual property assets for the purpose of making claims of infringement in order to extract settlements. From time to time, we may receive threatening letters, notices, or “invitations to license,” or may be the subject of claims that our products, services, or technologies and business operations infringe, misappropriate, or otherwise violate the intellectual property rights of others. These matters can be time consuming, be costly to defend in litigation, divert management’s attention and resources, damage our reputation and brand, and cause us to incur significant expenses or make substantial payments. In addition, we purchase equipment or materials, including hardware and software, from suppliers, and the design of these equipment or materials may be outside of our direct control. These suppliers may not indemnify us in the event that a third party alleges that the use of such components infringes its intellectual property rights.

Any lawsuits relating to intellectual property rights could subject us to significant liability for damages and invalidate our intellectual property. Any potential intellectual property litigation also could force us to do one or more of the following:

- stop developing, making, selling, importing, or using products, services, or technologies that allegedly infringe, misappropriate, or otherwise violate the asserted intellectual property right;
- pay substantial damages or royalties to the party whose intellectual property rights we may be found to be infringing, misappropriating, or otherwise violating;
- redesign those products, services, or technologies that contain the allegedly infringing intellectual property, which could be costly, disruptive, and infeasible; and attempt to obtain a license to the relevant intellectual property rights from third parties, which may not be available on commercially reasonable terms or at all, or from third parties who may attempt to license rights that they do not have;
- lose the opportunity to license our intellectual property rights to others or to collect royalty payments based upon successful protection and assertion of our intellectual property rights against others;
- incur significant legal expenses; or
- pay the attorneys’ fees and costs of litigation to the party whose intellectual property rights we may be found to be infringing, misappropriating, or otherwise violating.

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Third parties may also raise similar claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, and equivalent proceedings in foreign jurisdictions (for example, opposition proceedings). Such proceedings could result in revocation of or amendment to our patents in such a way that they no longer cover our products, services, or technologies. With respect to the validity question, for example, we cannot be certain that there is no invalidating prior art, of which we, our patent counsel, and the patent examiner were unaware during prosecution. If a third party were to prevail on a legal assertion of invalidity and/or unenforceability, we may lose at least part, and perhaps all, of the patent protection on our products, services, or technologies. Such a loss of patent protection would have a material adverse impact on our business, financial condition, results of operations, and prospects.

Because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during litigation. There could also be public announcements of the results of hearings, motions, or other interim developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of shares of our common stock. Even if we ultimately prevail, a court may decide not to grant an injunction against further infringing activity and instead award only monetary damages, which may not be an adequate remedy. Furthermore, even if resolved in our favor, the monetary cost of such litigation and the diversion of the attention of our management could outweigh any benefit we receive as a result of the proceedings. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our business. Any of the foregoing may cause us to incur substantial costs and could place a significant strain on our financial resources, divert the attention of management from our core business, and harm our reputation.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property rights.

We may also be subject to claims that our current or former employees, contractors, or other third parties have an ownership interest in our current or future patents, patent applications, or other intellectual property rights, including as an inventor or co-inventor. We may be subject to ownership or inventorship disputes in the future arising, for example, from conflicting obligations of employees, consultants, or others who were or are involved in developing our products, services, or technologies. Although it is our policy to require our employees and contractors who may be involved in the conception or development of inventions to execute agreements assigning such inventions and intellectual property rights therein to us, we may be unsuccessful in executing such an agreement with each party who, in fact, conceives or develops inventions that we regard as our own, and we cannot be certain that our agreements with such parties will be upheld in the face of a potential challenge, or that they will not be breached, for which we may not have an adequate remedy. The assignment of inventions may not be self-executing, or the assignment agreements may be breached, and litigation may be necessary to defend against these and other claims challenging inventorship or ownership of inventorship. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or the right to use, valuable intellectual property rights, and other owners may be able to license their interest in such intellectual property rights to other third parties, including our competitors. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

In addition, we may be subject to claims from third parties challenging inventorship or ownership of intellectual property rights that we regard as our own, based on claims that our agreements with employees or consultants obligating them to assign their inventions and intellectual property rights therein to us are ineffective or in conflict with prior or competing contractual obligations to assign inventions and intellectual property rights therein to another employer, to a former employer, or to another person or entity. Many of our current and former employees and consultants were previously employed at or engaged by other medical device companies, including our competitors or potential competitors. Some of these employees and consultants have executed with such previous employment or engagements confidential information non-disclosure and non-use agreements and inventions assignment agreements, which may have included non-competition provisions. Although we try to ensure that such employees and consultants do not use or otherwise disclose confidential information or intellectual property rights of others in their work for us without such other person’s consent, we may be subject to claims that we or our current or former employees or consultants have, inadvertently or otherwise, infringed, violated, or otherwise misappropriated the confidential information or the intellectual property rights of these former employers,

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clients, or other third parties. To the extent that our current or former employees or consultants disclose or use confidential information or intellectual property rights owned by others in their work for us, disputes may arise as to the rights in any related or resulting inventions, and litigation may be necessary to defend against these claims. It may also be necessary, or we may desire to obtain a license to such third party's intellectual property rights to settle any such claim; however, there can be no assurance that we would be able to obtain such license on commercially reasonable terms, if at all. If our defense to those claims fails, in addition to paying monetary damages or a settlement payment, a court could prohibit us from manufacturing, commercializing, using, or importing the product, service, or technology features or practicing other intellectual property rights that are essential to our business, which could have a material adverse effect on our competitive position as well as our business, financial condition, results of operations, and prospects. In addition, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against these claims, litigation could result in substantial costs and could be a distraction to management and our employees. Any litigation or the threat thereof may adversely affect our ability to hire employees or contract with collaborators, partners, services providers, or contractors. A loss of key personnel or their work product could hamper or prevent our ability to develop, manufacture, commercialize, import, or use our products, services, or technologies, which could materially and adversely affect our business, financial condition, results of operations, and prospects.

We depend on certain intellectual property rights that are licensed to us. We may be unsuccessful in licensing or acquiring intellectual property rights from third parties that may be necessary to develop, manufacture, commercialize, import, or use our current and/or future products, services, or technologies.

We make use of a certain computer code, which we in-license and use in the aprevo Technology Platform development process. Our rights to use such intellectual property rights in our business are subject to the continuation of and our compliance with the terms of the software license agreements between us and each of our licensors. In addition, the agreements under which we in-license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have in-licensed, or in-license in the future, prevent, or impair our ability to maintain our current or future licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected product candidates, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Despite our best efforts, our current or future licensors might conclude that we materially breached our license agreements and might therefore terminate the license agreements, thereby removing our ability to develop and commercialize products and technology generated or covered by these license agreements. If these in-licenses are terminated, this could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

A third party may hold intellectual property rights, including patent rights, that are important or necessary to the development, manufacture, commercialization, import, or use of our current and/or future products, services, or technologies, in which case, we would need to acquire or obtain a license to such intellectual property rights from such third party. A third party that perceives us to be a competitor may be unwilling to license or assign its intellectual property rights to us. In addition, the licensing or acquisition of third-party intellectual property rights is a competitive area, and other companies may also pursue similar strategies to license or acquire such third party's intellectual property rights. Some of these companies may have a competitive advantage over us due to their size, capital resources and greater development, manufacturing, and commercialization capabilities. We also may be unable to license or acquire third party intellectual property rights on commercially reasonable terms that would allow us to make an appropriate return on our investment, or we may be unable to obtain any such license or acquisition at all. If we are unable to successfully license or acquire necessary third-party intellectual property rights, we may not be able to develop, manufacture, commercialize, or use our current and/or future products, services, or technologies, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

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If we are unable to protect the disclosure and use of our confidential information and trade secrets, the value of our products, services, and technologies and our business and competitive position could be harmed.

In addition to patent protection, we also rely on other intellectual property rights, including trade secrets, know-how, and/or other proprietary information that is not patentable or that we elect not to patent. However, trade secrets can be difficult to protect, and some courts are less willing or unwilling to protect trade secrets. To protect and maintain the confidentiality of our trade secrets and other proprietary information, we rely heavily on confidentiality provisions that we have in contracts with our employees, consultants, collaborators, and other third parties. We generally enter into confidentiality and inventions assignment agreements with our employees, consultants, and applicable third parties upon their commencement of a relationship with us. However, we cannot guarantee that we have entered into such agreements with each party that may have or have had access to our trade secrets or proprietary technology and processes, and we may not enter into such agreements with all employees, consultants, and third parties who have been involved in the development of our inventions. Although we generally require all of our employees, consultants, advisors, and any third parties who have access to our proprietary know-how, information, or technology to enter into confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed, and any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets.

In addition, despite the protections that we place on our intellectual property and our other proprietary rights, monitoring unauthorized use and disclosure by employees, consultants, and other third parties who have access to such intellectual property or other proprietary rights is difficult, and we do not know whether the steps we have taken to protect our intellectual property or other proprietary rights will be adequate. Therefore, we may not be able to prevent the unauthorized disclosure or use of our technical knowledge or other trade secrets by such employees, consultants, advisors, or third parties, despite the existence of our protections, including non-disclosure and use restrictions. These agreements may not provide meaningful protection against the unauthorized disclosure or use of our trade secrets, know-how, or other proprietary information in the event that the unwanted use is outside the scope of the provisions of the contracts or in the event of any unauthorized use, misappropriation, or disclosure of such trade secrets, know-how or other proprietary information that we fail to detect. There can be no assurances that such employees, consultants, advisors, or third parties will not intentionally or unintentionally breach their agreements with us, that we will have adequate remedies for any breach, or that our trade secrets will not otherwise become known or independently developed by third parties, including our competitors. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that information to compete with us. In addition to contractual measures, we try to protect the confidential nature of our proprietary information by maintaining physical security of our premises and electronic security of our information technology systems. Such security measures may not, for example, in the case of misappropriation of a trade secret by an employee, consultant, or other third party with authorized access, provide adequate protection for our proprietary information. Our security measures may not prevent an employee, consultant, or other third party from misappropriating our trade secrets and providing them to a competitor, and recourse we take against such misconduct may not provide an adequate remedy to protect our interests fully.

If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed. The exposure of our trade secrets and other proprietary information would impair our competitive advantages and could have a material adverse effect on our business, financial condition, results of operations, and prospects. In particular, a failure to protect our proprietary rights may allow competitors to copy our products, services, or technologies, which could adversely affect our pricing and market share. Unauthorized parties may also attempt to copy or reverse engineer certain aspects of our products, services, or technologies that we consider proprietary. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our trade secret rights and related confidentiality, non-disclosure, and non-use provisions, and outcomes of such litigation are unpredictable. Enforcing a claim that a party illegally disclosed, used, or misappropriated a trade secret can be difficult, expensive, and time consuming, and the outcome is unpredictable. While we use commonly accepted security measures, trade secret violations are often a combination of federal and state laws in the United States, and the criteria for protection of trade secrets can vary among different jurisdictions. If the steps we have taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret. In addition, we may need to share our trade secrets and proprietary know-how with current or future partners, collaborators, contractors, and others located in countries at heightened risk of theft of trade secrets, including through direct intrusion by private parties or foreign actors, and those affiliated with or

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controlled by state actors. Some courts outside of the United States are less willing or unwilling to protect trade secrets, and agreement terms that address non-competition are difficult to enforce in many jurisdictions and might not be enforceable in certain cases. Finally, even if we were to be successful in the enforcement of our claims, we may not be able to obtain adequate remedies.

It is also possible that others may independently develop information or technologies that are the same as or similar to our trade secrets or other proprietary technologies and develop products, services, or technologies without obtaining access to our trade secrets or other proprietary information, in which case we, could not assert any intellectual property rights, including trade secret rights, against such parties in a manner that could prevent legal recourse by us. If we fail to obtain or maintain trade secret protection, or if any of our confidential or proprietary information, such as our trade secrets, were to be disclosed or used by others without our consent or otherwise misappropriated, or if any such information was independently developed by a competitor, or if our competitors obtain our trade secrets or independently develop products, services, or technologies that are the same as or similar to ours, our competitive market position could be materially and adversely harmed.

If our trademarks and trade names are not adequately protected, we may not be able to build brand name recognition in our markets of interest, and our competitive position may be harmed.

Our trademarks could be challenged, opposed, invalidated, infringed, and circumvented by third parties, and our trademarks could also be diluted, be declared generic or descriptive, or found to be infringing on other marks. If any of the foregoing occurs, we could be forced to re-brand our company, products, services, or technologies, resulting in loss of brand recognition and requiring us to devote resources to advertising and marketing new brands, and suffer other competitive harm. Third parties may also adopt trademarks similar to ours, which could harm our brand identity and lead to market confusion. Further, there can be no assurance that competitors will not infringe our trademarks or that we will have adequate resources to enforce our trademarks. At times, competitors may adopt trade names or trademarks similar to ours, thereby impeding our ability to build brand identity and possibly leading to market confusion. Certain of our current or future trademarks may become so well known by the public that their use becomes generic and they lose trademark protection. Over the long term, if we are unable to establish name recognition based on our trademarks and trade names, then we may not be able to compete effectively. Any of the foregoing could have a material adverse effect on our competitive position, business, financial condition, results of operations, and prospects.

We rely on our trademarks, trade names, and brand names, such as our aprevo mark, to distinguish our products, services, and technologies from the products, services, and technologies of our competitors, and have registered or applied to register many of these trademarks in the United States and certain countries outside the United States; however, we have not yet registered all of our trademarks in the United States and other potential markets. There can be no assurance that all of our trademark applications will be approved for registration. During trademark registration proceedings, we may receive rejections. Although we are given an opportunity to respond to those rejections, we may be unable to overcome such rejections. In addition, in proceedings before the USPTO and comparable agencies in many foreign jurisdictions, third parties have opposed, and may in the future oppose, our trademark applications and may seek to cancel trademark registrations or otherwise challenge our use of the trademarks. Opposition or cancellation proceedings may be filed against our trademark filings in these agencies, and such filings may not survive such proceedings. While we may be able to continue the use of our trademarks in the event that registration is not available, particularly in the United States, where trademark rights are acquired based on use and not registration, third parties may be able to enjoin the continued use of our trademarks if such parties are able to successfully claim infringement in court. In addition, opposition or cancellation proceedings may be filed against our trademark applications and registrations, and our trademarks may not survive such proceedings. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would. Our trademarks or trade names may be infringed, circumvented, declared generic, or determined to be violating or infringing on other marks.

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Our products contain third-party open-source software components, and failure to comply with the terms of the underlying open-source software licenses could restrict our ability to sell our products, affect our ability to protect our proprietary information, and subject us to possible litigation.

Our products contain software tools licensed by third parties under open-source software licenses. Use and distribution of open-source software may entail greater risks than use of third-party commercial software, as open-source software licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. Some open-source software licenses contain requirements that the licensee make its source code publicly available if the licensee creates modifications or derivative works using such open-source software, depending on the type of open-source software the licensee uses and how the licensee uses it. If we combine our proprietary software with open-source software in a certain manner, we could, under certain open-source software licenses, be required to make available the source code of certain of our proprietary software to the public for free. This could allow our competitors to create similar products with less development effort and time, and ultimately could result in a loss of product sales and revenue. In addition, some companies that use third-party open-source software have faced claims challenging their use of such open-source software and their compliance with the terms of the applicable open-source license. We may be subject to suits by third parties claiming ownership of what we believe to be open-source software or claiming non-compliance with the applicable open-source licensing terms. Use of open-source software may also present additional security risks because the public availability of such software may make it easier for hackers and other third parties to compromise or attempt to compromise our technology platform and systems.

Although we typically review our use of open-source software to avoid subjecting our products, services, or technology to conditions that we do not intend, the terms of many open-source software licenses have not been interpreted by U.S. courts, and there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to commercialize our products, services, or technology. Moreover, our processes for monitoring and controlling our use of open-source software in our products, services, or technology may not be effective. If we are held to have breached the terms of an open-source software license, we could be required to seek licenses from third parties to continue offering our solutions on terms that are not economically feasible; to re-engineer our products, services, or technology; to discontinue the sale of our products, services, or technology if re-engineering could not be accomplished on a timely basis; to pay statutory or other damages to the license holder; or to make generally available, in source code form, our proprietary code, any of which could materially adversely affect our business, financial condition, results of operations, and prospects.

Risks Relating to Financial and Accounting Matters

Our ability to use our net operating loss carryforwards and other tax attributes may be limited due to certain provisions of the Internal Revenue Code of 1986, as amended, or state tax law.

We have incurred substantial losses during our history and may never achieve profitability. U.S. federal net operating loss carryforwards ("NOLs") may be carried forward indefinitely, but may only be used to offset 80% of our taxable income annually for tax years beginning after December 31, 2020. As of December 31, 2024, we had NOLs of approximately $41.5 million for federal income tax purposes and $39.4 million for state income tax purposes. Realization of these NOLs depends on future taxable income, and there is a risk that our existing NOLs for state income tax purposes could expire unused and be unavailable to offset future state taxable income, which could adversely affect our results of operations.

In addition, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended (the "Code"), if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change federal NOLs and other tax attributes (such as tax credits) to offset its post-change taxable income and taxes may be limited. In general, an "ownership change" occurs if there is a greater than 50 percentage-point change (by value) in a corporation's equity ownership by certain stockholders over the testing period, which is generally the three-year period preceding any potential ownership change. Transactions that have occurred since our formation, including this offering, may result in an ownership change. We have not conducted a study to determine whether an ownership change would result from this offering. In addition, we may experience ownership changes in the future as a result of subsequent shifts in our stock ownership (some of which shifts are outside our control). As a result, our ability to use pre-change federal NOLs and other tax attributes to offset future taxable income and taxes could be subject to

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limitations. Similar provisions of state tax law may also apply. For these reasons, even if we achieve profitability, we may be unable to use a material portion of our NOLs and other tax attributes, which could materially and adversely affect our business, financial condition, results of operations, and prospects.

Our effective tax rate may vary significantly from period to period.

Various internal and external factors may have favorable or unfavorable effects on our future effective tax rate. These factors include, but are not limited to, changes in tax laws, regulations, or rates; structural changes in our business; new accounting pronouncements or changes to existing accounting pronouncements, non-deductible goodwill impairments; changing interpretations of existing tax laws or regulations; changes in the relative proportions of revenue and income before taxes in the various jurisdictions in which we operate that have different statutory tax rates; the future levels of tax benefits of equity-based compensation; changes in overall levels of pretax earnings; or changes in the valuation of our deferred tax assets and liabilities. Additionally, we could be challenged by state and local tax authorities as to the propriety of our sales tax compliance, and our results could be materially impacted by these compliance determinations.

Changes in tax laws or tax rulings could adversely affect our effective tax rates, results of operations, and financial condition.

Tax laws, regulations, and administrative practices in various jurisdictions are evolving and may be subject to significant changes due to economic, political, and other conditions. Changes in tax laws or treaties, issuance of new tax rulings, or changes in interpretations of existing laws could cause us to be subject to additional income-based taxes and non-income-based taxes, including payroll, sales, use, value-added, digital, net worth, property, and goods and services taxes, which in turn could adversely affect our results of operations and financial condition. These factors, together with the ambiguity of tax laws and regulations, the subjectivity of factual interpretations, and uncertainties regarding the geographic mix of earnings in any period, can affect our estimates of our effective tax rate and income tax assets and liabilities, result in changes in our estimates and accruals, and have a material adverse effect on our business results, cash flows, or financial condition. We are unable to predict what tax reforms may be proposed or enacted in the future or what effect such changes would have on our business, but such changes could potentially result in higher tax expense and payments, along with increasing the complexity, burden, and cost of compliance.

Our tax burden could increase as a result of ongoing or future tax audits.

We may be subject to periodic tax audits by tax authorities. Tax authorities may not agree with our interpretation of applicable tax laws and regulations. As a result, such tax authorities may assess additional tax, interest, and penalties. We regularly assess the likely outcomes of these audits and other tax disputes to determine the appropriateness of our tax provision and establish reserves for material, known tax exposures. However, the calculation of such tax exposures involves the application of complex tax laws and regulations in many jurisdictions. Therefore, there can be no assurance that we will accurately predict the outcomes of any tax audit or other tax dispute or that issues raised by tax authorities will be resolved at a financial cost that does not exceed our related reserves. As such, the actual outcomes of these disputes and other tax audits could have a material adverse effect on our business results or financial position.

The terms of the Customers Loan Agreement require us to meet certain operating and financial covenants and place restrictions on our operating and financial flexibility.

We are party to the Customers Loan Agreement with Customers Bank. As of March 31, 2025, $15.6 million in aggregate principal amount was outstanding under the Customers Loan Agreement.

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The Customers Loan Agreement contains various covenants that limit our ability to engage in specified types of transactions, as well as financial covenants requiring us to maintain at least $4 million in unrestricted cash with the lender and to comply with certain minimum revenue amounts. These covenants limit our ability to, among other things:

- sell, transfer, lease, or dispose of our assets subject to certain exclusions;
- create, incur, assume, guarantee, or assume additional indebtedness, other than certain permitted indebtedness;
- encumber or permit liens on any of our assets other than certain permitted liens;
- make restricted payments, including paying dividends on, repurchasing, or making distributions with respect to any of our capital stock;
- make specified investments;
- consolidate, merge with, or acquire any other entity, or sell or otherwise dispose of all or substantially all of our assets; and
- enter into certain transactions with our affiliates.

See the section titled "*Management's Discussion and Analysis of Financial Condition and Results of Operations— Liquidity and Capital Resources*" for more information regarding the covenants under the Customers Loan Agreement. The covenants in the Customers Loan Agreement limit our ability to take certain actions and, in the event that we breach one or more covenants, the lenders may choose to declare an event of default and require that we immediately repay all amounts outstanding of the aggregate principal amount, plus accrued interest, and foreclose on the collateral granted to it to secure such indebtedness. Such repayment could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our cash deposits with financial institutions exceed insured limits.

We maintain the majority of our cash and cash equivalents in accounts with one or more U.S. financial institutions, and our deposits at these institutions exceed insured limits. Market conditions can impact the viability of financial institutions. For example, on March 10, 2023, Silicon Valley Bank was closed by the California Department of Financial Protection and Innovation, which appointed the Federal Deposit Insurance Corporation ("FDIC") as receiver. Similarly, on March 12, 2023, Signature Bank was put into receivership. Since that time, there have been reports of instability at other U.S. banks, including First Republic Bank. Although the Federal Reserve Board, the Department of the Treasury, and the FDIC have taken steps to ensure that depositors at Silicon Valley Bank and Signature Bank can access all of their funds, including funds held in uninsured deposit accounts, and have taken additional steps to provide liquidity to other banks, there is no guarantee that, in the event of the closure of other banks or financial institutions in the future, depositors would be able to access uninsured funds or that they would be able to do so in a timely fashion. In the event of failure of any of the financial institutions where we maintain our cash and cash equivalents, there can be no assurance that we would be able to access uninsured funds in a timely manner, or at all. For example, we were required under the Customers Loan Agreement to maintain minimum deposits with Customers Bank (as successor-in-interest to Signature Bank). Any inability to access or delay in accessing these funds could adversely affect our business and financial condition.

Risks Relating to Our Common Stock and this Offering

There may not be an active trading market for our common stock, which may cause shares of our common stock to trade at a discount from the initial public offering price and make it difficult to sell the shares of common stock you purchase.

Prior to this offering, there has been no public market for our common stock. It is possible that, after this offering, an active trading market will not develop or, if developed, that any market will not be sustained, which would make it difficult for you to sell your shares of common stock at an attractive price, or at all. The initial public offering price per share of common stock will be determined by agreement among us and the representatives of the underwriters and may not be indicative of the price at which shares of our common stock will trade in the public

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market, if any, after this offering. The market value of our common stock may decrease from the initial public offering price. Furthermore, an inactive market may also impair our ability to raise capital in the future by selling shares of our common stock.

We are an emerging growth company and a smaller reporting company, and we cannot be certain if the reduced reporting requirements applicable to emerging growth companies and smaller reporting companies will make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the JOBS Act. We will remain an "emerging growth company" until the earliest to occur of:

- the last day of the fiscal year during which our total annual revenue equals or exceeds $1.235 billion (subject to adjustment for inflation);
- the last day of the fiscal year following the fifth anniversary of this offering;
- the date on which we have, during the previous three-year period, issued more than $1 billion in non-convertible debt; or
- the date on which we are deemed to be a "large accelerated filer" under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

As a result of our "emerging growth company" status, we may take advantage of exemptions from various reporting requirements that would otherwise be applicable to public companies, including, but not limited to, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and exemptions from the requirements of holding a non-binding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We also are a "smaller reporting company," meaning that the market value of our stock held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700.0 million, and our annual revenue is less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our stock held by non-affiliates is less than $250.0 million or (ii) our annual revenue is less than $100.0 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than $700.0 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our annual report on Form 10-K, and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

Investors may find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less-active trading market for our common stock, and the market price of our common stock may be adversely affected and more volatile.

We will incur increased costs and become subject to additional regulations and requirements as a result of becoming a public company, which could lower our profits or make it more difficult to run our business.

As a public company, we will incur significant legal, accounting, and other expenses that we have not incurred as a private company, including costs associated with public company reporting requirements. We have also incurred and will continue to incur costs associated with the Sarbanes-Oxley Act and related rules implemented by the SEC and the exchange on which our securities are listed. The expenses generally incurred by public companies for reporting and corporate governance purposes have been increasing. We expect these rules and regulations to increase our legal and financial compliance costs and to make some activities more time consuming and costly, although we are currently unable to estimate these costs with any degree of certainty. These laws and regulations also could make it more difficult or costly for us to obtain certain types of insurance, including director and officer liability insurance, and we may be forced to accept reduced policy limits and coverage or incur substantially higher costs to obtain the same or similar coverage. These laws and regulations could also make it more difficult for us to

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attract and retain qualified persons to serve on our board of directors (the "Board of Directors"), on our board committees, or as our executive officers. Furthermore, if we are unable to satisfy our obligations as a public company, we could be subject to delisting of our common stock, fines, sanctions, other regulatory action, and potentially civil litigation.

If we are unable to design, implement, and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports, and the market price of our common stock may decline.

As a public company, we will be required to maintain internal control over financial reporting and to report any material weaknesses in such internal controls. In addition, beginning with our second annual report on Form 10-K, we will be required to furnish a report by management on the effectiveness of our internal control over financial reporting, pursuant to the rules and regulations of the SEC regarding compliance with Section 404 of the Sarbanes-Oxley Act. The process of designing, implementing, and testing the internal control over financial reporting required to comply with this obligation is time consuming, costly, and complicated. Any failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition, results of operations, or cash flows. Further, if we identify one or more material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of Section 404 of the Sarbanes-Oxley Act in a timely manner, or if we, or if required, our auditors, are unable to assert that our internal control over financial reporting is effective, investors may lose confidence in the accuracy and completeness of our financial reports, the market price of our common stock could decline, and we could also become subject to investigations by the stock exchange on which our common stock is listed, the SEC, or other regulatory authorities, which could require additional financial and management resources. Failure to remedy any material weakness in our internal control over financial reporting, or to implement or maintain other effective control systems required of public companies, could also restrict our future access to the capital markets.

We do not intend to pay dividends in the foreseeable future. As a result, your ability to achieve a return on your investment will depend on appreciation in the market price of our common stock.

We have never declared or paid cash dividends on our capital stock, and we do not currently intend to pay any cash dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and expansion of our business. Any future determination related to dividend policy will be made at the discretion of our Board of Directors, subject to applicable laws, and will depend upon, among other factors, our results of operations, prospects, financial condition, contractual restrictions, and capital requirements. In addition, our ability to pay cash dividends on our capital stock is limited by the terms of the Customers Loan Agreement and may be limited by the terms of any future debt or preferred securities we issue or any future credit facilities we enter into. Accordingly, investors must for the foreseeable future rely on sales of their common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

If our operating and financial performance in any given period does not meet any guidance that we provide to the public, the market price of our common stock may decline.

We may, but are not obligated to, provide public guidance on our expected operating and financial results for future periods. Any such guidance will be comprised of forward-looking statements subject to the risks and uncertainties described in this prospectus and in our other public filings and public statements. Our actual results may not always be in line with or exceed any guidance we have provided, especially in times of economic uncertainty. If actual circumstances differ from those in our assumptions, our operating and financial results could fall below our publicly announced guidance or the expectations of investors. If, in the future, our operating or financial results for a particular period do not meet any guidance we provide or the expectations of investment analysts or investors generally, or if we reduce our guidance for future periods, the market price of our common stock may decline. Even if we do issue public guidance, there can be no assurance that we will continue to do so in the future.

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We will have broad discretion in the use of net proceeds to us from this offering and may not use them effectively.

We will have broad discretion in the application of the net proceeds to us from this offering, including for any of the purposes described in "*Use of Proceeds*," and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. We intend to use a portion of the net proceeds to support the commercialization of the aprevo Technology Platform and expand and improve our product offerings.

If we do not use the net proceeds that we receive in this offering effectively, our business, financial condition, results of operations, and prospects could be harmed, and the market price of our common stock could decline. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities such as money market accounts, certificates of deposit, commercial paper, and guaranteed obligations of the U.S. government that may not generate a high yield for our stockholders. These investments may not yield a favorable return to our investors.

Investors in this offering will experience immediate and substantial dilution.

The initial public offering price of our common stock is expected to be substantially higher than the pro forma as adjusted net tangible book value per share of our common stock. Therefore, if you purchase shares of our common stock in this offering, you will pay a price per share that substantially exceeds our pro forma as adjusted net tangible book value per share after this offering. Based on the initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, you will experience immediate dilution of $ per share, representing the difference between our pro forma as adjusted net tangible book value per share after giving effect to this offering and the initial public offering price. In addition, purchasers of common stock in this offering will have contributed % of the aggregate price paid by all purchasers of our common stock but will own only approximately % of our total equity outstanding after this offering. Furthermore, if the underwriters exercise their option to purchase additional shares, or outstanding options and warrants are exercised, you could experience further dilution. This dilution is due to our investors who purchased shares prior to this offering having paid substantially less when they purchased their shares than the price offered to the public in this offering. To the extent that outstanding options or warrants are exercised, there will be further dilution to new investors. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. For a further description of the dilution that you will experience immediately after this offering, see the section titled "*Dilution*."

Future sales and issuances of our securities, including to support business growth or pursuant to our equity incentive plans, may cause dilution to our stockholders or decrease our stock price.

We intend to continue to make investments to support our business growth and may require additional funds to respond to business challenges and opportunities, including the need to develop new products, enhance our existing products, enhance our operating infrastructure, potentially expand internationally, and potentially acquire complementary businesses and technologies. In order to achieve these objectives, we may make future commitments of capital resources. Accordingly, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through further issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity securities we issue could have rights, preferences, and privileges superior to those of holders of our common stock. In addition, the incurrence of indebtedness would increase our fixed obligations and include covenants or other restrictions that would impede our ability to manage our operations. Further, if additional financing is needed, we may not be able to obtain additional financing on terms favorable to us or at all. Our inability to obtain adequate financing or financing on terms satisfactory to us, when we require it, could significantly limit our ability to continue supporting our business growth and responding to business challenges and opportunities.

Furthermore, pursuant to our 2025 Plan, our management is authorized to grant stock options and other equity-based awards to our employees, directors and consultants. Additionally, the number of shares of our common stock reserved for issuance under our 2025 Plan will automatically increase on January 1 of each calendar year, beginning on January 1, 2026 and continuing through and including January 1, 2035, by % of the total number of shares

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of our capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by our Board of Directors. In addition, pursuant to our 2025 ESPP, the number of shares of our common stock reserved for issuance will automatically increase on January 1 of each calendar year, beginning on January 1, 2026 and continuing through and including January 1, 2035, by the lesser of (i) % of the total number of shares of our capital stock outstanding on the last day of the calendar month before the date of the automatic increase and (ii) shares; provided that before the date of any such increase, our Board of Directors may determine that such increase will be less than the amount set forth in clauses (i) and (ii). Unless our Board of Directors elects not to increase the number of shares available for future grant each year, our stockholders may experience additional dilution, which could cause our stock price to fall.

Our principal stockholders and management own a significant percentage of our stock and will be able to exert significant control over matters subject to stockholder approval.

Prior to this offering, as of May 31, 2025, our executive officers, directors, owners of more than 5% of our capital stock, and their respective affiliates beneficially owned approximately 81.2% of our outstanding shares, and, upon the closing of this offering, that same group will beneficially own approximately % of our outstanding shares (assuming no exercise of the underwriters' option to purchase additional shares and no purchases of shares in this offering by anyone of this group), or approximately % of our outstanding shares (assuming stockholders that have indicated an interest in purchasing shares in this offering purchase shares in the offering in the maximum amounts that they have indicated an interest in purchasing and no exercise of the underwriters' option to purchase additional shares). Therefore, even after this offering, these stockholders will have the ability to influence us through this ownership position. These stockholders may be able to determine all matters requiring stockholder approval. For example, these stockholders may be able to control elections of directors, amendments of our organizational documents, or approval of any merger, sale of assets, or other major corporate transaction. This may prevent or discourage unsolicited acquisition proposals or offers for our common stock that you may feel are in your best interest as one of our stockholders.

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Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

If our existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after the lock-up, market standoff, and other legal restrictions on resale discussed in this prospectus lapse, the trading price of our common stock could decline. Based upon the number of shares outstanding as of May 31, 2025 and assuming (i) the conversion of our outstanding convertible preferred stock as of May 31, 2025, into an aggregate of shares of our common stock immediately prior to the completion of this offering; (ii) no exercise of the underwriters' option to purchase additional shares of common stock; and (iii) no exercise of outstanding options or warrants subsequent to May 31, 2025, upon the closing of this offering, we will have outstanding a total of shares of common stock. Of these shares, all of the shares of our common stock sold in this offering, plus any shares sold upon exercise of the underwriters' option to purchase additional shares, will be freely tradable, without restriction, in the public market immediately following this offering, other than shares purchased by our "affiliates" (as such term is defined in Rule 144 under the Securities Act of 1933, as amended (the "Securities Act")). See the section titled "*Shares Eligible for Future Sale*" in this prospectus for restrictions applicable to our affiliates.

We anticipate that we and each of our directors, our executive officers, and certain other record holders that together represent approximately 100% of our outstanding common stock, stock options, warrants, and securities convertible into our common stock have entered or will enter into lock-up agreements with the underwriters prior to the commencement of this offering. The lock-up agreements pertaining to this offering will expire 180 days from the date of this prospectus (the "Lock-Up Period"). After the expiration of the lock-up agreements and the market standoff restrictions described below, as of May 31, 2025, up to approximately 111,165,696 million additional shares of common stock will be eligible for sale in the public market, approximately 81.2% of which shares are owned by directors, executive officers, and other owners of more than 5% of our outstanding common stock, stock options, warrants, and securities convertible into our common stock and will be subject to Rule 144 under the Securities Act. The representatives of the underwriters may, however, in their sole discretion, permit our officers, directors, and other stockholders who are subject to these lock-up agreements to sell shares prior to the expiration of the lock-up agreements.

In addition, as of May 31, 2025, 13,598,473 shares of common stock that are subject to outstanding options or subject to outstanding warrants will become eligible for sale in the public market to the extent permitted by the provisions of various vesting schedules, lock-up agreements, market standoff restrictions, and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are sold, or if it is perceived that they will be sold, in the public market, the market price of our common stock could decline.

After this offering, based upon the number of shares outstanding as of May 31, 2025, the holders of approximately 85.1 million shares of our common stock, or approximately 77% of our total outstanding common stock, will be entitled to rights with respect to the registration of their shares under the Securities Act, subject to the lock-up agreements and market standoff restrictions described above. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act, except for shares purchased by affiliates. Any sales of securities by these stockholders could have a material adverse effect on the trading price of our common stock.

Record holders of our securities are typically the parties to the lock-up agreements with the underwriters and the market standoff restrictions referred to above, while holders of beneficial interests in our shares who are not also record holders in respect of such shares are not typically subject to any such agreements or other similar restrictions. Accordingly, we believe that holders of beneficial interests who are not record holders and are not bound by market standoff restrictions or lock-up agreements could enter into transactions with respect to those beneficial interests that negatively impact our stock price. In addition, a security holder who is neither subject to market standoff restrictions with us nor a lock-up agreement with the underwriters may be able to sell, short sell, transfer, pledge, or otherwise dispose of or attempt to sell, short sell, transfer, hedge, pledge, or otherwise dispose of their equity interests at any time.

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Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, will:

- permit our Board of Directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences, and privileges as they may designate;
- provide that the authorized number of directors may be changed only by resolution of our Board of Directors;
- provide that our Board of Directors will be classified into three classes of directors, divided as nearly as equal in number as possible;
- provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least 66 2/3% of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;
- provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;
- require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;
- provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing and also specify requirements as to the form and content of a stockholder's notice;
- provide that special meetings of our stockholders may be called only by our Board of Directors pursuant to a resolution adopted by a majority of the total number of directors constituting the Board of Directors, and not by our stockholders; and
- not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

In addition, we are also subject to the anti-takeover provisions contained in Section 203 of the General Corporation Law of the State of Delaware (the "DGCL"). Under Section 203, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the Board of Directors has approved the transaction.

For a description of our capital stock, see the section titled "*Description of Capital Stock*."

Claims for indemnification by our directors, officers, and other employees or agents may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws that will be in effect immediately prior to the completion of this offering will provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law. The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and our amended and restated bylaws that will be in effect immediately prior to the completion of this offering may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. They may also reduce the likelihood of derivative litigation against our directors and officers, even though an action, if successful, might benefit us and other stockholders. Further, a stockholder's investment may be adversely affected to the extent that we pay the costs of settlement and damage awards against directors and officers as required by these indemnification provisions. We also maintain customary directors' and officers' liability insurance. See the section titled "*Management—Limitations on Liability and Indemnification Matters*."

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In addition, as permitted by Section 145 of the DGCL, our amended and restated bylaws to be effective immediately prior to the completion of this offering and our indemnification agreements that we have entered into with our directors, officers, and certain other employees will provide that:

- We will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner that such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.

- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.

- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

- We will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our Board of Directors or brought to enforce a right to indemnification.

- The rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees, and agents and to obtain insurance to indemnify such persons.

- We may not retroactively amend our amended and restated bylaws provisions to reduce our indemnification obligations to directors, officers, employees, and agents.

Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will provide that the Court of Chancery of the State of Delaware will be the exclusive forum for certain disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees.

Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, in the event that the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware or other state courts of the State of Delaware) is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers, or stockholders to us or to our stockholders, any action asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering, or our amended and restated bylaws that will be in effect immediately prior to the completion of this offering (as either may be amended from time to time), or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will also provide that the federal district courts of the United States will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees, or agents and arising under the Securities Act. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws that will be in effect immediately prior to the completion of this offering will preclude stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

If any action the subject matter of which is within the scope described above is filed in a court other than a court located within the State of Delaware (a "Foreign Action"), in the name of any stockholder, such stockholder shall be deemed to have consented to the personal jurisdiction of the state and federal courts located within the State

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of Delaware in connection with any action brought in any such court to enforce the applicable provisions of our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering and having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder. Although our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will contain the choice of forum provision described above, it is possible that a court could find that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

We believe that these provisions may benefit us by providing increased consistency in the application of Delaware law and federal securities laws by chancellors and judges, as applicable, particularly experienced in resolving corporate disputes, efficient administration of cases on a more expedited schedule relative to other forums, and protection against the burdens of multi-forum litigation. However, this choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees, or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. While the Delaware courts have determined that such choice of forum provisions are facially valid, a stockholder may nevertheless seek to bring a claim in a venue other than those designated in the exclusive forum provisions, and there can be no assurance that such provisions will be enforced by a court in those other jurisdictions. If a court were to find the choice of forum provision that will be contained in our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business, financial condition, results of operations, and prospects.

The market price of our common stock may be volatile, which could cause the value of your investment to decline.

Even if an active trading market develops, the market price of our common stock may be highly volatile and could be subject to wide fluctuations. Securities markets worldwide experience significant price and volume fluctuations. This market volatility, as well as general economic, market, or political conditions, could reduce the market price of our common stock regardless of our operating performance. In addition, our results of operations could be below the expectations of public market analysts and investors due to a number of potential factors, including variations in our quarterly results of operations, additions or departures of key management personnel, failure to meet analysts' earnings estimates, publication of research reports about our industry, litigation and government investigations, data privacy and security-related events, changes or proposed changes in laws or regulations or differing interpretations or enforcement thereof affecting our business, adverse market reaction to any indebtedness we may incur or securities we may issue in the future, changes in market valuations of similar companies or speculation in the press or investment community, announcements by our competitors, adverse publicity about the medical device industry, or individual scandals, and, in response, the market price of our common stock could decrease significantly. You may be unable to resell your shares of common stock at or above the initial public offering price.

Stock markets experience extreme price and volume fluctuations. In the past, following periods of volatility in the overall market and the market price of a company's securities, securities class action litigation has often been instituted against these companies. Such litigation, if instituted against us, could result in substantial costs and a diversion of our management's attention and resources.

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If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our stock, our stock price and trading volume could decline.

The trading market for our common stock will be influenced by the research and reports that industry or securities analysts publish about us or our business. We do not currently have and may never obtain research coverage by securities and industry analysts. If no or few securities or industry analysts commence coverage of us, the market price for our stock would be negatively impacted. In the event that we obtain securities or industry analyst coverage, if any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property, or our stock performance, or if our results of operations fail to meet the expectations of analysts, our stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline.

General Risk Factors

If we engage in acquisitions or strategic partnerships, it may increase our capital requirements, dilute our stockholders, cause us to incur debt or assume contingent liabilities, and subject us to other risks.

From time to time, we may evaluate various acquisitions and strategic partnerships, including licensing or acquiring complementary offerings, intellectual property rights, technologies, or businesses. Any acquisition or strategic partnership may entail numerous risks, including:

- increased operating expenses and cash requirements;
- the assumption of additional indebtedness or contingent liabilities;
- assimilation of operations, intellectual property, and products of an acquired company, including difficulties associated with integrating new personnel;
- the diversion of our management's attention from our existing operations in pursuing such a strategic merger or acquisition;
- loss of key personnel and uncertainties in our ability to maintain key business relationships;
- uncertainties associated with the other party to such a transaction, including the prospects of that party and their existing products or future products and regulatory approvals; and
- our inability to generate revenue from acquired technology and/or products sufficient to meet our objectives in undertaking the acquisition or even to offset the associated acquisition and maintenance costs.

In addition, if we undertake acquisitions or strategic partnerships, we may issue dilutive securities, assume or incur debt obligations, incur large one-time expenses, and acquire intangible assets that could result in significant future amortization expense. Moreover, we may not be able to locate suitable acquisition or partnership opportunities, and even if we do locate such opportunities, we may not be able to successfully bid for or obtain them due to competitive factors or lack of sufficient resources. This inability could impair our ability to grow or obtain access to technology or products that may be important to the development of our business.

We or the third parties we depend on may be adversely affected by natural disasters and other catastrophic events, and our business continuity and disaster recovery plans may not adequately protect us from a serious natural disaster or other catastrophic event. Any interruption in our operations or the operations of our CMOs may have a material adverse effect on our business, financial condition, results of operations, and prospects.

Severe weather, natural disasters, and other catastrophic events, including pandemics or other public health crises, earthquakes, tsunamis, hurricanes, floods, fires, explosions, accidents, power outages, cyberattacks, telecommunications failures, mechanical failures, unscheduled downtimes, civil unrest, strikes, transportation interruptions, unpermitted discharges or releases of toxic or hazardous substances, other environmental risks, wars or other conflicts (including conflicts in Ukraine and the Middle East), sabotage, terrorist attacks, or other intentional acts of vandalism or misconduct could severely disrupt our operations, or the operations of the

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manufacturer of aprevo interbody implants, and have a material adverse effect on our business, financial condition, results of operations, and prospects.

If a natural disaster or other catastrophic event occurs that prevents us or our CMOs from using all or a significant portion of our or their headquarters or other facilities, that damages critical infrastructure, or that otherwise disrupts operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar catastrophic event. The potential impact of any disruption would depend on the nature and extent of the damage caused by a disaster. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, our corporate headquarters and one of our CMO's facilities are located in Carlsbad, California, near major earthquake faults and fire zones. We do not carry earthquake insurance. Furthermore, integral parties in our supply chain are similarly vulnerable to natural disasters or other sudden, unforeseen, and severe adverse events. If such an event were to affect our supply chain, it could have a material adverse effect on our business, financial condition, results of operations, and prospects.

We are subject to risks from legal and arbitration proceedings that may prevent us from pursuing our business activities or require us to incur additional costs in defending against claims or paying damages.

We may become subject to legal disputes and regulatory proceedings in connection with our business activities involving, among other things, product liability, product defects, intellectual property infringement, employment matters, and/or alleged violations of other applicable laws in various jurisdictions. We may not be insured against all potential damages that may arise out of any claims to which we may be party in the ordinary course of our business. A negative outcome of these proceedings may prevent us from pursuing certain activities and/or require us to incur additional costs in order to do so and pay damages. In addition, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which would harm our business, financial condition, results of operations, and prospects. Additionally, the significant increase in the cost of directors' and officers' liability insurance may cause us to opt for lower overall policy limits or to forgo insurance that we may otherwise rely on to cover significant defense costs, settlements, and damages awarded to plaintiffs.

The outcome of pending or potential future legal and arbitration proceedings is difficult to predict with certainty. In the event of a negative outcome of any material legal or arbitration proceeding, whether based on a judgment or a settlement agreement, we could be obligated to make substantial payments, which could have a material adverse effect on our business, financial condition, results of operations, and prospects. In addition, the costs related to litigation and arbitration proceedings may be significant, and any legal or arbitration proceedings could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

Upon the completion of this offering, we will become subject to the periodic reporting requirements of the Exchange Act. We must design our disclosure controls and procedures to reasonably assure that information we must disclose in reports that we file or submit under the Exchange Act is accumulated and communicated to management, and recorded, processed, summarized, and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of simple error or mistake. For example, our directors or executive officers could inadvertently fail to disclose a new relationship or arrangement, causing us to fail to make a required related party transaction disclosure. Additionally, controls can be circumvented by the individual acts of some persons, by

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collusion of two or more people, or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements due to error or fraud may occur and not be detected.

Our insurance may not cover all potential losses or liabilities that may arise.

We are not insured against all potential losses or liabilities that may arise, as insurance coverage may be unavailable, not cost-effective, or subject to significant limitations. For example, we are not insured against business interruptions suffered by third parties that we depend on, environmental liabilities, or patent infringement, among other types of risks. Furthermore, no assurance can be given that an insurance carrier will not seek to cancel or deny coverage after a claim has occurred. If a loss or liability occurs that is not fully covered by insurance, we may be required to pay substantial amounts, which could adversely affect our cash position and results of operations.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections titled "*Prospectus Summary*," "*Risk Factors*," "*Management's Discussion and Analysis of Financial Condition and Results of Operations*," and "*Business*," contains express or implied forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to future events or our future operational or financial performance and involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- our ability to advance the aprevo Technology Platform and any potential future products through applicable regulatory approval processes;
- existing regulations and regulatory developments in the United States and other jurisdictions;
- our ability to maintain or improve our third-party payor reimbursement strategy;
- our ability to attract and retain hospitals and surgeons;
- our expectations concerning orders for our products and utilization by existing hospitals and surgeons;
- our expectations regarding the potential market size for the aprevo Technology Platform;
- our ability to maintain our competitive technological advantages;
- our intentions to pursue adjacent and international markets;
- our ability to continue improving our products and technology;
- our commercialization and marketing capabilities and strategies;
- our ability to maintain or reduce our manufacturing times of our CMOs;
- our reliance on a limited number of CMOs;
- the implementation of our business model and strategic plans for our business and products and technology;
- our relationships with, and the capabilities of, our suppliers;
- the scope of protection we are able to establish and maintain for intellectual property rights covering our products;
- our ability to effectively manage our growth;
- our anticipated use of proceeds from this offering;
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act;
- estimates of our expenses, future revenue, capital requirements, our needs for additional financing, and our ability to obtain additional capital; and
- our future financial performance.

In some cases, you can identify forward-looking statements by terminology such as "may," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under the section titled "*Risk Factors*" and elsewhere in this prospectus. If one or more of these risks or uncertainties

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occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus forms a part, completely and with the understanding that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should therefore not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

This prospectus also contains estimates, projections, and other information concerning our industry, our business, and the markets for our product candidates. Information that is based on estimates, forecasts, projections, market research, or similar methodologies is inherently subject to uncertainties, and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from our own internal estimates and research, as well as from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data, and similar sources. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section titled "*Risk Factors*" and elsewhere in this prospectus.

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USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of shares of our common stock in this offering will be approximately $ million, or approximately $ million if the underwriters exercise their option to purchase additional shares in full, assuming an initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) the net proceeds to us from this offering by $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of shares we are offering. Each one million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) net proceeds to us from this offering by $ million, assuming no change in the assumed initial public offering price per share, which is the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

We currently intend to use the net proceeds from this offering, together with our existing cash and cash equivalents, to support the commercialization of the aprevo Technology Platform and expand and improve our product offerings, including:

- approximately $ million to support our increased sales and marketing efforts; and
- approximately $ million to fund our research and development activities to advance the aprevo Technology Platform, including the continued development of the aprevo Technology Platform for use in cervical spine fusion surgeries.

Based on our current operating plan, we believe that the estimated net proceeds from this offering, together with our existing cash and cash equivalents, the expected cash generated from sales of aprevo interbody implants, and amounts currently available for draw future borrowings under our Customers Loan Agreement, will be sufficient to fund our planned operating expenses and capital expenditure requirements for at least the next 12 months.

The expected use of the net proceeds from this offering represents our intentions based upon our current operating plan and business conditions, which could change in the future as our plans and business conditions evolve. As of the date of this prospectus, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering, or the amounts that we will actually spend on the uses set forth above. The amounts and timing of our actual expenditures may vary significantly depending on numerous factors, including business conditions, revenue growth, progress of research and development, international considerations, strategic opportunities, and corporate goals. As a result, our management will retain broad discretion over the allocation of the net proceeds from this offering.

Pending our use of proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation instruments, including short-term, investment-grade, interest-bearing instruments, and U.S. government securities.

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DIVIDEND POLICY

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings, if any, to fund the development and expansion of our business, and therefore we do not anticipate paying cash dividends on our common stock in the foreseeable future. The terms of the Customers Loan Agreement also limit our ability to pay dividends, and we may enter into additional credit agreements or other borrowing arrangements in the future that may restrict our ability to declare or pay cash dividends on our capital stock. Any future determination to pay dividends will be at the discretion of our Board of Directors and will depend on our results of operations, financial condition, capital requirements, and other factors deemed relevant by our Board of Directors.

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CAPITALIZATION

The following table sets forth our cash and cash equivalents and our capitalization as of March 31, 2025:

•on an actual basis;

•on a pro forma basis to give effect to (i) the Preferred Stock Conversion; (ii) the Warrant Conversion and the related reclassification of warrant liabilities to stockholders' equity; and (iii) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the closing of this offering, in each case as if such events had occurred on March 31, 2025; and

•on a pro forma as adjusted basis to give further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The pro forma as adjusted information below is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual initial public offering price and other terms of this offering determined at pricing. You should read the information in this table together with our financial statements and the related notes included elsewhere in this prospectus and in the "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" section of this prospectus.

		As of March 31, 2025		
	(in thousands, except share and par value data)	**Actual**	**Pro forma**	**Pro forma as adjusted[1]**
			(unaudited)	
Cash and cash equivalents		$ 43,432	$ 43,432	$
Long-term debt		$ 15,422	$ 15,422	
Warrant liabilities		$ 490	—	
Convertible preferred stock (Series A, B, and C), $0.00001 par value per share; 85,511,071 shares authorized, 85,071,388 shares issued and outstanding, actual; no shares authorized, issued or outstanding, pro forma and pro forma as adjusted		$ 108,729	—	$
	Stockholders' equity (deficit)			
Preferred stock, $0.00001 par value no shares authorized, issued, or outstanding, actual; shares authorized, pro forma and pro forma as adjusted;		—	—	

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no shares issued or outstanding, pro forma and pro forma as adjusted			
Common stock, $0.00001 par value: 132,132,695 shares authorized, 25,987,078 shares issued, and 25,503,744 shares outstanding, actual; shares authorized, pro forma and pro forma as adjusted; shares issued and outstanding, pro forma; shares issued and outstanding, pro forma as adjusted	—	1	
Additional paid-in capital	291	109,509	
Accumulated deficit	(76,900)	(76,900)	
Total stockholders' (deficit) equity	(76,609)	32,610	
Total capitalization	$ 48,032	$ 48,032	$

(1)A $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) as applicable, each of our pro forma as adjusted cash and cash equivalents, additional paid-in-capital, total stockholders' equity, and total capitalization by approximately $ million, assuming the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each one million share increase (decrease) in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase (decrease) as applicable, each of our pro forma as adjusted cash and cash equivalents, additional paid-in-capital, total stockholders' equity and total capitalization by approximately $ million, assuming no change in the assumed initial public offering price per share, which is the midpoint

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of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The number of shares of our common stock outstanding after this offering is based on 110,575,132 shares of our common stock outstanding as of March 31, 2025, after giving effect to the Preferred Stock Conversion, and excludes:

- up to 325,988 shares of common stock issuable upon the exercise of the Series B Warrant outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under the Customers Loan Agreement), with an exercise price of $1.2402 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series B Warrant*";

- up to 113,695 shares of common stock issuable upon the exercise of the Series C Warrant outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under the Customers Loan Agreement), with an exercise price of $1.9240 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series C Warrant*";

- up to 144,317 shares of common stock issuable upon the exercise of the Common Stock Warrant outstanding as of March 31, 2025 with a weighted-average exercise price of $0.064 per share, as more fully described in the section titled "*Description of Capital Stock—Warrants—Common Stock Warrant*";

- 12,033,624 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2025 with a weighted-average exercise price of $0.43 per share under the 2019 Plan;

- 465,158 shares of common stock issuable upon the exercise of stock options to purchase shares of common stock granted after March 31, 2025, with a weighted-average exercise price of $1.08 per share under our 2019 Plan;

- up to 627,630 shares of common stock issuable upon the vesting of RSUs issued under the 2019 Plan that are issuable as of March 31, 2025 upon satisfaction of certain "market-based" and "performance-based" vesting conditions;

- shares of common stock reserved for future issuance under the 2025 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 Plan (including shares of common stock reserved for issuance under our 2019 Plan, which shares will be added to the 2025 Plan upon its effectiveness); and

- shares of our common stock reserved for future issuance under the 2025 ESPP, which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 ESPP.

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DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the initial public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value (deficit) as of March 31, 2025, was $(78.1) million, or $(3.06) per share of our common stock. Our historical net tangible book deficit per share is the amount of our total tangible assets (which excludes deferred offering costs) less our total liabilities and the carrying values of our convertible preferred stock, which is not included within stockholders' deficit. Our historical net tangible book deficit per share represents historical net tangible book deficit divided by the 25,503,744 shares of our common stock outstanding as of March 31, 2025.

Our pro forma net tangible book value as of March 31, 2025, was $31.1 million, or $0.28 per share of our common stock. Pro forma net tangible book value represents the amount of our total tangible assets less our total liabilities, after giving effect to (i) the Preferred Stock Conversion; (ii) the Reverse Stock Split; (iii) the Warrant Conversion and the related reclassification of warrant liabilities to stockholders' equity; and (iv) the filing and effectiveness of our amended and restated certificate of incorporation immediately prior to the closing of this offering. Pro forma net tangible book value per share represents pro forma net tangible book value divided by the total number of shares outstanding as of March 31, 2025, after giving effect to the pro forma adjustments described above.

After giving further effect to our issuance and sale of shares of our common stock in this offering at an assumed initial public offering price of $ per share, the midpoint of the price range set forth on the cover page of this prospectus, and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2025, would have been $ million, or $ per share. This amount represents an immediate increase in pro forma as adjusted net tangible book value per share of $ to our existing stockholders and immediate dilution of $ in pro forma as adjusted net tangible book value per share to new investors purchasing common stock in this offering.

Dilution per share to new investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the initial public offering price per share paid by new investors. The following table illustrates this dilution on a per-share basis (without giving effect to any exercise by the underwriters of their option to purchase additional shares):

Assumed initial public offering price per share			$
Historical net tangible book value (deficit) per share as of March 31, 2025	$	(3.06)	
Pro forma increase in net tangible book value per share as of March 31, 2025	$	3.34	
Pro forma net tangible book value per share as of March 31, 2025	$	0.28	
Increase in pro forma net tangible book value per share attributable to investors purchasing shares of common stock in this offering			

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Pro forma as adjusted net tangible book value per share	-
Dilution per share to investors participating in this offering	=

The dilution information discussed above is illustrative only and will change based on the actual initial public offering price and other terms of this offering determined at pricing. Each $1.00 increase (decrease) in the assumed initial public offering price of $ per share, which is the midpoint of the price range set forth on the cover page of this prospectus, would increase (decrease) our pro forma as adjusted net tangible book value per share after this offering by $ and dilution per share to new investors purchasing common stock in this offering by $, assuming that the number of shares offered by us, as set forth on the cover page of this prospectus, remains the same and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each increase of one million shares in the number of shares offered by us, as set

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forth on the cover page of this prospectus, would increase our pro forma as adjusted net tangible book value per share after this offering by $ and decrease dilution per share to new investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. Each decrease of one million shares in the number of shares offered by us, as set forth on the cover page of this prospectus, would decrease our pro forma as adjusted net tangible book value per share after this offering by $ and increase dilution per share to new investors purchasing common stock in this offering by $, assuming no change in the assumed initial public offering price and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

If the underwriters exercise their option to purchase additional shares in full, our pro forma as adjusted net tangible book value per share after this offering would be $, representing an immediate increase in pro forma as adjusted net tangible book value per share of $ to existing stockholders and immediate dilution in pro forma as adjusted net tangible book value per share of $ to new investors purchasing common stock in this offering, based on the assumed initial public offering price of $ per share and after deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us.

The following table summarizes on the pro forma as adjusted basis described above, the total number of shares of common stock purchased from us, on an as converted to common stock basis, the total consideration paid or to be paid, and the average price per share paid or to be paid by existing stockholders and by new investors in this offering at an assumed initial public offering price of $ per share, which is the midpoint of the estimated price range set forth on the cover of this prospectus, before deducting estimated underwriting discounts and commissions and estimated offering expenses payable by us. As the table shows, new investors purchasing common stock in this offering will pay an average price per share substantially higher than our existing stockholders paid.

(dollar amounts in thousands)	Shares Purchased		Total Consideration		Weighted-average price per share
	Number	Percent	Amount	Percent	
Existing stockholders	%	$	%	$	
New investors					
Total	100%	$	100%	$	

The table above does not give effect to any purchases in this offering by existing investors and assumes no exercise of the underwriters' option to purchase additional shares in this offering. If the underwriters' option to purchase additional shares is exercised in full, the number of shares of our common stock held by existing stockholders would be reduced to percent of the total number of shares of our common stock outstanding after this offering, and the number of shares of common stock held by new investors purchasing common stock in this offering would be increased to percent of the total number of shares of our common stock outstanding after this offering.

The number of shares of our common stock outstanding after this offering is based on 110,575,132 shares of our common stock outstanding as of March 31, 2025, after giving effect to the Preferred Stock Conversion, and excludes:

- up to 325,988 shares of common stock issuable upon the exercise of the Series B Warrant outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under the Customers Loan Agreement), with an exercise price of $1.2402 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series B Warrant*";

- up to 113,695 shares of common stock issuable upon the exercise of the Series C Warrant outstanding as of March 31, 2025 (based upon the aggregate principal amount of outstanding loans under the Customers Loan

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Agreement), with an exercise price of $1.9240 per share, which will automatically convert to a warrant to purchase a corresponding number of shares of our common stock immediately

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prior to the closing of this offering, as more fully described in the section titled "*Description of Capital Stock—Warrants—Series C Warrant*";

•up to 144,317 shares of common stock issuable upon the exercise of the Common Stock Warrant outstanding as of March 31, 2025, with a weighted-average exercise price of $0.064 per share, as more fully described in the section titled "*Description of Capital Stock—Warrants—Common Stock Warrant*";

•12,033,624 shares of common stock issuable upon the exercise of stock options outstanding as of March 31, 2025, with a weighted-average exercise price of $0.43 per share under the 2019 Plan;

•465,158 shares of common stock issuable upon the exercise of stock options to purchase shares of common stock granted after March 31, 2025, with a weighted-average exercise price of $1.08 per share under the 2019 Plan;

•up to 627,630 shares of common stock issuable upon the vesting of RSUs issued under the 2019 Plan that are issuable as of March 31, 2025 upon satisfaction of certain "market-based" and "performance-based" vesting conditions;

• shares of common stock reserved for future issuance under the 2025 Plan, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 Plan (including shares of common stock reserved for issuance under our 2019 Plan, which shares will be added to the 2025 Plan upon its effectiveness); and

• shares of our common stock reserved for future issuance under the 2025 ESPP, which will become effective in connection with this offering, as well as any automatic increases in the number of shares of common stock reserved for future issuance under the 2025 ESPP.

We may choose to raise additional capital through the sale of equity or convertible debt securities due to market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. To the extent that any outstanding warrants or options are exercised, new options or other equity awards are issued under our equity incentive plans, or we issue additional shares of common stock or convertible securities in the future, there will be further dilution to our stockholders.

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MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis provides information that we believe is relevant to an assessment and understanding of our results of operations and financial condition. You should read this discussion and analysis together with the section titled "Summary Financial Data" and our financial statements and the related notes appearing at the end of this prospectus. This discussion and other parts of this prospectus contain forward-looking statements that involve risks and uncertainties, such as statements regarding our plans, objectives, expectations, intentions, and projections. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the "Risk Factors" section of this prospectus. See the section titled "Special Note Regarding Forward-Looking Statements." Our historical results are not necessarily indicative of the results that may be expected for any period in the future.

Overview

We are a commercial-stage medical technology company pioneering AI-enabled personalized spine surgery solutions with a mission to improve outcomes and decrease the cost of healthcare for spine surgery and beyond. We are focused on becoming the standard of care for spine fusion surgery. The aprevo Technology Platform consists of AI-enabled software solutions, and interbody implants that we custom design for each patient's unique pathology and vertebral bone topography, and single-use surgical instruments. The aprevo Technology Platform was designed to address the limitations of traditional spine fusion surgery and aims to optimize patient outcomes and reduce the need for revision surgeries. By providing personalized surgical plans and interbody implants for custom vertebral fit that are powered by AI-enabled, outcomes-based algorithms, the aprevo Technology Platform supports surgeons in achieving proper spinal alignment for patients with DDD, which can improve clinical outcomes and reduce the likelihood of revision surgeries. We currently market the aprevo Technology Platform for lumbar spine fusion surgery, and we are further developing the aprevo Technology Platform for use in cervical spine fusion surgeries, which we expect to commercialize in 2026.

In July 2020, the FDA awarded us a Breakthrough Device Designation, indicating that aprevo interbody implants are likely to provide a more effective treatment than the current standard of care in lumbar fusion with the use of stock implants. In December 2020, the FDA cleared our aprevo interbody implants through its 510(k) regulatory clearance pathway for lumbar fusions performed for correction of ASD. After FDA clearance, we commenced the limited clinical release of the aprevo Technology Platform, with the first U.S. patient implant in February 2021. In October 2021, CMS awarded our aprevo interbody implants the NTAP, which provided supplemental reimbursement to hospitals for each qualifying aprevo lumbar procedure through October 2024. In that same month, we commenced our U.S. commercial launch of the aprevo Technology Platform for lumbar spine fusion surgery. In August 2022, the FDA cleared the aprevo Technology Platform through its 510(k) regulatory clearance pathway for the treatment of patients with DDD of the lumbar spine. In September 2023, the FDA granted us our second Breakthrough Device Designation for our cervical technology. See the section titled "*Business— Our Solution—Our 510(k) Submissions*" for more information regarding our FDA 510(k) submissions for our material products and product candidates. In April 2025, CMS issued the IPPS 2025 Proposed Rule that includes a NTAP to provide supplemental reimbursement to hospitals for each qualifying cervical procedure using the aprevo Technology Platform. While we believe the IPPS 2025 Proposed Rule will be adopted in its current form, there is no guarantee that the IPPS 2025 Proposed Rule will be adopted in its current form.

As of October 2024, CMS adopted new MS-DRGs that cover most lumbar spine fusion procedures involving a custom-made anatomically designed interbody fusion device, such as our aprevo interbody implants. These new MS-DRGs provide premium reimbursement rates for our hospital customers, relative to procedures using stock implants, which we believe supports continued access to our technology. In November 2024, we received FDA 510(k) clearance for our aprevo Technology Platform for cervical spine fusion surgery. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. While our current commercial focus is on the United States, in the future, we plan to engage in market access initiatives to evaluate strategic international regions.

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We market and sell the aprevo Technology Platform to hospitals in the United States through a combination of our direct sales team and independent sales agents. Our direct sales team consists of Area Business Directors, Regional Sales Directors, Account Managers, and Strategic and National Account leadership, who are primarily responsible for selling the aprevo Technology Platform to surgeons and working with hospitals to secure product approval. They are also responsible for recruiting indirect sales agents that cover each surgery, generating leads, and training clinics. Our direct sales team is supported by a team of independent sales agents, who are responsible for generating leads, providing surgical instruments, and covering cases.

Our business model depends on our ability to timely deliver aprevo interbody implants in order to allow surgeons to maintain their surgical schedule. In November 2024, we launched our DPS, which we developed to enable us to deliver our aprevo interbody implants to hospitals within 10 business days of surgical plan approval. Our aprevo interbody implants are manufactured to our specifications by CMOs who meet our manufacturer qualification standards. Our streamlined DPS manages both the upstream and downstream processes involved in producing our aprevo interbody implants.

We have historically financed our operations primarily through the net proceeds that we have received from the sale of shares of our convertible preferred stock, borrowings under our debt facilities, and cash generated from the sales of aprevo interbody implants. As of March 31, 2025, we had $43.4 million of cash and cash equivalents, $15.6 million of principal outstanding under the Customers Loan Agreement, and an accumulated deficit of $76.9 million. Since inception through March 31, 2025, we had raised aggregate gross equity proceeds of $105.1 million, primarily from sales of our convertible preferred stock. We have devoted substantially all of our resources to organizing and staffing our company, research and development activities, obtaining FDA clearances and other regulatory achievements, business planning, raising capital, establishing and maintaining our intellectual property portfolio, conducting sales efforts and marketing initiatives, conducting clinical studies, and providing general and administrative support for these operations.

Since we began commercializing the aprevo Technology Platform in 2021, we have experienced sequential quarterly and annual revenue growth from the rapid commercial adoption of the aprevo Technology Platform. For the three months ended March 31, 2025 and 2024, we recognized revenue of $10.2 million and $5.1 million, respectively, representing period-over-period growth of 100.3%. For the years ended December 31, 2024 and 2023, we recognized revenue of $27.2 million and $13.8 million, respectively, representing year-over-year growth of 97.2%. For the three months ended March 31, 2025 and 2024, our net loss was $5.7 million and $5.4 million, respectively. For the years ended December 31, 2024 and 2023, our net loss was $24.3 million and $18.9 million, respectively.

Key Components of Our Results of Operations

Our financial performance has been driven by the following key factors that we believe will persist for the foreseeable future. While each of these factors presents significant opportunities for our business, they also pose important challenges that we must successfully address in order to sustain our growth and improve our results of operations. Our ability to successfully address the factors below is subject to various risks and uncertainties, including those described in the section titled "*Risk Factor*s."

Market Adoption

Since the full commercial launch of the aprevo Technology Platform for lumbar spine fusion surgery in October 2021, the aprevo Technology Platform has been used to treat more than 1,500 patients. We estimate there are approximately 4,000 surgeons across the United States whose patients could benefit from using the aprevo Technology Platform (Moore et al., 2021). As of March 31, 2025, 177 surgeon users have completed one or more procedures using the aprevo Technology Platform, compared to 103 surgeon users as of March 31, 2024. Our revenue for the three months ended March 2025 and 2024 and the years ended December 31, 2024 and 2023 was driven in part by the retention of surgeon users who had previously conducted one more procedures using the aprevo Technology Platform, as well as the acquisition of new surgeons. For the three months ended March 31, 2025, 17% of revenue was from the acquisition of new surgeons and 83% of revenue was from retained surgeons, compared to 20% and 80% respectively, for the three months ended March 31, 2024. For the year ended December 31, 2024, 12% of revenue was from the acquisition of new surgeons and 88% of revenue was from retained surgeons,

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compared to 11% and 89% respectively, for the year ended December 31, 2023. Over time, we expect to not only grow the base of surgeons using the aprevo Technology Platform but to also increase the number of procedures using the aprevo Technology Platform that are performed by existing surgeons. To achieve this, we plan to grow our commercial infrastructure and expand various market access initiatives, including utilizing medical education programs and surgeon training at top academic institutions. We are also committed to building upon our strong foundation of clinical evidence demonstrating the efficacy of our aprevo Technology Platform. Clinical data publications are important tools for surgeon education and patient awareness of the benefits of the aprevo Technology Platform versus stock implants. For example, our COMPASS Registry is generating real-world evidence of patient outcomes from lumbar spine surgery with the aprevo Technology Platform. We anticipate that this registry will support a robust cadence of publications.

Expansion of Our Product Portfolio and Investments in Research and Development

Our research and development initiatives are focused on introducing enhancements and new capabilities aimed at increasing the value provided by our aprevo Technology Platform to patients, surgeons, and payors. We have introduced multiple iterations of our algorithm and software platform to drive further improvements of our predictive analytics and diagnostics. We believe that these improvements will strengthen our ability to leverage the post-operative data we collect to build a clinical decision model to further help physicians make better decisions earlier on in the treatment process. Additionally, we are at an advanced stage of development of our aprevo Technology Platform for cervical spine fusion surgery. In November 2024, we received FDA 510(k) clearance for our aprevo Technology Platform for cervical spine fusion surgery. In 2025, we plan to continue to build out our aprevo Technology Platform for cervical fusion procedures by pursuing additional clearances for advancements to our cervical software platform and our personalized plating solutions. There is, however, no guarantee that our cervical software platform and our personalized plating solutions will obtain FDA clearance on the expected timeline, or at all. See the section titled "*Business— Our Solution—Our 510(k) Submissions*" for more information regarding our FDA 510(k) submissions for our material products and product candidates.

Assuming we obtain the necessary additional 510(k) clearances, we anticipate that we will fully commercialize the aprevo Technology Platform for cervical spine fusion surgeries in early 2026 and intend to drive adoption of the Platform for cervical fusion surgery among our existing base of surgeons who are actively using aprevo interbody implants for lumbar spine fusion surgeries. We also believe that our aprevo Technology Platform can be utilized across various indications and disease states within the spine that are beyond those that we are currently cleared for, such as cervical corpectomy and cervical disc arthroplasty.

Reimbursement

Procedures using our aprevo Technology Platform are covered by Medicare, Medicare Advantage, and commercial payors. For both the three months ended March 31, 2025 and the year ended December 31, 2024, we estimate that our hospital customers' payor mix was approximately 44% commercial insurance and 56% Medicare and Medicare Advantage insurance. The MS-DRG codes to which procedures using the aprevo Technology Platform are assigned, provide premium reimbursement to hospitals for lumbar fusion procedures relative to those that use stock implants. This level of hospital reimbursement has a substantial impact on our customer pricing schedule and how widely our aprevo Technology Platform is accepted.

We believe that CMS will adopt similar codes for use of our aprevo Technology Platform in cervical spine procedures. In March 2025, CMS announced proposed X-codes for the use of custom-made anatomically designed fusion devices for cervical spine fusion surgeries. While there is no guarantee that this proposal will be approved in its current form, if approved in the CMS Final Rule issuance, these X-codes will identify claims that are eligible for hospitals to receive NTAP of up to $21,125 per cervical spine fusion procedure. Adoption of these X-codes will be critical to the commercial success of our cervical implants. Future changes in the level of reimbursement, however, could have a significant impact on our results of operations, either positively or negatively. The level at which reimbursement is set by payors for procedures using our aprevo Technology Platform, and any increase in reimbursement for procedures using our aprevo Technology Platform, depends substantially on our continued ability to generate clinical evidence, gain advocacy in the respective physician societies, and work with CMS and commercial payors.

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Seasonality

We typically experience a seasonal slowing of demand for our products in our third and fourth quarters due to customer availability patterns, such as vacations or travel around the summer and winter holidays. We believe that this is attributable to the postponement of elective surgeries during the holidays and for summer vacation plans of healthcare providers and patients. We expect these seasonal factors to become more pronounced in absolute value of our reported results in the future as our business grows.

Key Components of Our Results of Operations

Revenue

We sell our aprevo interbody implants and accompanying inserter instruments to hospitals in the United States under standard pricing schedules. We recognize revenue in the period of its use within a surgical procedure.

Cost of Sales

Cost of sales includes the patient-specific design costs and manufacturing costs of our aprevo interbody implants and the accompanying inserter instruments. These costs of sales include allocations for personnel, software license fees, contract manufacturing and other third-party services, packaging, shipping, and overhead cost allocations. We expect that our cost of sales will continue to increase in proportion to recognized revenue.

Gross Profit and Gross Margin

Gross profit (i.e., revenue *less* cost of sales) and gross margin (i.e., gross profit as a *percentage of* revenue) have been, and will continue to be, affected by various factors. These include potential changes to our sales price, sales volumes, third-party manufacturing costs, direct labor costs, and software license costs. We expect our gross margin to remain relatively constant over the short term and to modestly increase over the medium and long term with economies of production scale, increased leverage of our AI Technologies, and other manufacturing efficiencies.

Operating Expenses

Research and Development Expenses

Research and development expenses include personnel costs (i.e., salaries, bonuses, stock-based compensation expense, and benefits), allocated facility costs, product prototype materials, clinical studies aimed at potential new products, allocated software license amortization expenses, and consulting and other service fees. We recognize research and development expenses in the periods in which they are incurred. We expect our research and development expenses to increase as we continue to accelerate product and software innovation, develop additional clinical data, and expand our manufacturing capabilities.

Sales and Marketing Expenses

Sales and marketing expenses consist primarily of personnel costs (i.e., salaries, commissions, bonuses, stock-based compensation expense, benefits, and travel), independent sales agent commissions, costs associated with generic surgical instruments we may provide to our independent sales agents, various digital and print initiatives to increase market awareness of our product and technology, conference and trade show fees, and consulting services.

We expect our sales and marketing expenses to increase in the foreseeable future as we continue to increase the size of our sales organization and scope of our marketing efforts in the United States and into other geographies, expand the indications for our aprevo Technology Platform, and seek to establish international sales efforts in various markets. While we expect sales and marketing expenses to continue to increase in absolute value, we expect that these costs will decrease as a percentage of revenue over time.

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General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs (i.e., salaries, bonuses, stock-based compensation expense, and benefits) for executive, legal, finance, and human resources roles. Other significant costs include legal fees relating to intellectual property and corporate matters, consultant and professional fees, insurance, and facility-related costs. We recognize general and administrative expenses in the periods in which they are incurred. We anticipate that our general and administrative expenses will increase in the future to support our anticipated business growth and as we begin to operate as a public company. These increased costs include accounting, audit, legal, regulatory, tax, insurance, investor relations, and compliance with exchange listing and SEC requirements. While we expect general and administrative expenses to continue to increase in absolute value, we expect that these costs will decrease as a percentage of revenue over time.

Interest Expense

Interest expense consists of interest and non-cash amortization of debt issuance costs as part of the Customers Loan Agreement.

Interest Income

Interest income is attributable to bank interest on our cash and cash equivalents.

Change in Fair Value of Warrant Liabilities

We have issued warrants for the purchase of our convertible preferred stock in conjunction with the Customers Loan Agreement. We account for these liability-classified warrants, initially measured at fair value, in accordance with *ASC Topic 480*. Changes in fair value of warrant liabilities are recognized in the Statements of Operations and Comprehensive Loss.

Results of Operations

Comparison of the Three Months Ended March 31, 2025 and 2024

The following tables set forth our results of operations, variances versus the prior period, and percentage of revenue for each presented caption. The period-to-period comparison is not necessarily indicative of financial results to be achieved in future periods.

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(in thousands, except percentages)	Three Months Ended March 31, 2025	2024	$ Change	% Change
Revenue	$ 10,189	$ 5,086	$ 5,103	100.3 %
Cost of sales	2,553	1,422	1,131	79.5 %
Gross profit	7,636	3,664	3,972	108.4 %
Operating expenses:				
Research and development	3,150	3,256	(106)	(3.3)%
Sales and marketing	6,739	3,597	3,142	87.4 %
General and administrative	3,466	2,140	1,326	62.0 %
Total operating expenses	13,355	8,993	4,362	48.5 %
Loss from operations	(5,719)	(5,329)	(390)	7.3 %
Other income (expense):				
Interest expense	(357)	(216)	(141)	65.3 %
Interest income	380	98	282	287.8 %
Change in fair value of warrant liabilities	(33)	—	(33)	—
Total other expense, net	(10)	(118)	108	(91.5)%
Net loss and comprehensive loss	$ (5,729)	$ (5,447)	$ (282)	5.2 %

Revenue

Revenue was $10.2 million and $5.1 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $5.1 million, or 100.3%, was primarily driven by ongoing sales and marketing efforts for new surgeon adoption of aprevo Technology Platform and deepened penetration with our existing surgeons.

Cost of Sales and Gross Margin

Cost of sales was $2.6 million and $1.4 million for three months ended March 31, 2025 and 2024, respectively. The increase of $1.1 million, or 79.5%, was primarily driven by a $1.0 million increase in the cost of materials due to an increase in the number of aprevo interbody implants sold during the three months ended March 31, 2025, as compared to the three months ended March 31, 2024. Gross margin increased to 74.9% for the quarter ended March 31, 2025, from 72.0% for the quarter ended March 31, 2024.

Research and Development Expenses

Research and development expenses were $3.2 million and $3.3 million for the three months ended March 31, 2025 and 2024, respectively. The decrease of $0.1 million, or 3.3%, was primarily due to decreases in external testing, validation services related to the development of our cervical spine fusion products, and prototype parts and

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materials for product development. These decreases were partially offset by increased personnel-related costs primarily due to increased headcount.

Sales and Marketing Expenses

Sales and marketing expenses were $6.7 million and $3.6 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $3.1 million, or 87.4%, was primarily driven by a $1.3 million increase in personnel-related costs primarily due to increased headcount and sales compensation for employees, a $1.1 million increase in commissions to independent sales agents, a $0.5 million increase in various marketing costs, and a $0.2 million increase in employee travel costs.

General and Administrative Expenses

General and administrative expenses were $3.5 million and $2.1 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $1.3 million, or 62.0%, was primarily driven by a $0.9 million increase

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in professional service and legal fees for corporate and intellectual property matters, a $0.2 million increase in personnel-related costs primarily related to increased headcount, and a $0.3 million increase in other administrative expenses. These increases were partially offset by a $0.1 million decrease in the provision for credit losses from accounts receivable.

Interest Expense

Interest expense was $0.4 million and $0.2 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $0.1 million, or 65.3%, was primarily driven by an increased amount of borrowings outstanding under the Customers Loan Agreement.

Interest Income

Interest income was $0.4 million and $0.1 million for the three months ended March 31, 2025 and 2024, respectively. The increase of $0.3 million, or 287.8%, was due to an increase in bank interest on our higher cash and cash equivalent balances.

Change in Fair Value of Warrant Liabilities

The fair value of warrant liabilities increased by less than $0.1 million during the three months ended March 31, 2025 compared to the three months ended March 31, 2024.

Comparison of the Years Ended December 31, 2024 and 2023

The following tables set forth our results of operations, variances versus prior year, and percentage of revenue for each presented caption. The period-to-period comparison is not necessarily indicative of financial results to be achieved in future periods.

(in thousands, except percentages)	Year Ended December 31, 2024	2023	$ Change	% Change
Revenue	$ 27,165	$ 13,778	$ 13,387	97.2 %	100.0 %	100.0
Cost of sales	7,117	3,875	3,242	83.7 %	26.2	28.1
Gross profit	20,048	9,903	10,145	102.4 %	73.8	71.9
Operating expenses:						
Research and development	14,304	7,395	6,909	93.4 %	52.7	53.7
Sales and marketing	21,472	15,101	6,371	42.2 %	79.0	109.6
General and administrative	8,394	5,998	2,396	39.9 %	30.9	43.5
Total operating expenses	44,170	28,494	15,676	55.0 %	162.6	206.8
Loss from operations	(24,122)	(18,591)	(5,531)	29.8 %	(88.8)	(134.9
Other income (expense):						
Interest expense	(1,321)	(641)	(680)	106.1 %	(4.9)	(4.7
Interest income	1,330	334	996	298.2 %	4.9	2.4

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Change in fair value of warrant liabilities	(144)	—	(144)	—	(0.5)		—
Total other expense, net	(135)	(307)	172	(56.0)%	(0.5)		(2.2
Net loss and comprehensive loss	$ (24,257)	$ (18,898)	$ (5,359)	28.4 %	(89.3)	%	(137.2

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Revenue

Revenue was $27.2 million and $13.8 million for the years ended December 31, 2024 and 2023, respectively. The increase of $13.4 million, or 97.2%, was primarily driven by ongoing sales and marketing efforts for new surgeon adoption of the aprevo Technology Platform and deepened penetration with our existing surgeons.

Cost of Sales and Gross Margin

Cost of sales was $7.1 million and $3.9 million for the years ended December 31, 2024 and 2023, respectively. The increase of $3.2 million, or 83.7%, was primarily driven by an increase in the number of aprevo interbody implants sold during the year ended December 31, 2024, as compared to the year ended December 31, 2023. Gross margin increased to 73.8% for the year ended December 31, 2024, from 71.9% for the year ended December 31, 2023.

Research and Development Expenses

Research and development expenses were $14.3 million and $7.4 million for the years ended December 31, 2024, and 2023, respectively. The increase of $6.9 million, or 93.4%, was primarily driven by a $2.8 million increase in personnel-related costs primarily due to increased headcount, a $1.2 million increase in external testing and validation services related to the development of our cervical spine fusion products, new instrumentation development, and validation efforts to test regulatory compliance for new production processes, a $1.0 million increase in costs for prototype parts and materials for product development, a $0.9 million increase in clinical studies costs related to data used to facilitate development of new products on the aprevo Technology Platform, and a $0.6 million increase in professional service fees related to consulting services for various projects.

Sales and Marketing Expenses

Sales and marketing expenses were $21.5 million and $15.1 million for the years ended December 31, 2024 and 2023, respectively. The increase of $6.4 million, or 42.2%, was primarily driven by a $3.1 million increase in commissions to independent sales agents, a $1.8 million increase in consulting service fees, a $1.1 million increase in personnel-related costs primarily due to increased sales compensation for employees, and a $1.0 million increase in employee travel costs. These increases were partially offset by a $0.7 million decrease in various marketing costs.

General and Administrative Expenses

General and administrative expenses were $8.4 million and $6.0 million for the years ended December 31, 2024 and 2023, respectively. The increase of $2.4 million, or 39.9%, was primarily driven by a $1.3 million increase in professional service and legal fees for corporate and IP matters, a $0.8 million increase in personnel-related costs primarily related to increased headcount, and a $0.8 million increase in other administrative expenses. These increases were partially offset by a $0.5 million decrease in the provision for credit losses from accounts receivable.

Interest Expense

Interest expense was $1.3 million and $0.6 million for the years ended December 31, 2024 and 2023, respectively. The increase of $0.7 million, or 106.1%,was primarily driven by increased borrowings under the Customers Loan Agreement.

Interest Income

Interest income was $1.3 million and $0.3 million for the years ended December 31, 2024 and 2023, respectively. The increase of $1.0 million, or 298.2%, was due to an increase in bank interest on our higher cash and cash equivalent balances.

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Change in Fair Value of Warrant Liabilities

The fair value of warrant liabilities increased by $0.1 million during the year ended December 31, 2024, resulting in a reported loss on its remeasurement. This warrant liability did not exist as of December 31, 2023.

Non-GAAP Financial Measures

In addition to our results determined in accordance with GAAP, we utilize and present financial measures that are not calculated and presented in accordance with GAAP. Our non-GAAP financial measures include EBITDA and Adjusted EBITDA, each of which is described below. We use our non-GAAP financial measures in evaluating our operating performance and for internal planning purposes. We believe that these non-GAAP financial measures, when taken together with the corresponding GAAP financial measures, provide meaningful supplemental information regarding our performance by excluding certain items that may not be indicative of our business, results of operations, or outlook. We believe that the presentation of our GAAP and non-GAAP financial measures, in combination, is helpful to investors in assessing our trending business performance in the currently reported period and versus prior periods. However, non-GAAP financial information is presented for supplemental informational purposes only, has limitations as an analytical tool, and should not be considered in isolation or as a substitute for financial information presented in accordance with GAAP. In addition, other companies, including companies in our industry, may calculate similarly titled non-GAAP measures differently or may use other measures to evaluate their performance, all of which could reduce the usefulness of our non-GAAP financial measures as tools for comparison. A reconciliation is provided below for each non-GAAP financial measure to the most directly comparable financial measure stated in accordance with GAAP. Investors are encouraged to review the related GAAP financial measures and the reconciliation of these non-GAAP financial measures to their most directly comparable GAAP financial measures, and not to rely on any single financial measure to evaluate our business.

EBITDA and Adjusted EBITDA

EBITDA and Adjusted EBITDA are non-GAAP financial measures used by management as a supplemental measure in evaluating our operating performance. EBITDA and Adjusted EBITDA should not be considered as alternatives to, or more meaningful than, net loss or any other measure as determined in accordance with GAAP. Our computation of EBITDA and Adjusted EBITDA may not be comparable to EBITDA and Adjusted EBITDA of other companies.

We define “EBITDA” as net income (loss), adjusted to exclude: (i) net (interest) expense, (ii) income tax expenses, (iii) depreciation expense from property and equipment, and (iv) amortization from long-lived assets. We define “Adjusted EBITDA” as EBITDA adjusted to exclude stock-based compensation and change in fair value of warrant liabilities.

The following tables present a reconciliation of EBITDA and Adjusted EBITDA to the GAAP financial measure of net loss for each of the periods indicated:

	Three Months Ended March 31,		$	%
(in thousands, except percentages)	2025	2024	Change	Change
Net loss	$ (5,729)	$ (5,447)	$ (282)	5.2 %
Interest (income) expense	(23)	118	(141)	(119.5) %
Income taxes	—	—	—	—
Depreciation and amortization	40	40	—	— %
EBITDA	(5,712)	(5,289)	(423)	8.0 %

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Stock-based compensation	175	35	140	400.0	%
Change in fair value of warrant liabilities	33	—	33	—	
Adjusted EBITDA	$ (5,504)	$ (5,254)	$ (250)	4.8	%

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(in thousands, except percentages)	Year Ended December 31, 2024	2023	$ Change	% Change
Net loss	$ (24,257)	$ (18,898)	$ (5,359)	28.4 %
Interest (income) expense	(9)	307	(316)	(102.9)%
Income taxes	—	—	—	—
Depreciation and amortization	145	136	9	6.6 %
EBITDA	(24,121)	(18,455)	(5,666)	30.7 %
Stock-based compensation	253	115	138	120.0 %
Change in fair value of warrant liabilities	144	—	144	—
Adjusted EBITDA	$ (23,724)	$ (18,340)	$ (5,384)	29.4 %

Unaudited Quarterly Results of Operations Data

The following tables set forth selected quarterly results of operations data for the three months ended March 31, 2025, each of the four fiscal quarters for the year ended December 31, 2024, and the last three fiscal quarters for the year ended December 31, 2023, as well as the percentage of revenue that each line item represents for each quarter. The unaudited quarterly financial information has been prepared in accordance with GAAP on the same basis as our financial statements included elsewhere in this prospectus. In the opinion of management, these tables fairly present our quarterly financial results that include normal recurring adjustments, necessary for the proper presentation of the results of operations for these periods. This data should be read in conjunction with our financial statements and related notes included elsewhere in this prospectus. These historical quarterly operating results are not necessarily indicative of our operating results for the full year or any future period.

	Three Months Ended (unaudited, in thousands)								
	June 30, 2023	September 30, 2023	December 31, 2023	March 31, 2024	June 30, 2024	September 30, 2024	December 31, 2024	March 31, 2025
Revenue	$ 3,497	$ 3,808	$ 4,336	$ 5,086	$ 6,081	$ 6,590	$ 9,408	$ 10,189
Gross profit	$ 2,560	$ 2,792	$ 3,121	$ 3,664	$ 4,562	$ 4,798	$ 7,024	$ 7,636
Total operating expenses	$ 6,759	$ 6,966	$ 8,553	$ 8,993	$ 10,881	$ 12,575	$ 11,721	$ 13,355
Loss from operations	$ (4,199)	$ (4,174)	$ (5,432)	$ (5,329)	$ (6,319)	$ (7,777)	$ (4,697)	$ (5,719)
Net loss	$ (4,276)	$ (4,260)	$ (5,539)	$ (5,447)	$ (6,277)	$ (7,813)	$ (4,720)	$ (5,729)

All values from the results of operations data, expressed as a percentage of revenue, were as follows:

	Three Months Ended (unaudited, in thousands)								
	June 30, 2023	September 30, 2023	December 31, 2023	March 31, 2024	June 30, 2024	September 30, 2024	December 31, 2024	March 31, 2025
Revenue	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %
Gross profit	73.2 %	73.3 %	72.0 %	72.0 %	75.0 %	72.8 %	74.7 %	74.9 %
Total operating expenses	193.3 %	182.9 %	197.3 %	176.8 %	178.9 %	190.8 %	124.6 %	131.1 %
Loss from operations	(120.1)%	(109.6)%	(125.3)%	(104.8)%	(103.9)%	(118.0)%	(49.9)%	(56.1)%
Net loss	(122.3)%	(111.9)%	(127.7)%	(107.1)%	(103.2)%	(118.6)%	(50.2)%	(56.2)%

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Selected Quarterly Trends

Revenue

Our quarterly revenue increased sequentially in each of the periods presented due to increased unit sales of aprevo interbody implants with a substantially constant average selling price in each period. We believe that this sales ramp is due to our ongoing sales and marketing efforts for new surgeon adoption of the aprevo Technology Platform and deepened penetration with our existing surgeons.

Gross Profit

Gross profit increased sequentially in each of the quarters presented, primarily driven by increased sales of our aprevo interbody implants and associated per unit production costs in each period.

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Total Operating Expenses

Total operating expenses generally increased sequentially in each of the quarters presented, primarily driven by variable sales expenses that correspond with increased sales of aprevo interbody implants, product development activities, clinical data collection costs, marketing investments, and personnel additions across various departments to support our ongoing revenue and business growth.

Seasonality

We experienced a slight seasonal slowing of demand for our products in our third and fourth fiscal quarters due to customer availability patterns, such as vacations or travel around the summer and winter holidays.

Liquidity and Capital Resources

We have incurred net losses and negative cash flows from operations since our inception. We have historically financed operations primarily through the net proceeds that we have received from the sale of shares of our convertible preferred stock, borrowings under our debt facilities, and cash generated from the sales of aprevo interbody implants. Since inception through March 31, 2025, we had raised aggregate gross equity proceeds of $105.1 million primarily from the issuance of convertible preferred stock. As of March 31, 2025, we had $43.4 million of cash and cash equivalents, $15.6 million of principal outstanding under the Customers Loan Agreement, and an accumulated deficit of $76.9 million. As of March 31, 2025, an aggregate principal amount of $7.5 million was available for future borrowings under the Customers Loan Agreement with an additional $4.4 million available upon future achievement of a requisite revenue milestone.

Our losses primarily resulted from the costs incurred in the development and sales and marketing of our products and providing general and administrative support for our operations. We may continue to incur losses and expend significant amounts of cash in the foreseeable future as we continue to scale our business, invest in research and development activities, increase sales and marketing expenses to support commercial expansion, and increase general and administrative expenses to support being a publicly traded company.

Customers Loan Agreement

In December 2022, we entered into a loan and security agreement with Signature Bank, which was later succeeded by Customers Bank (the "Customers Loan Agreement"). The Customers Loan Agreement had an initial maturity date of December 2026 and provided for $12.5 million in principal funding. Subsequently, in October 2023, we drew $3.1 million under the Customers Loan Agreement following the achievement of revenue milestones.

On March 7, 2024, we executed a Third Amendment to the Customers Loan Agreement (the "Third Amendment"), increasing the credit facility size from $12.5 million to $18.8 million and extending the maturity up to December 2027, subject to achievement of certain revenue and other milestones. In May 2024, we drew $6.3 million under the Customers Loan Agreement upon the achievement of requisite revenue milestones.

On December 30, 2024, we entered into a Fourth Amendment to the Customers Loan Agreement (the "Fourth Amendment"), expanding the facility to $27.5 million through the addition of two new tranches, one of which is a revenue milestone-based tranche. The Fourth Amendment also extended the maturity date to October 31, 2029. The Fourth Amendment provides for an interest-only period through July 31, 2026, followed by principal repayment over 39 months thereafter. Upon achievement of certain revenue milestones, the interest-only period may be extended through July 31, 2027, followed by principal repayment over 27 months thereafter. As of March 31, 2025, the requisite revenue milestones for this extension were not yet met.

The applicable interest rate on the Customers Loan Agreement, as of March 31, 2025, was 7.75%, reflecting the *greater of* (a) the WSJ Prime Rate + 0.25% or (b) 5.25%. The Customers Loan Agreement contains an interest-only period, with repayment terms that may adjust based on meeting additional milestones as discussed above.

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In connection with each of the Third Amendment and the Fourth Amendment, we issued the Series B Warrant to Customers Bank to purchase up to 325,988 shares of our Series B convertible preferred stock at an exercise price of $1.2402 and issued the Series C Warrant to Customers Bank to purchase up to 113,695 shares of our Series C convertible preferred stock with an exercise price of $1.9240 per share. See the section titled "*Description of Capital Stock—Warrants*" and *Note 4—Debt* in the notes to our audited financial statements and our unaudited condensed financial for additional information regarding our Series B Warrant and Series C Warrant.

As of March 31, 2025, we were in compliance with all covenants contained in the Customers Loan Agreement. See *Note 4—Debt* in the notes to our audited financial statements and our unaudited condensed financial statements for additional information regarding the Customers Loan Agreement.

Future Funding Requirements

Based on our current operating plan, we believe that the estimated net proceeds from this offering, together with our existing cash and cash equivalents, the expected cash generated from sales of our aprevo interbody implants, and amounts currently available for future borrowings under our Customers Loan Agreement will be sufficient to fund our planned operating expenses and capital expenditure requirements for at least the next 12 months. We have based this estimate on assumptions that may prove to be wrong, and we could deplete our capital resources sooner than we expect. Our quarterly and annual financial results may fluctuate as a result of a variety of factors, many of which are outside of our control and, as a result, may not fully reflect the underlying performance of our business. Fluctuation in quarterly and annual results may decrease the value of our common stock.

Our future capital requirements will depend on many factors, including, but not limited to:

•market acceptance of the aprevo Technology Platform and other products and solutions we may develop in the future;

•our ability to obtain marketing approval for the aprevo Technology Platform in international markets that we enter in the future or for other products and solutions we may develop in the future, and the timing and scope of any such approvals we may receive;

•the availability of reimbursement for aprevo interbody implants at acceptable reimbursement rates;

•the cost of manufacturing of aprevo interbody implants, which may vary depending on the quantity of production and the terms of our agreements with manufacturers and other vendors;

•our ability to attract, hire, train, and retain qualified personnel;

•the amount and timing of costs and expenses related to the maintenance and expansion of our business and operations;

•changes in our future pricing policies or those of our competitors;

•the level of demand for aprevo interbody implants that receive necessary marketing and other regulatory approvals, which may vary significantly;

•general economic, industry, and market conditions or extraordinary external events, such as a recession;

•changes in our regulatory environment;

•expenses associated with unforeseen product quality issues;

•the timing and success or failure of clinical trials or post-approval studies for the aprevo Technology Platform or competing product candidates;

•any other change in the competitive landscape of our industry, including consolidation amongst our competitors or partners;

•litigation or other claims against us for intellectual property infringement or otherwise;

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•expenses associated with indemnification obligations to third parties that are subject to litigation or claims, including in relation to intellectual property infringement, or incur other losses as a result of their use of our products;

•our ability to obtain additional financing as necessary; and

•advances and trends in new technologies and industry standard.

If these sources of cash are insufficient to satisfy our liquidity requirements, we may need to engage in equity or debt financings to secure additional funds. If we raise additional funds through further issuances of equity or convertible debt securities, our existing stockholders could suffer significant dilution, and any new equity or convertible debt securities we issue could have rights, preferences, and privileges superior to those of holders of our common stock. In addition, the incurrence of indebtedness would increase our fixed obligations and include covenants or other restrictions that would impede our ability to manage our operations.

Our ability to raise additional funds may be adversely impacted by deteriorating global economic conditions and the disruptions to and volatility in the credit and financial markets in the United States and fluctuations in interest rates. If additional financing is needed, we may not be able to obtain additional financing on terms favorable to us, or at all. Our inability to obtain adequate financing or financing on terms satisfactory to us, when we require it, could significantly limit our ability to continue supporting our business growth and responding to business challenges and opportunities.

Cash Flows

The following table summarizes our cash flows for each of the years indicated:

	Three Months Ended March 31,		Years ended December 31,	
(in thousands)	2025	2024	2024	2023
Net cash provided by (used in):				
Net cash flows used in operating activities	$ (8,155)	$ (7,413)	$ (25,466)	$ (17,480)
Net cash used in investing activities	$ (238)	$ (50)	$ (180)	$ (135)
Net cash flows provided by financing activities	$ 11,700	$ 38,497	$ 58,499	$ 3,180

Operating activities

For the three months ended March 31, 2025, net cash used in operating activities was $8.2 million, consisting primarily of a net loss of $5.7 million. Cash payments to vendors during the three months ended March 31, 2025, for our operating expenses totaled $9.9 million, and payroll-related cash payments totaled $7.0 million. This net cash used in operating activities for the three months ended March 31, 2025, was partially offset by $8.8 million of cash received from our customers for sales of aprevo interbody implants. We recognized $10.2 million of revenue in the three months ended March 31, 2025, based on the timing of the use of aprevo interbody implants in surgical procedures.

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For the three months ended March 31, 2024, net cash used in operating activities was $7.4 million, consisting primarily of a net loss of $5.4 million. Cash payments to vendors during the three months ended March 31, 2024, for our operating expenses totaled $6.1 million, and payroll-related cash payments totaled $5.0 million. This net cash used in operating activities for the three months ended March 31, 2024, was partially offset by $3.7 million of cash received from our customers for sales of aprevo interbody implants. We recognized $5.1 million of revenue in the three months ended March 31, 2024, based on the timing of the use of aprevo interbody implants in surgical procedures.

For the year ended December 31, 2024, net cash used in operating activities was $25.5 million, consisting primarily of a net loss of $24.3 million. Cash payments to vendors during the year ended December 31, 2024, for our operating expenses totaled $31.9 million, and payroll-related cash payments totaled $16.7 million. This net cash used in operating activities for the year ended December 31, 2024, was partially offset by $23.2 million of cash

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received from our customers for sales of aprevo interbody implants. We recognized $27.2 million of revenue in 2024, based on the timing of the use of aprevo interbody implants in surgical procedures.

For the year ended December 31, 2023, net cash used in operating activities was $17.5 million, consisting primarily of a net loss of $18.9 million. Cash payments to vendors during the year ended December 31, 2023, for our operating expenses totaled $14.2 million, and payroll-related cash payments totaled $11.6 million. This net cash used in operating activities for the year ended December 31, 2023, was partially offset by $11.3 million of cash received from our customers for sales of aprevo interbody implants. We recognized $13.8 million of revenue in 2023, based on the timing of the use of aprevo interbody implants in surgical procedures.

Investing activities

For the three months ended March 31, 2025 and 2024, net cash used in investing activities was $0.2 million and consisted primarily of purchases of property and equipment and capitalized internal use software costs.

For the years ended December 31, 2024 and 2023, net cash used in investing activities was $0.2 million and $0.1 million, respectively, and consisted primarily of purchases of property and equipment.

Financing activities

For the three months ended March 31, 2025, net cash provided by financing activities was $11.7 million, consisted primarily of net proceeds from the issuance of Series C convertible preferred stock of $11.9 million and proceeds from the exercise of stock options of $0.1 million. This was partially offset by payments for deferred offering costs of $0.4 million.

For the three months ended March 31, 2024, net cash provided by financing activities was $38.5 million, consisted primarily of net proceeds from the issuance of Series C convertible preferred stock.

For the year ended December 31, 2024, net cash provided by financing activities was $58.5 million, consisted primarily of net proceeds from the issuance of Series C convertible preferred stock of $52.3 million and borrowings under the Customers Loan Agreement of $6.2 million.

For the year ended December 31, 2023, net cash provided by financing activities was $3.2 million, consisted primarily of borrowings under the Customers Loan Agreement.

Contractual Obligations and Other Material Cash Commitments

Our contractual obligations as of March 31, 2025, include:

Debt

Total principal amount outstanding as of March 31, 2025, was $15.6 million. The Customers Loan Agreement matures on October 31, 2029, with an interest-only period through July 31, 2026, followed by principal repayment over 39 months thereafter. Upon achievement of certain revenue milestones, the interest-only period may be extended through July 31, 2027, and principal repayment over 27 months thereafter. As of March 31, 2025, the requisite revenue milestones for this extension were not yet met.

Operating leases

As of March 31, 2025, contractual obligations for operating lease payments (substantially related to our Carlsbad, California office lease with a lease term to July 1, 2028), that totaled $2.0 million and are due over 39 months after March 31, 2025.

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Off-Balance Sheet Arrangements

As of March 31, 2025, we did not have any relationships with special purpose or variable interest entities that would have been established for the purpose of facilitating off-balance sheet arrangements, as defined in the rules and regulations of the SEC, respectively.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments, including those related to accrued expenses, stock-based compensation, and other fair value measurements. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in *Note 2* to our audited financial statements and our unaudited condensed financial statements appearing elsewhere in this prospectus, we believe the following accounting policies and estimates to be most critical to the preparation of our financial statements.

Revenue Recognition

We recognize revenue from our aprevo interbody implant sales in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Conditions ("ASC") Topic 606, *Revenue from Contracts with Customers*, which requires the amount and timing of revenue recognition to align with the completed transfer of promised goods or services to customers and our entitled contractual consideration in return.

Revenue is recognized in the period that an aprevo interbody implant is used in a surgical procedure and is based on standard pricing arrangements with our hospital customers. The consideration we are entitled to for sales of aprevo is fixed based on the stated contractual amount with our hospital customers. Our sales process includes contracted independent sales agents that cover each surgery and we have determined that we are the principal in these transactions for purposes of gross versus net revenue presentation. We recognize revenue at "gross" (i.e., our reported revenue is not reduced for sales agent fees that are reported in "sales and marketing" expenses) since we are responsible for product fulfillment and customer acceptability, carry the inventory risk, and have sole discretion in setting the price for our products.

Excess and Obsolete Inventory

We maintain minimal inventories because aprevo interbody implants are made specific to each patient's anatomy and pathology and are not otherwise made-to-stock. Inventories are stated at actual cost. Work-in-process inventory consists of titanium alloy implants for spine fusion surgical procedures, pending sterilization and packaging. Finished goods inventory is ready for shipment and use in spine fusion surgical procedures.

Inventories are valued at the lower of cost or net realizable value. At each balance sheet date, we evaluate our inventories for obsolescence, based on notification of permanently canceled surgeries, and our estimates of additional permanent cancellations. We record the corresponding charge for this obsolete inventory through "cost of sales". The estimation of obsolete inventory requires management's judgment for future cancellations that correspond to on-hand patient-specific aprevo interbody implants. These estimates can be influenced by a variety of factors and could materially affect our financial results if actual results differ.

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Stock-Based Compensation

We recognize stock-based compensation expense for equity awards granted to employees, consultants, and members of our Board of Directors. Stock option awards are granted at an exercise price of not less than 100% of the fair market value of common stock on the respective date of grant. The grant date is the date that the terms of the award are formally approved by our Board of Directors. We use the Black-Scholes option pricing model to estimate the fair value of stock option awards as of the date of grant.

The measurement of the fair value of stock option awards, and recognition of stock-based compensation expense, requires assumptions by management that involve inherent uncertainties and the application of management's judgment, including:

- *Fair Value of Common Stock*. As our common stock has never been publicly traded, we must estimate the fair value of the shares of our common stock underlying our stock-based awards. Our Board of Directors considers numerous objective and subjective factors to determine the fair value of our common stock as discussed in "—Common Stock Valuation" below.

- *Expected Term.* Management estimates the expected term of awarded stock options utilizing the "simplified method," which is the average of the weighted-average vesting period and contractual terms of the options, for awards since we do not yet have sufficient exercise history since its corporate formation and lack specific historical and implied stock volatility information.

- *Risk-Free Interest Rate*. Estimates for the risk-free interest rate are based upon the U.S. Department of the Treasury yield curve in effect at award grant for the period that corresponds with the expected term of the awarded stock option.

- *Dividend Rate.* The expected dividend yield is zero because we have never paid cash dividends and do not expect to for the foreseeable future.

- *Volatility.* Because we have been privately held and do not have any trading history for our common stock, the expected volatility was estimated based on the average volatility for comparable publicly traded companies over a period equal to the expected term of the stock option grants. The comparable companies were chosen based on the similar size, stage in life cycle, or area of specialty. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available.

The judgments and estimates related to stock-based compensation are subject to uncertainty due to the reliance on subjective assumptions and a complex valuation model. The estimation of the fair value of common stock, expected term, and volatility involves significant judgment and is sensitive to changes in market conditions and company-specific factors. These assumptions are inherently uncertain and can vary based on future market conditions, making the estimation process complex and introducing variability into the reported stock-based compensation expense. Changes to these assumptions and estimates could have a material impact on the amount of stock-based compensation.

See *Note 6* to our audited financial statements and our unaudited condensed financial statements included elsewhere in this prospectus for more information concerning specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options.

Common Stock Valuation

In the absence of an active market for our common stock, the fair value of our common stock was determined by our Board of Directors in accordance with the methodologies outlined in the American Institute of Certified Public Accountants Practice Aid, Valuation of Privately-Held-Company Equity Securities Issued as Compensation (the "Practice Aid"). In doing so, our Board of Directors determined the best estimate of fair value of our common stock, exercising reasonable judgment and considering numerous objective and subjective factors, including:

- valuations of our common stock performed by independent third-party valuation specialists;

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•our stage of development and business strategy, including the status of research and development efforts of our products, and the material risks related to our business and industry;

•our results of operations and financial position, including our levels of available capital resources;

•the valuation of publicly traded companies in the life sciences and medical device sectors, as well as recently completed mergers and acquisitions of peer companies;

•the lack of marketability of our common stock as a private company;

•the prices of our convertible preferred stock sold to investors in arm's-length transactions and the rights, preferences, and privileges of our convertible preferred stock relative to those of our common stock;

•the likelihood of achieving a liquidity event for the holders of our common stock, such as an initial public offering or a sale of our company, given prevailing market conditions;

•the hiring of key personnel and the experience of management;

•trends and developments in our industry; and

•external market conditions affecting the life sciences and medical device industry sectors.

Our Board of Directors determined the fair value of our common stock by first determining the enterprise value of our business and then allocating the value among the various classes of our equity securities to derive a per share value of our common stock. The Practice Aid identifies various available methods for allocating enterprise value across classes and series of capital stock to determine the estimated fair value of common stock at each valuation date.

In allocating enterprise value among the various classes of stock, we have utilized a hybrid method, which is a combination of the Option Pricing Method ("OPM") and the Probability-Weighted Expected Return Method ("PWERM"). Under the OPM, shares are valued by creating a series of call options with exercise prices based on the liquidation preferences and conversion terms of each equity class. The values of the preferred and common stock are inferred by analyzing these options. The PWERM is a scenario-based analysis that estimates the value per share based on the probability-weighted present value of expected future investment returns, considering a number of discrete possible outcomes of the business, as well as the economic and control rights of each share class. Under the hybrid method, we considered expected initial public offering liquidity scenarios as well as other market-based non-initial public offering scenarios in the event a near-term initial public offering does not occur. Additionally, in determining the estimated fair value of our common stock, our Board of Directors also considered the fact that our stockholders could not freely trade our common stock in the public markets. Accordingly, we applied discounts to reflect the lack of marketability of our common stock based on the weighted-average expected time to liquidity.

There are significant judgments and estimates inherent in the determination of the fair value of our common stock. These judgments and estimates include assumptions regarding our future operating performance, the time to complete an initial public offering or other liquidity event, and the determination of the appropriate valuation methods.

Once a public trading market for our common stock has been established in connection with the completion of this offering, it will no longer be necessary for our Board of Directors to estimate the fair value of our common stock in connection with our accounting for granted stock options or for any other such awards we may grant, as the fair value of our common stock will be determined based on the closing price of our common stock as reported on the date of grant on the stock exchange on which our common stock is traded.

Income Taxes

We account for income taxes using the asset and liability method in accordance with ASC Topic 740, *Income Taxes*. Deferred tax assets and liabilities are determined based on the differences between the financial reporting and tax bases of assets and liabilities and are measured using enacted tax rates and laws expected to apply when the assets are realized or the liabilities are settled. A valuation allowance is recorded when it is more likely than not that some portion or all of a deferred tax asset will not be realized. The assessment of the need for a valuation allowance

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requires significant judgment, including consideration of future taxable income, tax planning strategies, and other relevant factors.

In the ordinary course of business, we encounter transactions for which the ultimate tax outcome is uncertain. We evaluate uncertain tax positions using a "two-step approach," whereby a tax position is recognized only if it is more likely than not to be sustained, and the recognized amount is the largest benefit greater than 50% likely to be realized upon ultimate settlement. Adjustments to unrecognized tax benefits are made as new information becomes available or as events occur that indicate a change is warranted.

The determination of unrecognized tax benefits requires management to apply significant judgment in interpreting complex tax laws and regulations across multiple jurisdictions. This process is inherently uncertain and could result in changes that materially affect our financial condition or results of operations. Interest and penalties related to uncertain tax positions, if any, are included as a component of income tax expense.

Recently Issued and Adopted Accounting Pronouncements

See *Note 2* to our audited financial statements and our unaudited condensed financial statements included elsewhere in this prospectus for information about recent accounting pronouncements, the timing of their adoption, and our assessment, if any, of their potential impact on our financial condition and results of operations.

Quantitative and Qualitative Disclosures About Market Risks

Interest Rate Risk

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. As of March 31, 2025, we had cash and cash equivalents of $43.4 million, all of which was held in bank deposits with credit-worthy financial institutions. We also had variable rate debt of $15.6 million as of March 31, 2025. We do not believe that a hypothetical 10% increase or decrease in interest rates during any of the periods presented would have had a material effect on our financial statements included elsewhere in this prospectus.

Financial Institution Risk

All of our cash and cash equivalents are held with two financial institutions, with substantially all of the cash held with our primary bank that administers a platform to maintain our deposits across multiple member banks within the FDIC limits of up to $250,000 per account. As a result, we believe that our exposure to financial institution risk is not significant.

Inflation Risk

Inflation generally affects us by increasing our cost of labor and supplier costs. Inflationary and supply chain pressures may adversely impact our future financial results. Our operating costs have modestly increased due to these factors and may continue to increase because of these pressures. We may not be able to fully offset these cost increases by raising prices for the aprevo Technology Platform, which could result in downward pressure on our margins.

Emerging Growth Company and Smaller Reporting Company Status

We qualify as an "emerging growth company" as defined in the JOBS Act. As an emerging growth company, we may take advantage of specified reduced disclosure and other requirements that are otherwise applicable generally to public companies. These provisions include:

- being permitted to present only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" disclosure in this prospectus;

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•reduced disclosure about our executive compensation arrangements;

•not being required to hold advisory votes on executive compensation or to obtain stockholder approval of any golden parachute arrangements not previously approved;

•an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act; and

•an exemption from compliance with the requirements of the Public Company Accounting Oversight Board regarding the communication of critical audit matters in the auditor's report on the financial statements.

We may take advantage of these exemptions for up to five years or such earlier time that we are no longer an emerging growth company. We would cease to be an emerging growth company on the date that is the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.235 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these exemptions. We have taken advantage of reduced reporting requirements in this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies in which you hold stock. In addition, the JOBS Act permits an emerging growth company to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have chosen to "opt out" of this provision, and, as a result, we will comply with new or revised accounting standards as required when they are adopted. This decision to opt out of the extended transition period is irrevocable.

We are also a "smaller reporting company," meaning that the market value of our shares held by non-affiliates plus the proposed aggregate amount of gross proceeds to us as a result of this offering is less than $700.0 million, and our annual revenue was less than $100.0 million during the most recently completed fiscal year. We may continue to be a smaller reporting company after this offering if either (i) the market value of our shares held by non-affiliates is less than $250.0 million or (ii) our annual revenue was less than $100.0 million during the most recently completed fiscal year and the market value of our shares held by non-affiliates is less than $700.0 million. If we are a smaller reporting company at the time that we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K, and, similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations regarding executive compensation.

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BUSINESS

Overview

We are a commercial-stage medical technology company pioneering AI-enabled personalized spine surgery solutions with a mission to improve outcomes and decrease the cost of healthcare for spine surgery and beyond. We are focused on becoming the standard of care for spine fusion surgery. The aprevo Technology Platform consists of AI-enabled software solutions, and interbody implants that we custom design for each patient's unique pathology and vertebral bone topography, and single-use surgical instruments. The aprevo Technology Platform was designed to address the limitations of traditional spine fusion surgery and aims to optimize patient outcomes and reduce the need for revision surgeries. By providing personalized surgical plans and interbody implants for custom vertebral fit that are powered by AI-enabled, outcomes-based algorithms, the aprevo Technology Platform supports surgeons in achieving proper spinal alignment for patients with DDD, which can improve clinical outcomes and reduce the likelihood of revision surgeries. We currently market the aprevo Technology Platform for lumbar spine fusion surgery, and we are further developing the aprevo Technology Platform for use in cervical spine fusion surgeries, which we expect to commercialize in 2026.

DDD is the progressive breakdown of spinal discs that are interposed between vertebrae to provide mobility and shock absorption. The disease occurs naturally with age and can be accelerated by factors such as injury, repetitive loading, obesity, or genetic predisposition. ASD is a more severe form of DDD and is a condition where the spine has systematic structural abnormalities and/or abnormal curvature often affecting multiple levels of the spine. These conditions often cause a loss of disc height and spine function, and lead to chronic pain, disability, and other chronic spinal pathologies, significantly impacting patients' lives. As the conditions progress and patients experience debilitating pain or disabilities, surgical intervention may become necessary. One study estimated that the overall prevalence of diagnosed DDD was 27.3% for individuals over the age of 65, and increased with age (Parenteau et al., 2021).

Non-surgical interventions are typically the first line of treatment for DDD and are aimed at managing symptoms and slowing disease progression without invasive procedures. When non-surgical treatments fail to alleviate debilitating symptoms or disabilities, surgical interventions may become necessary. The most common surgical intervention and current standard of care is traditional spine fusion, which we define as a spine fusion procedure with stock implants that are fixed in size and shape. According to the SmartTRAK Report, there will be approximately 445,200 lumbar fusion surgeries and approximately 372,600 cervical fusion surgeries performed in the United States in 2025. For additional information on the sources and assumptions of the SmartTRAK Report, see sections titled "*Market, Industry, and Other Data*" and "*—Market Overview—Our Addressable Market*" below.

Despite its wide adoption, we believe traditional spine fusion surgery has several limitations and can lead to poor clinical outcomes. First, traditional spine fusion often lacks robust pre-operative planning, relying on 2D imaging without advanced tools, such as 3D modeling. This limits the surgeon's ability to plan for optimal correction. Second, the stock implants that are used during surgery are largely symmetric in shape and only come in pre-defined dimensions, which often fail to match the unique anatomy of each patient and can lead to unpredictable alignment. During the surgery, the surgeon must visually choose the correct stock implant from dozens of options, which involves a prolonged trialing process, and which we believe elevates the risk of secondary complications. Finally, post-operatively, there is no integrated means for reconciling achieved outcomes against surgical objectives and utilizing these insights systematically to improve future surgical plans. As a result of these limitations, traditional spine fusion surgery can fail to achieve proper alignment, leading to post-operative complications and increasing the likelihood of revision surgery. Recent publications on traditional spine fusion report rates of revision surgery for mechanical complications between 14% and 32% over a mean postoperative period of one to two years in ASD patients (Kent et al., 2024). We believe that these limitations and poor clinical outcomes not only impair patients' health and quality of life but also impose a significant economic burden on the healthcare system, with the direct and indirect costs of a revision surgery frequently exceeding $100,000 (Raman et al., 2018).

The aprevo Technology Platform represents an end-to-end, integrated digital technology platform designed to deliver better surgical results, reduce the need for revision surgery, and improve long-term outcomes. The aprevo Technology Platform is the first available solution to provide personalized digital surgical plans and the

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accompanying aprevo interbody implants that are tailored to each patient's unique pathology and vertebral bone topography.

Our pre-operative planning software utilizes standard-of-care diagnostic imaging in combination with our AI-enabled algorithms to develop personalized digital surgical plans, allowing us to design aprevo interbody implants for each patient's unique pathology and anatomy. Additionally, the aprevo Technology Platform supports the collection of post-operative data to inform our digital surgical planning process. The aprevo Technology Platform is 510(k) cleared by the FDA and commercially available in the United States for lumbar interbody fusion surgeries. Procedures using our aprevo interbody implants are covered by Medicare, Medicare Advantage, and commercial payors; these are generally mapped to MS-DRG codes that provide for premium reimbursement for most spine fusion surgeries that utilize aprevo interbody implants relative to those that use stock implants. We believe this also helps drive surgeon adoption while also supporting patient access to our patient-centric technology. While our current commercial focus is on the U.S. market, we plan to engage in market access initiatives for strategic international regions.

We are also developing our aprevo Technology Platform for use in cervical spine fusion surgeries. In November 2024, we received FDA 510(k) clearance for our aprevo interbody implants for cervical interbody fusion surgeries after previously receiving FDA Breakthrough Device Designation for this technology. In 2025, we plan to continue to build our aprevo Technology Platform for cervical fusion procedures by pursuing additional clearances for advancements to our cervical software platform and our personalized plating solutions. However, there is no guarantee that our cervical software platform and our personalized plating solutions will obtain FDA clearance on the expected timeline, or at all. See the section titled "*— Our Solution—Our 510(k) Submissions*" below for more information regarding our FDA 510(k) submissions for our material products and product candidates. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. In April 2025, CMS announced X-codes for the use of custom-made anatomically designed fusion devices for cervical spine fusion surgeries. While there is no guarantee that this proposal will be approved in its current form, if approved in the CMS Final Rule, these X-codes will identify claims that are eligible for hospitals to receive NTAP of up to $21,125 per cervical spine fusion procedure.

Due to these unique features and capabilities, the aprevo Technology Platform delivers meaningful surgical, clinical, and commercial benefits, including:

- ***Improved alignment and decreased risk of revision spine surgery***. The aprevo Technology Platform provides 3D anatomical correction, incorporating coronal alignment, sagittal alignment, and height restoration to help surgeons achieve their planned alignment targets. While, as of the date of this prospectus, we are not aware of any head-to-head trials that directly compare aprevo interbody implants to stock implants, retrospective reviews of clinical data suggest that the aprevo Technology Platform improves post-operative alignment, compared to traditional spine surgery, in both DDD and ASD cases. These results may not be directly comparable as they are not from a single head-to-head trial. However, improved alignment can reduce the occurrence of post-operative complications, such as subsidence, adjacent segment disease, and mechanical failures, and ultimately lower the need for revision surgery.

- ***Outcomes-driven pre-operative planning and post-operative insights***. Our pre-operative, 3D modeling, and AI-enabled algorithms informed by large amounts of data help surgeons plan the surgery that fits with a patient's unique pathology and anatomy. Following the procedure, the patient's post-operative images and surgical outcome data are measured and analyzed to inform results against the surgical plan. These post-operative insights allow surgeons to reconcile their plan against the surgical results. Our aprevo Technology Platform not only enables direct feedback to the surgeon, but also collects data that is incorporated into our algorithms to improve personalized surgical plans for subsequent patients.

- ***Seamless integration and improvement of existing surgical workflows***. The use of the aprevo Technology Platform integrates with, and can improve upon, existing surgical workflow. The aprevo Technology Platform does not require any supplemental or unique pre-surgical imaging beyond what is required for traditional spine surgery. The surgeon can use their preferred surgical access approach and methods as they would with a stock implant without any additional surgical training. Our aprevo interbody implants are compatible with

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commercially available surgical robots and other accompanying implants, such as rods and screws. We believe this allows for ease of adoption and integration into the

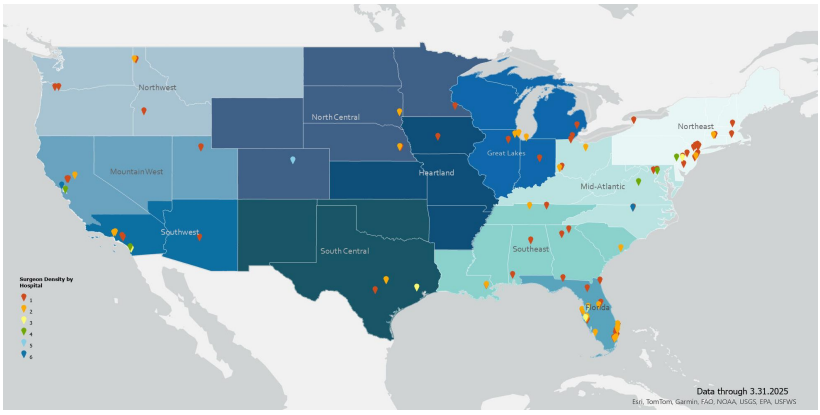
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surgeon's workflow and preferences and enables user acquisition and account penetration. As an improvement to the surgical workflow, the surgeon does not need to test fit various interbody sizes during the surgery while the patient is under anesthesia and the spine is exposed. Instead, the surgeon can deliver the aprevo interbody implant to each planned vertebral level without any trialing required.

•***On-demand, made-to-order inventory model with short lead times***. Our aprevo interbody implants are manufactured on-demand by our CMOs and are specific to each patient, their pathology, and vertebral bone topography. Unlike stock implants, our patient-specific aprevo interbody implants and accompanying single-use instruments are delivered sterile, typically within 10 business days of surgical plan approval. The aprevo interbody implants and accompanying single-use instruments do not require additional processing at the hospital, which eliminates additional expenses to hospitals. Since our aprevo interbody implants and accompanying single-use instruments are made on-demand by our CMOs for each patient, we are able to operate an asset-light business model, requiring limited investments in capital equipment and inventory.

We estimate there is a total addressable market of approximately $13.4 billion for our aprevo Technology Platform in the United States, based on our current average selling price and the approximately 445,200 lumbar fusion surgeries that are expected to be performed in the United States in 2025, according to the SmartTRAK Report. Our total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if we achieve 100% market share for lumbar fusion surgeries and is not a representation that we will achieve such market share. For additional information on the sources and assumptions of the SmartTRAK report, see the sections titled "*Market, Industry, and Other Data*" and "*—Market Overview—Our Addressable Market*" below.

We estimate there are approximately 4,000 surgeons across the United States whose patients could benefit from using the aprevo Technology Platform (Moore et al., 2021). As of March 31, 2025, 177 surgeon users had completed one or more procedures using the aprevo Technology Platform, compared to 103 surgeon users as of March 31, 2024, which we believe suggests ample opportunity to grow our surgeon user base and further penetrate the market by capturing more surgeons across the United States.



We market and sell the aprevo Technology Platform to hospitals through a combination of our direct sales team and independent sales agents. Our direct sales team consists of Area Business Directors, Regional Sales Directors, Account Managers, and Strategic and National Account leadership, who are primarily responsible for selling the aprevo Technology Platform to surgeons and working with hospitals to secure product approval. They are also responsible for recruiting independent sales agents that cover each surgery, generating leads, and training clinics. We plan to grow our commercial infrastructure, including both our direct sales team and our number of independent sales agents, and expand various market access initiatives, including utilizing medical education programs and surgeon training at top academic institutions.

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A large body of evidence supports the clinical benefits of the aprevo Technology Platform for spine fusion, including seven peer-reviewed clinical data publications and 12 peer-reviewed clinical data abstracts. Across the various studies and publications, the aprevo Technology Platform has shown favorable results in two of the most critical success measures in spine fusion surgery: (1) achieving proper post-operative alignment and (2) obviating the need for revision surgery due to implant related complications. We continue to develop our growing base of clinical and patient reported outcomes to serve as evidence of the aprevo Technology Platform's value to all key stakeholders, including patients, clinicians, hospitals, and payors. For example, we are currently conducting a 338-patient study, our COMPASS Registry, to track clinical outcomes from procedures using the aprevo Technology Platform in both DDD and ASD patients. Based on interim data from the first 67 ASD patients in our COMPASS Registry, these patients demonstrated improved alignment and reduced mechanical complications post-operatively, with a revision rate of 1.5% at one-year follow-up that were attributable to mechanical complications unrelated to the aprevo interbody implant (Kent et al., 2024).

We have established a significant competitive advantage through multiple strategic initiatives, including creating a robust intellectual property portfolio and a comprehensive data set. As of March 31, 2025, our patent portfolio contains 33 total issued patents and approximately 117 pending patent applications along with various trademarks and trade secrets. The portfolio covers our aprevo interbody implants, associated manufacturing processes, design process, software user interface for surgeons, and AI-enabled algorithms and software for anatomical spine segmentation and generating and delivering personalized digital surgical plans.

Our competitive position is further strengthened by our significant base of patient and imaging data. As of March 31, 2025, we estimate that we have used approximately four million radiographic images to train and improve our AI models, analyzed more than one million radiographic images of patients who have undertaken a procedure using our aprevo Technology Platform, and created more than 40,000 digital twin 3D models of patients' anatomies. We harness post-operative data to refine future personalized digital surgical plans, aprevo interbody implant design, and physician workflow, allowing us to continuously improve personalized spine surgery. Further, our large and expanding data moat supports our research and development efforts, improving the aprevo Technology Platform and enhancing our product pipeline. We intend to continue to enhance our intellectual property portfolio and grow our collection of patient data to further strengthen our competitive advantage and produce better patient outcomes.

We have experienced sequential quarterly and annual revenue growth, driven primarily by growth in our surgeon user base and increased utilization by our existing surgeon users. For the years ended December 31, 2024 and 2023, we recognized revenue of $27.2 million and $13.8 million, respectively, representing year-over-year growth of 97.2%. For the three months ended March 31, 2025 and 2024, we recognized revenue of $10.2 million and $5.1 million, respectively, representing period-over-period growth of 100.3%. For the year ended December 31, 2024, we recognized a gross margin of 73.8% and a net loss of $24.3 million, compared to a gross margin of 71.9% and a net loss of $18.9 million for the year ended December 31, 2023. For the three months ended March 31, 2025, we recognized a gross margin of 74.9% and a net loss of $5.7 million, compared to a gross margin of 72.0% and a net loss of $5.4 million for the three months ended March 31, 2024. As of March 31, 2025, we had an accumulated deficit of $76.9 million.

Our Success Factors

We believe that the continued growth of our company will be driven by the following success factors:

•***Paradigm-shifting, patient-centric platform aiming to set the new standard of care for spine surgery.*** The aprevo Technology Platform represents an end-to-end, integrated digital technology platform designed to deliver better surgical results, reduce the need for revision surgery, and improve long-term outcomes. The aprevo Technology Platform is the first available solution in the United States to provide personalized digital surgical plans and the accompanying aprevo interbody implants that are tailored to each patient's pathology and vertebral bone topography. Our platform begins by analyzing each patient's pathology and spinal anatomy, relying on standard diagnostic imaging to create a 3D model that is then used to identify the corrections necessary to bring the spine within alignment. Our surgical planning software then designs a personalized interbody implant and surgical plan to achieve that goal. Additionally, the aprevo Technology Platform uses post-operative data to continuously improve the

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personalized digital surgical planning process and drive improved patient outcomes. We believe that the unique and differentiated benefits of the aprevo Technology Platform have helped drive strong adoption since our commercial launch.

•***Large and established addressable market opportunity with a significant unmet clinical need.*** According to the Mayo Clinic News Network, approximately 20% of U.S. adults experience some amount of disc degeneration by the age of 65.The SmartTRAK Report estimates that there will be approximately 445,200 lumbar fusion surgeries performed in the United States in 2025. For additional information on the sources and assumptions of the SmartTRAK Report, see the sections titled "*Market, Industry, and Other Data*" and "*Market Overview—Our Addressable Market*" below. This represents an existing, annual addressable U.S. market of $13.4 billion for our lumbar fusion implants based on our average selling price, with a potential additional upside in our total addressable market from cervical fusion procedures. Despite its wide adoption, we believe traditional spine fusion is hindered by several shortcomings that may contribute to high rates of malalignment, frequent complications and increased likelihood of revision surgery. For example, one analysis has shown that, following surgery for ASD, 62% of patients remain sagittally malaligned and 25% of patients remain coronally malaligned (Moal et al., 2014). This results in serious complications and may require one or more revision surgeries. One study reported that 10% of ASD patients included in the study underwent revision surgery at one year due to implant-related complications (Lafage et al., 2024), while another observed revision rates for implant-related complications up to 50% by year four (Hallager et al., 2017). Malalignment is equally problematic for patients receiving surgery for DDD. For example, a study of 578 patients (Leveque et al., 2018) and a study of 335 patients (Manoharan et al., 2025) observed malalignment present in 30% and 85%, respectively, of DDD patients preoperatively (typically impacting the levels being treated with fusion), and that 70% and 90% of these patients remained malaligned, respectively. Revision surgery represents a burdensome cost to the healthcare system. Based on published data, the direct and indirect costs of revision surgery frequently exceed $100,000 (Raman et al., 2018). We designed the aprevo Technology Platform to address the limitations of traditional spine surgery by providing surgeons with personalized digital surgical plans and patient-specific aprevo interbody implants to achieve the desired surgical correction. Our total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if we achieve 100% market share for lumbar fusion surgeries, and it is not a representation that we will achieve such market share.

•***Compelling benefits for patients and providers supported by a robust body of clinical studies and real-world evidence.*** A significant body of evidence supports the clinical benefits of the aprevo Technology Platform for spine fusion, including seven peer-reviewed publications and 12 peer-reviewed abstracts. Across the various studies and publications, the aprevo Technology Platform has shown favorable results in two of the most critical success measures in spine fusion surgery: post-operative alignment and the need for revision surgery due to implant-related complications. For example, we are currently conducting a 338-patient study, our COMPASS Registry, to track real-world clinical outcomes from procedures using the aprevo Technology Platform. This registry collects two-year endpoint data studying post-operative alignment, revision rates and patient outcomes. Interim results for the first 67 ASD patients at 12-week to one-year follow-up showed that these patients who were treated with the aprevo Technology Platform obtained favorable post-operative alignment status, with no complications related to the aprevo interbody implant, and low revision rates (Kent et al., 2024). Among those patients, the rate of revision surgery attributable to mechanical complications was 1.5% (Kent et al., 2024). The authors noted that this compared favorably to published results from a separate study on 997 patients treated with stock implants that observed a revision rate for mechanical complications following spinal deformity surgery by one-year follow-up of 8.7% (Lafage et al., 2024). We believe that our clinical evidence and real-world results will continue to support the rapid adoption of the aprevo Technology Platform, with the goal of establishing a new standard of care for spine fusion surgery.

•***Established and distinct hospital reimbursement with favorable payment levels.*** In October 2024, CMS established new MS-DRG codes that included "custom-made anatomically designed" devices. These new

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MS-DRG codes provide premium reimbursement for most spine fusion surgeries that utilize aprevo interbody implants relative to those that use stock implants. We believe that this helps drive surgeon adoption while also supporting patient access to our patient-centric technology. Procedures using our aprevo interbody implants are covered by Medicare, Medicare Advantage, and commercial payors.

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•***Scalable, inventory-light business model with attractive gross margins.*** We have purposefully designed the aprevo Technology Platform, our supply chain, and our commercial strategy to enable rapid adoption and efficiently scale our operations. We leverage our AI-enabled algorithms and software to convert standard-of-care diagnostic patient imaging into a personalized digital surgical plan with limited human interaction and labor costs. Our made-on-demand aprevo interbody implants and our single-use surgical instruments allow us to operate an asset-light business model. Unlike traditional orthopedic device manufacturers who must build significant inventory in order to provide surgeons a range of devices for potential use in each procedure, our aprevo interbody implants are manufactured on-demand by our CMOs and personalized for each patient. As a result, at any given time, our inventory consists only of personalized devices manufactured for a specific patient's procedure. Importantly, our streamlined DPS also allows us to typically deliver our patient-specific aprevo interbody implants to hospitals within 10 business days of surgical plan approval. We utilize independent sales agents for case coverage, allowing our team of direct sales professionals to focus on widening and deepening the adoption of the aprevo Technology Platform. We expect these highly attractive business model attributes to drive revenue and enable our path to profitability.

•***Strong competitive position supported by robust intellectual property and comprehensive data moat.*** As of March 31, 2025, our patent portfolio contains 33 total issued patents and approximately 117 pending patent applications along with various trademarks and trade secrets. The portfolio covers our implants, associated manufacturing processes, design processes, software user interface for surgeons, and AI-enabled algorithms and software for anatomical spine segmentation and generating and delivering personalized digital surgical plans. Our competitive position is further strengthened by our significant base of patient and imaging data. As of March 31, 2025, we estimate that we have used approximately four million radiographic images to train and improve our AI models, analyzed more than one million radiographic images of patients who have undertaken a procedure using our aprevo Technology Platform, and created more than 40,000 digital twin 3D models of patients' anatomies. We harness post-operative data to refine future personalized digital surgical plans, aprevo interbody implant design, and physician workflow, in an effort to continuously improve personalized spine surgery. Further, our large and expanding data moat supports our research and development efforts, improving the aprevo Technology Platform and enhancing our product pipeline. We intend to continue to enhance our intellectual property portfolio and grow our collection of patient data to further strengthen our competitive advantage and produce better patient outcomes.

•***Experienced leadership team.*** Our team of industry professionals is dedicated to our mission and embodies our "patient-obsessed" culture. Our senior management team has deep expertise across various disciplines, including technology, spine and orthopedic surgery, research and development, sales and marketing, operations, engineering, data science, manufacturing, and intellectual property.

Our Growth Strategies

We believe that the following strategies will advance our mission and contribute to our future success and growth:

•***Continue to drive adoption and market share capture for aprevo in lumbar fusion surgeries***. Since the full commercial launch of the aprevo Technology Platform for lumbar spine fusion surgery in October 2021, the aprevo Technology Platform has been used to treat more than 1,500 patients. The SmartTRAK report estimates that there will be approximately 445,200 lumbar fusion surgeries performed in the United States in 2025. For additional information on the sources and assumptions of the SmartTRAK Report, see the sections titled "*Market, Industry, and Other Data*" and "*Market Overview—Our Addressable Market*" below. Further, there are approximately 4,000 surgeons in the United States whose patients could benefit from the aprevo Technology Platform (Moore et al., 2021). We believe this represents a significant opportunity to grow our surgeon user base and further penetrate the market. Over time, we expect to not only grow the base of surgeons actively using the aprevo Technology Platform but to also increase the number of procedures using the aprevo Technology Platform that are performed by existing surgeon user bases. To achieve this, we plan to

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grow our commercial infrastructure and expand various market access initiatives, including utilizing medical education programs and surgeon training at top academic institutions. Our medical education and surgeon training initiatives support our

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commercial operations by increasing awareness of the benefits of the aprevo Technology Platform. Additionally, we are investing in key initiatives to grow patient awareness, including our physician locator web page, which we believe will drive increased patient volume to surgeons who currently utilize the aprevo Technology Platform. Our goal is to establish the aprevo Technology Platform as the standard of care for lumbar fusion.

•***Launch the aprevo Technology Platform for cervical spine fusion surgeries***. We are developing the aprevo Technology Platform to expand its use into cervical spine fusion surgeries. We believe that cervical spine fusion surgery using stock implants has significant challenges, and this creates an opportunity for the aprevo Technology Platform to significantly improve upon the standard of care in cervical fusion. In November 2024, we received FDA 510(k) clearance for our aprevo interbody fusion implants for cervical spine fusion surgeries, after previously receiving FDA Breakthrough Device Designation. In April 2025, CMS issued the IPPS 2025 Proposed Rule that includes an NTAP to provide supplemental reimbursement of up to $21,250, effective October 1, 2025, to hospitals for each qualifying aprevo cervical procedure. While we believe the IPPS 2025 Proposed Rule will be adopted in its current form, there is no guarantee that the IPPS 2025 Proposed Rule will be adopted in its current form. In 2025, we plan to continue to build out our aprevo Technology Platform for cervical fusion procedures by pursuing additional clearances for advancements to our cervical software platform and our personalized plating solutions. There is, however, no guarantee that our cervical software platform and our personalized plating solutions will obtain FDA clearance on the expected timeline, or at all. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. See the section titled "*— Our Solution—Our 510(k) Submissions*" below for more information regarding our FDA 510(k) submissions for our material products and product candidates. We intend to drive adoption of the aprevo Technology Platform for cervical spine fusion surgery among our existing base of surgeons who are actively using the aprevo Technology Platform for lumbar spine fusion surgeries.

•***Invest in further growing our base of clinical evidence***. We are committed to building upon our strong foundation of clinical evidence demonstrating the efficacy of the aprevo Technology Platform. Clinical data publications are important tools for patients and surgeons to educate themselves on the clear benefits of the aprevo Technology Platform when compared to traditional spine surgery using stock implants. For example, our COMPASS Registry is generating real-world evidence on the performance and outcomes of the aprevo Technology Platform for use in lumbar spine fusions, and we anticipate that our COMPASS Registry will support a robust cadence of clinical publications. In addition, although the outcomes of our studies cannot be guaranteed, we plan to continue to engage in studies and a registry to further validate the clinical benefits of the aprevo Technology Platform in cervical spine fusion. We believe that our ongoing clinical initiatives will further validate the benefits of the aprevo Technology Platform, drive surgeon adoption, and strengthen our reimbursement profile.

•***Continue to develop our research and development initiatives***. Our research and development initiatives are focused on introducing enhancements and new capabilities aimed at increasing the value provided by the aprevo Technology Platform to patients, surgeons, and third-party payors. We have introduced multiple iterations of our AI-enabled algorithms and software to drive further improvements in our planning. We believe that these improvements will strengthen our ability to leverage the post-operative data we collect, allowing us to build predictive analytic models that will aid physicians in clinical decision making. We also believe we can further develop the aprevo Technology Platform to address additional indications and disease states within the spine, such as cervical corpectomy and cervical disc arthroplasty. While spine surgery remains our current focus and we do not currently have a definitive timeline to expand beyond cervical and lumbar at this time, we believe that our platform technology may also benefit other musculoskeletal applications beyond spine.

•***Pursue international markets***. While our current commercial focus is on the U.S. market, we also plan to engage in market access initiatives to evaluate strategic international regions, but as of the date of this

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prospectus, we do not have any definitive plans. We have received ISO 13485 certification and MDSAP certification for the aprevo Technology Platform. We believe that our streamlined DPS and infrastructure provides us the necessary capacity to support global demand.

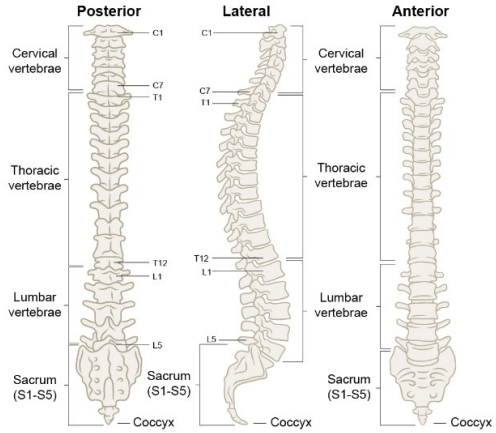
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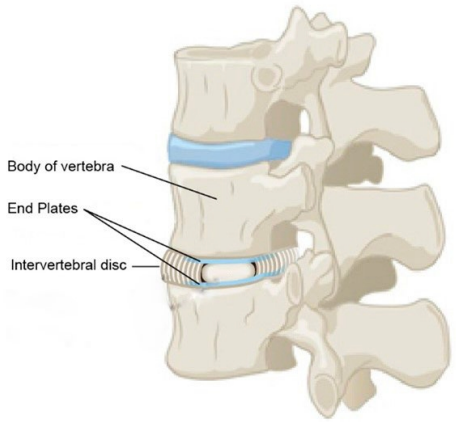
Market Overview

Spinal Anatomy

The human spine is a complex and critical structure that provides support, protects the spinal cord, and enables mobility. The spine or spinal column consists of 24 individual bones, or vertebra, and intervertebral discs that are stacked vertically and categorized into distinct regions: cervical (seven vertebrae), thoracic (12 vertebrae), and lumbar (five vertebrae). The vertebral body is the large, cylindrical, weight-bearing portion of a vertebra. The vertebral endplate, which is a thin layer of bone at the upper and lower surfaces of the vertebral body, plays an important role because it facilitates nutrient exchange between the vertebral body and disc. The spinal cord runs the length of the spine and passes through each vertebra; nerves exit the spine through spaces between the vertebra to send and receive signals from the rest of the body.

A fully functional spine is characterized by proper spinal alignment and healthy discs. Proper alignment is essential for stability and effective load distribution, while healthy discs provide mobility and shock absorption. Healthy discs are well-hydrated and have sufficient height to allow for passage of nerves and movement of the spine. Healthy endplates are generally smooth and uniform and may be slightly concave.



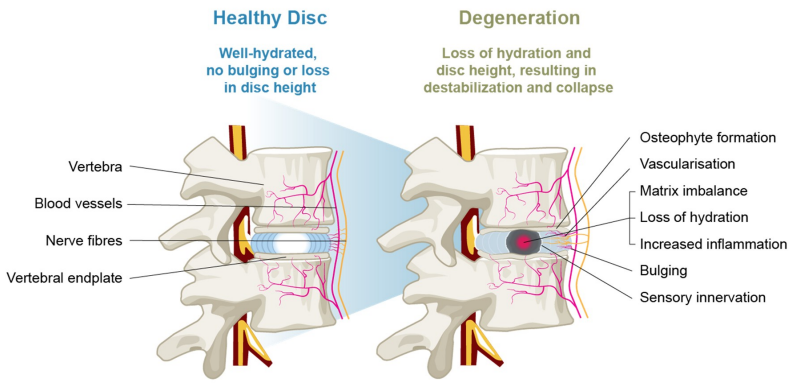


Degenerative Disc Disease

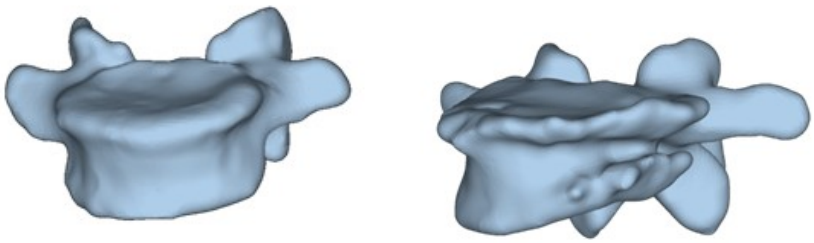
DDD refers to the progressive breakdown of the spinal discs that occurs naturally with age and can be accelerated by factors such as injury, repetitive loading, obesity, or genetic predisposition. DDD can occur in any region of the spine; however, DDD is most prevalent in the lumbar and cervical regions. DDD often causes a loss of disc height and spine function, resulting in compressed nerves and malalignment of the spine. These conditions often lead to chronic pain (nerve impingement, discogenic pain), disability (reduced mobility), and other chronic spinal pathologies, significantly impacting patients' lives. The progression of DDD typically results in worsening symptoms. In its early phase, disc degeneration involves subtle dehydration and minor structural changes, manifesting as discomfort or reduced functionality. These issues can typically be treated with conservative treatment, including physical therapy and pain medication. As the condition progresses, the discs may lose significant height and functionality. Degeneration of the discs may include ruptures, herniation, and may contribute to spinal stenosis (narrowing of the spinal canal). Patients at this phase often experience severe, debilitating pain, and substantial limitations in daily activities. These symptoms may force the patient to consider surgical solutions

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such as spine fusion to improve stability, restore function, and alleviate symptoms. The image below depicts an example of a healthy disc versus a degenerated disc.



Disc degeneration can lead to mechanical stress and damage to the endplates, making the endplate surfaces uneven and coarse. In turn, endplate defects can impair nutrient supply and accelerate disc degeneration, creating a vicious cycle that further contributes to spinal pathology and pain. One study demonstrated the correlation between disc degeneration and vertebral endplate surface irregularities or defects, with an increasing percentage of endplates, up to 48.9%, with disc degeneration exhibiting surface irregularities or defects from the upper spine to lower spine (Feng et al., 2018). The below 3D models depict two vertebral bodies from the same patient. The vertebral body on the left has a smooth surface, and the patient's intervertebral disc at this level is healthy. The vertebral body on the right is from a level in which degeneration has caused endplate irregularities and defects.



If multiple sections and levels of the spine are impacted by DDD, the patient may experience systematic structural abnormalities of the spine, which is broadly referred to as ASD. ASD is often characterized by conditions such as scoliosis (curvature of the spine) or spondylolisthesis (slipping of one vertebra relative to another).

We believe that the prevalence of DDD has significantly increased in recent years due to multiple demographic factors, including an aging population and heightened obesity levels. Low back pain, which is strongly connected to the degenerative process of the intervertebral disc, is the fifth most common cause for doctor visits and affects 7.6% to 37% of patients according to a published literature review (Kos et al., 2018). One study estimated that the overall prevalence of patients diagnosed with DDD to be over 27% and increased with age (Parenteau et al., 2018).

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Current Treatment Landscape

The treatment landscape for DDD spans a continuum of non-surgical and surgical interventions, each addressing different phases of disease progression and patient needs.

Non-Surgical Intervention

Non-surgical interventions are typically the first line of treatment for DDD, aimed at managing symptoms and slowing disease progression without invasive procedures. These approaches typically include physical therapy, pain medications, lifestyle modifications, and alternative therapies, such as chiropractic care or acupuncture. Despite their use, non-surgical approaches have notable shortcomings. They primarily address symptoms rather than the underlying structural degeneration. As degeneration progresses, the loss of disc height and joint stability may become irreversible, requiring surgical intervention.

Surgical Intervention

When non-surgical treatments fail to alleviate debilitating symptoms or disabilities, surgical interventions may become necessary.

The most common surgical intervention and current standard of care is traditional spine fusion. The goals of spine fusion surgery are to relieve pain, improve disability, restore function, and provide a durable solution to prevent the need for subsequent surgeries to achieve positive long-term patient outcomes. During the surgery, the degenerated disc is extracted and replaced with an interbody implant made of titanium, polymer, or bone allograft. Prior to placement, the center of the interbody implant is packed with bone graft material. The role of the interbody device is to restore height (allowing the nerves to exit the canal without being impinged), establish spinal alignment (based on the needs of each patient), and stabilize the spinal segment in the desired position while the graft material promotes bone growth between the two vertebral bodies to form a solid fusion. In most instances, the interbody implants are supplemented with additional fixation devices such as rods, screws, and plates to provide added stabilization. Traditional spine fusion is performed using 2D imaging for pre-operative planning and stock implants that are largely fixed in size and shape.



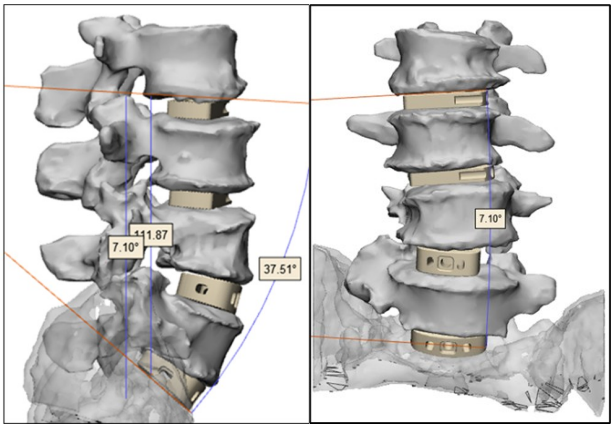
Left to right: images of titanium, polymer, and bone allograft interbody devices.

In lumbar fusion, surgeons may employ various anatomical approaches to access the disc space, including from the front (anterior lumbar interbody fusion (“ALIF”)), from the side (lateral lumbar interbody fusion (“LLIF”)), and from the back (transforaminal interbody fusion), depending on the patient’s pathology and vertebral bone topography. In cervical fusion, the most common anatomical approach is through the front of the neck (anterior cervical discectomy and fusion).

The alignment of the spine following surgery is critically important. Proper alignment of the spine must be considered in three dimensions, which involves coronal correction (correcting side-to-side curvature), sagittal correction (correcting front-to-back curvature), and axial correction (height restoration). If the spine is, or becomes, malaligned, as often measured by missing a desired angle by as little as 11 degrees, the patient will likely continue to have symptoms or require additional surgeries (Tempel et al., 2017). Studies have shown a strong association between spinal malalignment and the degeneration of adjacent spinal segments (adjacent segment disease), and there is a higher risk of undergoing revision surgery if proper sagittal alignment is not achieved during the primary

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surgery (Rothenfluh et al., 2015). The achieved alignment at each treated level can have a profound impact on overall alignment and the risk of needing additional surgery.



Limitations of Traditional Spine Fusion

Despite wide adoption, we believe traditional spine fusion is hindered by several shortcomings, which may contribute to poor clinical outcomes post-surgery. These poor outcomes not only meaningfully impair patients' health and quality of life but also impose a significant economic burden on the healthcare system, with the direct and indirect costs of revision surgery frequently exceeding $100,000 (Raman et al., 2018).

We believe that traditional spine fusion is limited in several ways, including:

•***Lack of Sufficient Pre-Operative Planning***: Traditional spine fusion often lacks robust pre-operative planning, relying on 2D imaging without advanced tools such as 3D modeling. This can limit the surgeons' ability to identify and develop a plan for achieving optimal correction and alignment goals.

•***Poor Fit of Stock Interbody Implants***: Stock implants are delivered to surgery in a large metal tray containing dozens of interbody implants of different shapes and sizes. Stock implants are largely symmetrical in shape and come in pre-defined dimensions, which can fail to match the unique anatomy of each patient and lead to unpredictable alignment. As a result, stock implants may not deliver proper alignment or correct coronal (side to side) imbalance of the spine. The lack of proper fit and correction often results in uneven loading and unpredictable alignment. The graphic below depicts the poor fit of a stock implant to endplates with damaged and uneven surfaces.



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•***Complicated and Time-Consuming Workflow***: Given the limitations of 2D imaging, during the surgery, surgeons must visually choose the correct stock implant from dozens of options while the patient is anesthetized and with the spine exposed. This approach often requires the surgeon to test the fit of multiple implants in the disc space, which involves multiple passes of instruments into and out of the wound and repeated X-ray imaging. This trial process can prolong surgery time and increase radiation exposure, which elevates the risk of secondary complications.

•***Lack of Post-Operative Feedback Incorporation into Future Decision Making***: Without a sufficient pre-operative plan, it can be difficult for surgeons to reconcile achieved outcomes against surgical objectives. Reconciling post-operative data can provide valuable insights into whether the optimal alignment of the spine was successfully achieved. However, in traditional spine fusion, there is no integrated means for reconciling the data and communicating these insights back to surgeons. As a result, critical insights cannot be incorporated into future surgical plans that could help to improve surgical outcomes.

•***Burdensome Inventory Management***: Due to the uniform nature of stock implants, traditional spine fusion requires multiple trays of devices. This can result in an unnecessary, upfront investment from the manufacturers to ensure that there is adequate and properly sterilized inventory on hand for every spine fusion procedure. As a result, we believe that current medical device manufacturers struggle to reach profitability because they must produce stock implants in dozens of sizes and as a result hold large amounts of inventory to address the broad array of patient needs. In addition, stock implants are not delivered sterile to hospitals, requiring additional processing and resulting in additional expenses for hospitals.

We believe that these limitations explain why traditional spine fusion procedures can fail to achieve the desired alignment, which often leads to post-operative complications and revision surgery, as discussed below.

•***High Rates of Malalignment***: Malalignment following spine fusion surgery is a leading cause of poor outcomes, often resulting in complications and revision surgery. Proper spinal alignment is often not achieved following the traditional spine fusion procedure and, according to numerous published studies, post-operative alignment with stock implants is unpredictable. One analysis has shown that 62% of ASD patients remain sagittally malaligned and 25% remain coronally malaligned after traditional spine fusion surgeries (Moal et al., 2014). A study of 578 DDD patients that received one- to two-level fusions using stock implants showed that of the 173 patients that were malaligned pre-operatively, only 29% were corrected to normal alignment through surgery (Leveque et al., 2018). A second study of 335 patients observed that, of 285 patients that were pre-operatively malaligned, only 10% were corrected to normal alignment through spine fusion surgery with stock implants (Manoharan et al., 2025). A third study of 149 DDD patients that received spine fusion surgery using stock implants observed that patients who were malaligned pre-operatively generally had worsened alignment after surgery (Bari et al., 2021).

•***Frequent Complications***: spine fusion procedures using stock implants can lead to malalignment, which may cause several complications, including penetration of the interbody implant through the vertebral endplate into the vertebral body (subsidence), degeneration of adjacent spinal segments (adjacent segment disease), and mechanical complications, which include implant breakage, pseudoarthrosis (failure of the bone to fuse), and the development of malalignment/kyphosis (abnormal alignment) elsewhere in the spine. A systematic review of 40 articles reporting results on lumbar fusion procedures with stock implants in a mix of both DDD and ASD patients showed that subsidence occurred in 13% to 27% of patients (Parisien et al., 2022). In a study of 997 ASD patients that received spine fusion surgery using stock implants, implant-related mechanical complications were the most common complications, affecting 28% of patients by two years post-operatively (Lafage et al., 2024). Another study of 138 ASD patients that underwent spine fusion surgery using stock implants observed a similar rate of implant-related mechanical complications of 30% at two years and increasing to 56% at five years (Hallager et al., 2017). Other published studies have also identified a strong association between spinal malalignment and the development of adjacent level pathology in DDD patients that receive spine fusion surgery using stock implants (Phan et al., 2018).

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•***Increased Likelihood of Revision Surgery***: Post-operative malalignment and the resulting complications significantly increase the likelihood of undergoing revision surgery. Recent publications on traditional spine fusions report rates of revision surgery for mechanical complications between 14% and 32% over a mean postoperative period of one to two years in ASD patients (Kent et al., 2024) (referencing three other published studies)). Other published studies have observed revision rates ranging from 29.5% (Glassman et al., 2020) to 50% (Hallager et al., 2017) in ASD patients receiving spine fusion surgery using stock implants by four-years follow-up. Research has shown that ASD patients requiring revision surgery due to poor alignment suffer from persistent disability and are 93% less likely to achieve meaningful benefit from surgery (Passias et al., 2024). One study examined the revision rate in DDD patients in whom abnormal sagittal alignment was not corrected and found that these patients had 19.4% revision rate by 1-year after surgery (Bari et al., 2021). Another study of 335 DDD patients showed that 285 (85%) of patients had abnormal sagittal alignment preoperatively and only 28 (10%) were corrected through their surgery (Manoharan et al., 2025). Among the 257 patients having abnormal sagittal alignment after surgery, the revision rate was 20.2% with a mean follow-up of 6.5 years. This revision rate was significantly higher than the 7.7% revision rate among patients in whom abnormal sagittal alignment was corrected, 20.2% vs. 7.7% (p=0.0103). Each revision surgery requires six to 12 months of recovery, can compromise patients' health and quality of life, and represents a burdensome and avoidable cost to the healthcare system. Repeat revision surgeries, each requiring six to 12 months of recovery, can compromise patients' health and quality of life, and represent a burdensome and avoidable cost to the healthcare system.

Our Addressable Market Opportunity

Given the limitations of traditional spine fusion surgery, we believe that DDD presents a significant unmet clinical need and economic burden to the healthcare system. We believe that the aprevo Technology Platform effectively addresses the underlying issues in this large, established market by providing personalized surgical plans, patient-specific spine implants, and holistic post-operative feedback.

Our initial focus is on the lumbar fusion market for which the aprevo Technology Platform is FDA 510(k) cleared for all lumbar levels. We estimate our total addressable market opportunity for lumbar fusion procedures to be approximately $13.4 billion, based on an estimated 445,200 lumbar fusion surgeries to be performed in the United States in 2025 and the average selling price of our aprevo Technology Platform. We arrived at the lumbar fusion procedure estimate by analyzing data from the SmartTRAK Report documenting the number of lumbar fusion procedures performed in the United States in 2025. According to the SmartTRAK Report, these estimates are subject to certain assumptions, including a CAGR of approximately 1.5% in the spinal fusion market, consistent with historical growth, resulting from, among other things, an aging U.S. population, which is expected to drive an increase in multilevel fusions in the U.S. spinal fusion market. For additional information on the sources of the SmartTRAK Report, see the section titled "*Market, Industry, and Other Data.*" Total addressable market is the total overall revenue opportunity that we believe is available for the aprevo Technology Platform in the United States if 100% market share is achieved for lumbar fusion surgeries, and it is not a representation that we will achieve such market share. The market share we achieve is subject to a number of assumptions, risks and uncertainties, which could fluctuate from time to time. See the risk factor titled "*The size and expected growth of our total addressable market has not been established with precision and may be smaller than we estimate.*"

We are also developing the aprevo Technology Platform to expand its use into cervical fusion procedures. In April 2025, CMS issued the IPPS 2025 Proposed Rule that includes an NTAP to provide supplemental reimbursement to hospitals for qualifying aprevo cervical procedures. While we believe the IPPS 2025 Proposed Rule will be adopted in its current form, there is no guarantee that the IPPS 2025 Proposed Rule will be adopted in its current form. Assuming we get the necessary additional clearances, we expect to commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. According to the SmartTRAK Report, there will be approximately 372,600 cervical fusion procedures performed in the United States in 2025. We plan to obtain additional FDA clearances prior to commercialization of the aprevo Technology Platform into cervical fusion procedures, and there is no guarantee that we will obtain FDA clearance on the expected timeline, or at all. See the section titled "*— Our Solution—Our 510(k) Submissions*" for more information regarding our FDA 510(k) submissions for our material products and product candidates.

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Given the global prevalence of spine fusion procedures, we believe that a significant market opportunity also exists for the aprevo Technology Platform in international markets (Reisener et al., *J Spine Surg*., 2020). While we are in the early stages of planning and have no definitive timeline for international expansion, as an initial step we intend to engage in various market access initiatives for strategic international regions and obtain any necessary approvals as needed.

We also plan to develop the aprevo Technology Platform to address additional indications and spinal disease states and may target cervical corpectomy and cervical disc arthroplasty solutions. While spine surgery remains our current focus, and we do not currently have a definitive timeline to expand beyond cervical and lumbar at this time, we believe that our platform technology may also benefit other musculoskeletal applications beyond the spine, unlocking greater market potential.

Our Solution

The aprevo Technology Platform represents an end-to-end, integrated digital technology platform designed to deliver better surgical results, reduce the need for revision surgery, and improve long-term outcomes. Our aprevo Technology Platform is the first available solution to provide personalized digital surgical plans and the accompanying aprevo interbody implants that are tailored to each patient's pathology and vertebral bone topography.

The aprevo Technology Platform consists of AI-enabled software solutions, interbody implants designed for each patient's unique pathology and vertebral bone topography, and single-use surgical instruments. Our pre-operative planning software utilizes standard-of-care diagnostic imaging and AI-enabled algorithms to develop personalized digital surgical plans and to design aprevo interbody implants for each patient's pathology and vertebral bone topography. Additionally, the aprevo Technology Platform supports the collection of real-world, post-operative data to inform our digital surgical planning process. The aprevo Technology Platform is commercially available in the United States and is indicated for use in lumbar interbody fusion procedures.

Our Data Asset and Correction AI-Enabled Algorithms

Our aprevo Technology Platform supports our collection of pre- and post-operative data from each patient and utilizes this data to inform future digital surgical plans. This data forms the foundation for the use of AI in the creation of personalized digital surgical plans.

Through our extensive database of radiographic images, we have developed proprietary AI-enabled algorithms to create personalized digital surgical plans for spine surgery. As of March 31, 2025, we estimate that we have used approximately four million radiographic images to train and improve our AI models, analyzed more than one million radiographic images of patients who have undertaken a procedure using our aprevo Technology Platform, and created more than 40,000 digital twin 3D models of patients' anatomies. Our surgical planning process uses the patient's pre-operative spinopelvic parameters, current treatment guidelines, and data from prior surgeries to deliver a personalized surgical plan for surgeon review that has considered treatment protocols and outcomes for thousands of patients. We are continuously improving our AI-enabled algorithms by incorporating the latest clinical learnings and patient data.

The aprevo Technology Platform and Procedure Surgical Workflow

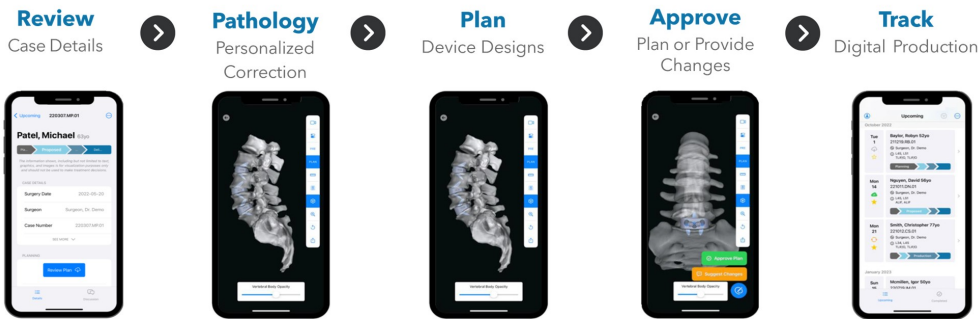
The aprevo Technology Platform offers solutions for the entire surgical workflow, including (i) pre-operative AI-enabled, surgical planning, (ii) intra-operative advanced visualization to support precision placement of aprevo interbody implants, and (iii) post-operative data collection and insights intended to improve the digital surgical planning process. The following describe the impact of the aprevo Technology Platform on the surgical workflow:

- *Pre-Operative*. A procedure using the aprevo Technology Platform begins with designing a personalized digital surgical plan. Utilizing standard-of-care diagnostic imaging, our proprietary AI-enabled software renders a digital twin 3D model of the patient's anatomy, including pathology and vertebral bone topography. This provides a detailed foundation for personalized digital surgical planning. The digital twin is then virtually manipulated to place the patient's vertebral bodies into the appropriate 3D

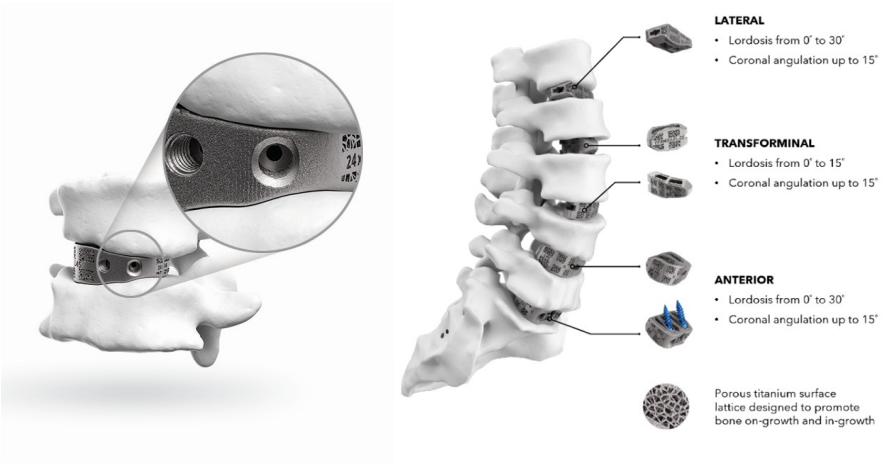
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alignment. This proper alignment creates a new intervertebral space that we then map to create aprevo interbody implants. This process results in a personalized digital surgical plan and aprevo interbody implants that are designed to match the irregular surfaces of each patient's vertebral bone topography and provide the targeted alignment. We interact with the surgeon during the pre-operating planning process through our myaprevo application. The myaprevo application is a digital tool used to display the personalized digital surgical plan and associated metrics that define the desired correction and alignment. The myaprevo application provides interactive 3D visualizations that the surgeon may share with the patient. Each patient's personalized digital surgical plan and aprevo interbody implants are visualized, reviewed, and approved through the myaprevo application.



•*Intra-Operative*. The proposed personalized digital surgical plan and aprevo interbody implant designs are approved by the surgeon, including the exact implant dimensions, the desired position on the endplate, and their preferred surgical approach. Our patient-specific aprevo interbody implants are then 3D-printed by our CMOs. Our aprevo interbody implants are made of medical-grade titanium and designed with a lattice to promote fusion. Our streamlined DPS allows us to deliver aprevo interbody implants to hospitals within 10 business days of surgical plan approval. The implants are delivered to the hospital in a sterile kit along with single-use surgical instruments. In the operating room, our myaprevo application provides the surgeon and the operating staff with access to the personalized digital surgical plan that aids in the ability to accurately place aprevo interbody implants and predictably achieve the surgical plan.



•*Post-Operative*. Following the spine fusion surgery, we collect each patient's operative and post-operative radiographs. The patient's imaging data is measured and analyzed, and a detailed case report, branded as "aprevo intelligence," is generated. The aprevo intelligence report shows pre-operative,

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planned, and post-operative alignment parameters. Surgeons can access comprehensive analytics for each surgery, providing the ability to conduct in-depth review and analysis of the surgical outcome against the operative goals. In addition, ongoing data collection and analysis fuels the algorithms included in the aprevo Technology Platform software. By leveraging the aprevo intelligence reports and post-operative insights, subsequent plans, and designs can be improved to the benefit of future patients.



Key Benefits of the aprevo Technology Platform

We designed the aprevo Technology Platform to address the shortcomings of traditional spine fusion surgery using stock implants. The benefits demonstrated by the aprevo Technology Platform include:

•***Improved alignment and decreased risk of revision spine surgery***. Post-operative spinal malalignment has been shown to have the greatest negative impact on clinical outcomes in spine fusion surgery. Achieving the necessary alignment to address a patient's condition and improve the chances of a successful outcome requires careful planning and precise execution. The aprevo Technology Platform provides 3D anatomical correction, incorporating coronal alignment, sagittal alignment, and height restoration to help surgeons achieve their planned alignment targets. While, as of the date of this prospectus, we are not aware of any head-to-head trials that directly compare aprevo interbody implants to stock implants, retrospective reviews of clinical data suggest that the aprevo Technology Platform improves post-operative alignment, including compared to traditional spine fusion surgery, in both degenerative and deformity cases. These results may not be directly comparable as they are not from a single head-to-head trial. However, improved alignment can reduce the occurrence of post-operative complications, such as subsidence, adjacent segment disease, and mechanical failures, and ultimately lower the need for revision surgery. Interim results from our COMPASS Registry for the first 67 ASD patients at 12-week to one-year follow-up showed that these patients who were treated with the aprevo Technology Platform obtained favorable post-operative alignment status, with no complications related to the aprevo interbody implant, and low revision rates (Kent et al., 2024). Among those patients, the rate of revision surgery attributable to mechanical complications was 1.5% (Kent et al., 2024). The authors noted that this compared favorably to a separately published study on 997 patients treated with stock devices showed that a revision rate for mechanical complications following spinal deformity surgery by one-year follow-up of 8.7% (Lafage et al., 2024). We attribute these results to the improved alignment observed in patients receiving the aprevo Technology Platform.

•***Outcomes-driven pre-operative planning and post-operative insights***. Our pre-operative, 3D modeling, and AI-enabled algorithms informed by large amounts of data helps surgeons plan the surgery that fits with a patient's unique pathology and anatomy. Following the procedure, the patient's post-operative images and

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outcome data are measured and analyzed to inform results against the surgical plan. These post-operative insights allow surgeons to reconcile their plan against the surgical results. As such, their

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preferences and objectives can be fine-tuned, which streamlines the planning process in future patient cases and further enhances precision and performance of future surgeries. An aprevo intelligence report containing a dashboard and details showing the surgical outcomes as measured against personalized surgical plans is provided to the surgeon. Our aprevo Technology Platform not only enables direct feedback to the surgeon, but it also collects data that is incorporated into our algorithms to improve personalized surgical plans for subsequent patients. Patient subsets with similar pathologies and conditions are defined and clustered in our algorithms to improve the design of future surgical plans.

•***Seamless integration and improvement of existing surgical workflows***. The use of the aprevo Technology Platform integrates with, and can improve upon, existing surgical workflow. The aprevo Technology Platform does not require any additional or supplemental pre-surgical imaging beyond what is required for traditional spine fusion surgery. The surgeon can use their preferred surgical access approach and methods as they would with a stock implant without any additional surgical training. Our aprevo interbody implants are compatible with commercially available surgical robots and other accompanying implants, such as rods and screws. We believe this allows for ease of adoption and integration into the surgeon's workflow and preferences and enables surgeon user acquisition and account penetration. As an improvement to the surgical workflow, the surgeon does not need to test fit various interbody sizes during the surgery while the patient is under anesthesia and the spine is exposed. Instead, the surgeon can deliver the aprevo interbody implant to each planned vertebral level without any trialing required.

•***On-demand, made-to-order inventory model with short lead times***. Our aprevo interbody implants are manufactured on-demand by our CMOs and are specific to each patient, their pathology, and vertebral bone topography. This allows us to maintain a capital efficient inventory model. Unlike stock implants, our patient-specific aprevo interbody implants and accompanying single-use surgical instruments are delivered sterile to hospitals typically within 10 business days of surgical plan approval. Our surgical kits do not require additional processing at the hospital, which eliminates additional expenses for hospitals. Since our aprevo interbody implants and accompanying insertion instruments are made on-demand by our CMOs for each patient, we are able to operate an asset-light business model, requiring limited investments in capital equipment and inventory.

Our 510(k) Submissions

The following table sets forth our 510(k) submissions for our material products and product candidates:

Submission	Device Name	Class	Status
K243802	aprevo anterior and lateral lumbar interbody fusion device, aprevo anterior lumbar interbody fusion device with interfixation	II	Cleared
K242599	aprevo Digital Planning	II	Cleared
K243635	aprevo anterior lumbar interbody fusion device	II	Cleared

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	with interfixation		
K242260	aprevo Cervical ACDF; aprevo Cervical ACDF-X; aprevo Cervical ACDF-X NO CAM	II	Cleared
K241477	aprevo anterior lumbar interbody fusion device with interfixation	II	Cleared
K241332	aprevo anterior and lateral lumbar interbody fusion device; aprevo anterior lumbar interbody fusion devices with interfixation; aprevo transforaminal lumbar interbody fusion device	II	Cleared
K241328	aprevo Anterior and Lateral Lumbar Interbody Fusion device (ALIF/LLIF); aprevo Transforaminal Lumbar Interbody Fusion device (TLIF); aprevo Anterior Lumbar Interbody Fusion device with Interfixation (ALIF-X)	II	Cleared

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Submission	Device Name	Class	Status
K241019	aprevo TLIF-C Articulating System	II	Cleared
K232282	aprevo anterior and lateral lumbar interbody fusion device, aprevo transforaminal lumbar interbody fusion device	II	Cleared
K231955	aprevo Digital Segmentation	II	Cleared
K231140	aprevo transforaminal lumbar interbody fusion device	II	Cleared
K222195	aprevo Digital Workflow	II	Cleared
K222009	aprevo anterior lumbar interbody fusion device with interfixation	II	Cleared
K222082	aprevo anterior and lateral lumbar interbody fusion devices, aprevo transforaminal lumbar interbody fusion devices	II	Cleared
K210542	aprevo Transforaminal IBF	II	Cleared
K202034	aprevo Intervertebral Body Fusion Device	II	Cleared
K250827	aprevo lumbar and cervical devices	II	Application submitted, review underway
K250987	aprevo TLIF	II	Application submitted,

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			review underway

Our Clinical Results and Studies

A significant body of evidence supports the clinical benefits of the aprevo Technology Platform for spine fusion, including seven peer-reviewed publications and 12 peer-reviewed abstracts. We are committed to continuing to develop a strong base of clinical evidence and real-world patient outcomes to further support the aprevo Technology Platform's clinical benefits. For example, we are currently conducting a 338-patient study, our COMPASS Registry, to track real-world clinical outcomes in procedures using the aprevo Technology Platform. This registry collects two-year endpoint data studying post-operative alignment, revision rates, and patient outcomes. Interim published data from the first 67 ASD patients in the COMPASS Registry representing a mean follow-up of 14.7 months, as of December 2023, demonstrated a rate of revision surgery attributable to mechanical complications was 1.5% (Kent et al., 2024). A separately published study on 997 patients treated with stock implants showed a revision rate for mechanical complications following spinal deformity surgery by one-year follow-up of 8.7% (Lafage et al., 2024). We believe that these efforts will help continue to generate a robust cadence of publications, increase awareness of the aprevo Technology Platform and drive commercial adoption.

Across the various studies and publications, the aprevo Technology Platform has shown favorable results in three of the most critical success measures in spine fusion surgery: improved post-operative alignment, improved disc space biomechanics, and reduced need for revision surgery due to implant-related complications.

Improved and More Predictable Post-Operative Alignment. Proper spinal alignment is crucial in spine surgery to achieve optimal patient outcomes, minimize complications, and improve long-term function. In a cohort study of 762 ASD patients, the authors concluded that poor post-operative alignment has the greatest impact on clinical outcomes in ASD patients (Krol et al., 2021). Research further indicates that if the spine is, or becomes, malaligned,

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the patient will likely continue to have symptoms or require revision surgery. The primary measures for evaluating post-operative lumbar spinal alignment include:

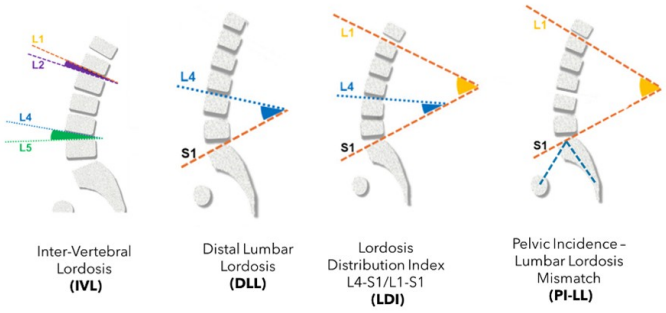
•intervertebral lordosis ("IVL"), which measures the angles between the endplates of two adjacent vertebrae;

•distal lumbar lordosis ("DLL"), which measures the angle between the upper endplate of the L4 vertebral body and the S1 sacral endplate, which is the upper surface of the first sacral vertebra ("S1");

•lordosis distribution index ("LDI"), which is defined as the ratio of lower lumbar lordosis ("L4-S1") to the total lumbar lordosis; and

•pelvic incidence minus lumbar lordosis ("PI-LL mismatch"), which assesses the relationship between pelvic incidence ("PI"), which is the orientation of the pelvis, and lumbar lordosis ("LL"), which describes the curvature of the lower spine.

The following diagram depicts each of these measures:



Several studies have found that procedures using the aprevo Technology Platform can achieve favorable post-operative alignment in short and long construct cases. For example:

•*IVL*: In a study of 217 patients with ASD or DDD treated with an aprevo interbody implant at one or more levels, 82% of lumbar levels treated (n = 365 implants) achieved IVL alignment within five degrees of target, and 97% of lumbar levels treated achieved IVL alignment within 10 degrees of target. (Sadrameli et al., 2024). In another published clinical study using stock implants, the authors found no differences in gained lordosis between six degrees and 20 degrees interbody devices (Lovecchio et al., 2020).

•*DLL*: A study of 72 DDD patients showed that 45% of patients with low DLL (33 of 72 patients) were restored to a normal DLL range after receiving an aprevo interbody implant. (Sadrameli et al. (submitted for publication)).The authors of this study compared their results to those reported in a separate study of 335 patients that received stock implants (Manoharan et al., 2025). They noted that, in the other study, correction of low DLL to normal DLL was achieved in only 10% of patients, with the uncorrected patients having 20.2% incidence of revision surgery at a mean follow-up of 6.5 years.

•*LDI*: In a study of 111 DDD patients, hypolordotic patients (those patients with a reduced or absent inward curve with LDI less than 50%; n=14) treated with an aprevo interbody implant achieved statistically significant improvement in LDI post-operatively. (Mullin et al., 2024). The mean post-operative LDI among these hypolordotic patients was 46%, approaching the normal LDI range (LDI 50-80%). In this study, hyperlordotic patients (those patients with excessive inward curve with LDI greater than 80%; n = 16) had a decrease in LDI trending toward the normal range; however, this decrease did not reach statistical significance. The authors of this study compared their results to those presented in a separate study of 149 DDD patients receiving stock implants and noted that the hypolordotic LDI patients (n = 36) in the other study tended to continue to have abnormally low LDI levels post-operatively and actually worsened as a group (Bari et al., 2021). The authors cited multiple studies

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showing that patients with a post-operative hypolordotic distribution present a greater risk of developing adjacent segment degeneration and are more likely to require revision surgery.

•*PI-LL*: In a multicenter study of 65 ASD patients receiving an aprevo interbody implant, 44.6% of patients achieved targeted PI-LL within five degrees, and only 15.3% of patients missed targeted PI-LL by greater than 15 degrees. (Smith et al., 2023). The authors of this study compared their results to those presented in a report from the International Spine Study Group ("ISSG") in a cohort of 266 patients with ASD that received stock implants. The authors noted that, compared with the ISSG cohort, utilization of aprevo interbody implants resulted in significant improvement in achieving PI-LL target within five degrees of the pre-operative plan (44.6% vs. 31.5%, P = 0.046). Furthermore, compared to ISSG cases, utilization of aprevo interbody implants led to a significant reduction in cases in which the PI-LL target was missed by greater than 15 degrees (15.3% vs. 30.8%, P = 0.012). In another multicenter study of 135 DDD patients, among patients who were pre-operatively malaligned, alignment was restored (PI-LL restored to less than 10 degrees) in 44% of the patients (23 of 52 patients) when an aprevo interbody implant was used (Asghar et al., 2024). The authors of this study compared their results to a multicenter study of 578 patients that received stock implants, where only 29% of pre-operatively malaligned patients experienced PI-LL restoration using stock implants (Leveque et al., 2018). The authors found that the results using aprevo interbody implants to represent a statistically significant improvement compared with stock implants.

Improved Disc Space Biomechanics. In addition to providing the necessary alignment, interbody fusion devices play a central role in restoring and stabilizing the biomechanics of the disc space. However, the incongruity between an irregularly shaped vertebral endplate and the uniform surfaces of a stock interbody fusion device can create point contact between the interbody device and the endplate, causing uneven load distribution which can lead to implant subsidence or pseudarthrosis. Subsidence of the implant occurs when the interbody device penetrates the vertebral endplate and intrudes into the vertebral body during the post operative healing process. In these situations, alignment may be altered, and height restoration may be reduced or lost leading to the recurrence of pain. Pseudoarthrosis, which is a failure of the bone graft to fuse the two vertebral bodies into a single unit, can occur if the load on the bone graft is not evenly distributed across the disc space. After a period of time, the failure to achieve a fusion also alters the biomechanics of the disc space and this is most typically manifested by a mechanical failure elsewhere, such as a rod fracture. The goal of the endplate matched design of the aprevo interbody device is to increase the contact area between the irregular surface of the vertebral endplate to distribute loads more evenly across the disc space including loading of the bone graft. Unfortunately, an assessment of contact area across a three-dimensional endplate cannot be performed with conventional 2-dimensional X-rays, rather, a 3D analysis from a post-operative CT is required. Because a CT exposes the patient to harmful radiation, this type of post-operative imaging is relatively infrequent. However, in some situations, post-operative CT's are the standard of care, and these provide a rare and valuable opportunity to analyze endplate to implant contact, as well as assess the occurrence of subsidence and pseudoarthrosis. In a study using one-year post-operative CT imaging to evaluate the implant-endplate contact area, subsidence and fusion in a series of 15 patients receiving 24 aprevo interbody implants, the implant-endplate contact area ratio was determined to be 93.9%, fusion was visible in 100% of levels and 95.8% of levels were free of subsidence. The authors concluded that aprevo interbody implants can provide nearly complete contact with endplate surfaces regardless of the individual endplate morphology, noting that this may contribute to improved interbody fusion rates, less subsidence, maintenance of alignment, and potentially decreased risk of implant-related complications (Ames et al., 2024).

Reduced Likelihood of Revision Surgery. Achieving optimal alignment has been shown to prevent mechanical complications and reduce the need for revision surgery, significantly improving patient quality of life. Clinical data suggest that procedures using the aprevo Technology Platform result in a lower rate of revision surgery relative to procedures using stock implants. Interim published data from the first 67 ASD patients in the COMPASS Registry representing a mean follow-up of 14.7 months, as of December 2023, demonstrated a rate of revision surgery attributable to mechanical complications was 1.5% (Kent et al., 2024). A separately published study on 997 patients treated with stock implants showed a revision rate for mechanical complications following spinal deformity surgery by one-year follow-up of 8.7% and 14.4% by two-year follow-up (Lafage et al., 2024). A separate group of surgeons performed a multi-center analysis of a similar cohort of 115 ASD patients who were treated with the aprevo Technology Platform finding that only 3.5% of patients required revision surgery at two-year follow-up.

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COMPASS Registry

The COMPASS Registry is an observational, prospective registry designed to collect and evaluate data on patients with degenerative spinal conditions for a period of two years following surgery using the aprevo Technology Platform. We completed enrollment of 338 patients across 16 centers in the United States in the fourth quarter of 2024 and anticipate final data to be released in early 2027.

Eligible patients must meet inclusion criteria specified for the registry. Generally, patients must be adults who have been diagnosed with a degenerative condition of the lumbar spine that is appropriately treated with a lumbar fusion, and a clinical decision must have been made to use the aprevo Technology Platform in their spine fusion surgery prior to enrollment in the COMPASS Registry. The procedure must include placement of one or more aprevo interbody implants using an anterior, lateral, oblique, or transforaminal approach between the L1 and S1 vertebra. Patients are excluded if they have limited life expectancy for the study duration, have a known allergy to implant materials, are pregnant or intend to be, have an infection or inflammation, or have morbid obesity.

Patients are evaluated at the post-operative time points of six weeks, six months, one year and two years. The primary outcome measures include alignment, complications, and revisions, and the secondary outcome measures are Patient-Reported Outcome Measures to assess pain, function, treatment satisfaction, and quality of life.

Interim results from the first 67 ASD patients in our COMPASS Registry, from nine centers at 12-week to one-year follow-up with a mean follow-up time of 14.7 months, have been published (Kent et al., 2024). Overall, the results demonstrated that ASD patients who were treated with the aprevo Technology Platform obtained favorable post-operative alignment status, with no complications related to the aprevo interbody implant, and low revision rates. Among 44 patients with pre-operative severe overall deformity (based on a combined score of three alignment parameters) 16 improved to moderate deformity and nine to mild deformity. The percentage of patients starting in the severe PI-LL category was reduced from 55% pre-operatively to 12% post-operatively, with 38% improving from pre-operative moderate or severe PI-LL to a PI-LL of zero. Early complications requiring revision surgery consisted of two reoperations for screw malposition within 90 days (unrelated to the aprevo interbody implant). Between 90 days and one year, there was one revision surgery at nine months post-operatively due to proximal junctional kyphosis. This represents a revision rate of 1.5% attributable to a mechanical complication not related to the aprevo interbody implant and the authors of this study noted that this compares favorably to recent publications on traditional spine fusions reporting rates of revision surgery for mechanical complications between 14% and 32% over a mean postoperative period of two years in ASD patients (Kent et al., 2024).

As of April 2025, 264 patients in our COMPASS Registry have reached their one-year follow-up, consisting of 50% DDD patients and 50% ASD patients. Among the 264 patients, 2.7% (seven of 264 patients) underwent revision surgeries within the six week to one year timeframe. Out of 132 DDD patients with a minimum one-year follow-up, there was one revision for pseudoarthrosis combined with a wound infection, representing a revision rate of 0.7% (one of 132 patients) among DDD patients. This mechanical complication was considered to be unrelated to the aprevo interbody implant, and clinical data has shown that patients who develop a postoperative infection requiring revision surgery are 12 times less likely to achieve a fusion (Andrés-Cano et al., 2018). Of the 132 ASD patients, there were three revisions for proximal junctional kyphosis, representing a revision rate of 2.3% (three of 132 patients). Of the remaining three revision surgeries, none were for mechanical complications, two were attributable to vertebral body fractures due to surgical error and one was attributable to a neurological complication.

Key Publications

The table below lists key peer-reviewed publications, as well as abstracts or preprints that are not peer-reviewed that discuss the clinical benefits of the aprevo Technology Platform.

Several of these studies were conducted with small sample sizes and were not powered for statistical significance, did not control for other clinical variables, or have other design limitations (e.g., the studies were and are not randomized controlled trials, the pre-operative planning process is not standardized, and goals for alignment may differ due to surgeon preferences). The term “statistical significance” refers to the likelihood that a result or relationship is caused by something other than random chance or error. Statistical significance is measured by a “p-value,” which indicates the probability value that the results observed in a study were due to chance alone. A p-value

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of less than 0.05 is generally considered statistically significant, meaning that the probability of the results occurring by chance alone is less than five percent. The lower the p-value, the less likely that the results observed were random. In addition, unless noted otherwise, all of the listed studies were sponsored, funded, or supported by Carlsmed, or involved employees or consultants of Carlsmed, and are identified as such in the table. Sponsorship of a study means taking responsibility for the initiation, management, and financing of a clinical investigation. Funding clinical research entails covering the costs of a study in full or in part. Supporting a study means providing free or discounted products or services for purposes of clinical research.

Several of the studies compare results obtained using aprevo interbody implants with the results reported in separate studies involving stock implants. These results may not be directly comparable as they are not from a single head-to-head trial. A variety of factors may impact cross study comparisons, including variations in study design, patient selection criteria, and other protocols. As a result, it is important to consider the conclusions from such comparisons in light of the totality of available information. We are not aware of any direct head-to-head trials between aprevo interbody implants and stock implants.

Reference	**Source**	**Authors, Description, and Conclusions**
Ames et al.	*Int'l Journal of Spine Surgery. 2024 Aug 27;18(Suppl 1):S41–S49. doi: 10.14444/8640* *Tomographic Assessment of Fusion Rate, Implant-Endplate Contact Area, Subsidence, and Alignment With Lumbar Personalized Interbody Implants at 1-Year Follow-Up*	Authors: Christopher P. Ames,[1] Justin S. Smith,[1,3] Rodrigo J. Nicolau[2] Description: "This retrospective study included patients treated for adult spinal deformity at a single site and implanted with personalized interbody devices at L4 to L5 or L5 to S1 for segmental stabilization and alignment correction, who received 1-year post-operative CT images as part of their standard of care. An evaluation using 3-dimensional thin-section scans was conducted. Implant-endplate contact and signs of fusion were assessed in each CT slice across both endplates. The degree of subsidence as well as measures of segmental and global lumbar alignment were also assessed." Results: "Fifteen patients were included in the study, with a mean age of 68.2 years. Follow-up ranged between 9 and 14

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			months. Twenty-six total lumbar levels were implanted; 20 with PIC devices via the anterior lumbar interbody fusion approach, 2 with stock cages via the anterior lumbar interbody fusion approach, and 4 with PIC devices via the transforaminal lumbar interbody fusion approach. CT analysis of PIC-implanted levels found an overall implant-endplate contact area ratio of 93.9%, a subsidence rate of 4.5%, a fusion rate of 100%, and satisfactory segmental and global lumbar correction compared with the preoperative plan." Conclusion: "This 1-year follow-up CT analysis of [personalized implant cages] provides a unique opportunity to assess implant-to-endplate contact. Personalized interbody devices appear to offer a high level of endplate-to-implant contact at 1-year follow-up, which may contribute to improved interbody fusion rates, less subsidence, maintenance of alignment, and potentially decreased risk of implant-related complications."
Asghar et al.		*Int'l Journal of Spine Surg. 2024 Aug 26;18(Suppl 1):S24–S31. doi: 10.14444/8638*	Authors: Jahangir Asghar,[1] Ashvin I. Patel,[1] Joseph A. Osorio,[1] Justin S. Smith,[1,3] John Small,[5] Jeffrey P. Mullin,[1] Atman Desai,[1] Michele Temple-Wong,[2] Rodrigo J. Nicolau[2]

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		Mismatch Between Pelvic Incidence and Lumbar Lordosis After Personalized Interbody Fusion: The Importance of Preoperative Planning and Alignment in Degenerative Spine Diseases	Description: “This multicenter retrospective analysis assessed radiographic pre- and post-operative spinopelvic alignment (PI−LL) in 135 patients who underwent 1- or 2-level lumbar fusions with personalized interbody implants for degenerative (nondeformity) indications. The aim was to assess the incidence of malalignment (PI−LL greater than or equal to 10 degrees) both before and after fusion surgery and to determine the rate of alignment preservation and/or correction in this population.” Results: There were 135 patients included in this study. Of 83 patients who were aligned preoperatively, alignment was preserved in 76 (91.6%) and worsened in 7 (8.4%). Among the 52 preoperatively malaligned patients, alignment was restored in 23 (44.2%), and 29 (55.8%) were not fully corrected. Among patients who were preoperatively aligned, there was no statistically significant difference in either the “preserved” or “worsened” groups between stock devices and personalized interbody devices. In contrast, among patients who were preoperatively malaligned, there was a statistically significant increase in the “restored” group (P=0.046) and a

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			statistically significant decrease in the "worsened" groups in patients with personalized interbodies compared with historical stock implant data ($P < 0.05$). Conclusion: "Compared with a historical cohort with stock implants, the use of personalized interbody implants in short-segment fusions has shown a statistically significant improvement in restoring patients to normative PI−LL. The planning process can be improved by incorporating spinopelvic parameters, particularly for patients with high PIs. Personalized interbody implants can help to improve the alignment of pre-operatively malaligned patients. In addition, the use of 3D pre-operative planning, combined with personalized implants to achieve the plan, provides an important tool to clinicians to aid in planning and achieving optimal sagittal alignment and minimizing increased stress concentrations at adjacent discs."
Kent et al.		*Int'l Journal of Spine Surgery. 2024 Aug 23;18(Suppl 1):S6–S15. doi: 10.14444/8636* *Radiographic Alignment in Deformity Patients Treated With Personalized Interbody Devices: Early Experience*	Authors: Roland S. Kent,[1] Christopher P. Ames,[1] Jahangir Asghar,[1] Donald J. Blaskiewicz,[1] Joseph A. Osorio,[1] Chun-Po Yen,[1] Jeffrey Mullin,[1] Justin S. Smith,[1,3] John M. Small,[1] Michele Temple-Wong,[2] Jeffrey D Schwardt[2] Description: "COMPASS is a post-market observational registry of patients enrolled either before or after index surgery and then

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		From the COMPASS Registry	followed prospectively for 24 months. Sagittal alignment was assessed with SRS-Schwab modifiers for pelvic incidence minus lumbar lordosis, pelvic tilt, and T1 pelvic angle. Summed SRS-Schwab modifiers were utilized to assign overall deformity status as mild, moderate, or severe. Complications were extracted from patient medical records." Results: "Overall postoperative sagittal alignment improved with a significant decrease in the mean sum of SRS- Schwab

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			modifiers that correlated strongly to improvements in pelvic incidence minus lumbar lordosis. Among 44 patients with preoperative severe overall deformity, 16 improved to moderate and 9 to mild deformity. Adverse event reports and complications are listed in Table 5 and include nonserious AEs and complications. Complications occurred for 13 patients (19.4%), including 2 medical and 10 surgical complications ≤90 days postoperatively and 1 surgical complication >90 days postoperatively. Two patients (3%) with surgical complications required reoperation ≤90 days postoperatively to address screw malposition or loosening. One mechanical complication with PJK required reoperation 9 months postoperatively. No complications directly related to the personalized interbody devices were identified." Conclusion: "This study demonstrates that ASD patients whose surgical treatment included personalized interbody devices can obtain post-operative alignment status during the early post-operative

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			period that is at least comparable to published results without complications directly attributable to the personalized interbody devices. As patient enrollment continues to increase and follow-up matures, we anticipate the ability to more definitively assess the potential short- and long-term benefits of personalized interbody devices."
Mullin et al.		*Int'l Journal of Spine Surgery. 2024 Aug 26;18(Suppl 1):S32–S40. doi: 10.14444/8639* *Changes in Alignment at Untreated Vertebral Levels Following Short-Segment Fusion Using Personalized Interbody Cages: Leveraging Personalized Medicine to Reduce the Risk of Reoperation*	Authors: Jeffrey P. Mullin,[1] Jahangir Asghar,[1] Ashvin I. Patel,[1] Joseph A. Osorio,[1] Justin S. Smith,[1,3] Christopher P. Ames,[1] John Small,[1] Atman Desai,[1] Adrien Ponticorvo,[2] Rodrigo J. Nicolau[2] Description: "This retrospective study evaluated radiographic measurements from 111 consecutively treated patients diagnosed with degenerative spinal conditions and treated with a short-segment fusion of L4 to L5, L5 to S1, or L4 to S1 using [personalized interbody cage] implant(s) within 6 months of the fusion procedure. Comparisons of intervertebral lordosis for treated and untreated levels as well as LDI pre- and post-operatively were performed." Results: "In patients with a preoperative hypolordotic distribution (LDI < 50%), statistically significant increases were found in LDI

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			postoperatively, approaching the normal LDI range (LDI 50%–80%) (P=0.030). Likewise, patients with hyperlordotic distribution preoperatively (LDI > 80%) experienced a decrease in LDI postoperatively, trending toward the normal range, although the changes were not statistically significant." Conclusion: "[Patient specific interbody (PSI)] implants may provide a benefit for patients, particularly those with hypolordotic distribution preoperatively, which showed significant improvements in LDI and IVL angle at L5 to S1 with no measured reciprocal changes. Personalized implants have the potential to further improve patient outcomes by allowing surgeons to achieve individual lordosis correction goals identified during the planning process and achieve a more

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			predictable lordosis at the distal segments (L4−S1). Focusing on LDI in addition to global lordosis is an important factor that should be addressed during the planning process. Further studies will be needed to fully explore the predictability of IVL changes at adjacent unfused levels when using PIC implants."
Sadrameli et al. (2024)		*Int'l Journal of Spine Surgery. 2024 Aug 23;18(Suppl 1):S16–S23. doi: 10.14444/8637* *Predictability in Achieving Target Intervertebral Lordosis Using Personalized Interbody Implants*	Authors: Saeed S. Sadrameli,[1] Donald J. Blaskiewicz,[1] Jahangir Asghar,[1] Christopher P. Ames,[1] Gregory M. Mundis,[1] Joseph A. Osorio,[1] Justin S. Smith,[1] Chun-Po Yen,[1] Sigurd H. Berven,[1] Ashvin I. Patel,[1] Michele Temple-Wong,[2] Rodrigo J. Nicolau,[2] Roland S. Kent[1] Description: "This is a retrospective study of 217 patients with spinal deformity or degenerative conditions. Patients were included if they received 3D-printed personalized interbody implants. The desired intervertebral lordosis (IVL) angle was prescribed into the device design for each personalized interbody (IVL goal). Standing post-operative radiographs were measured, and the IVL offset was calculated as IVL achieved minus IVL goal." Results: "Among the 365 treated levels, IVL offset was 1.1 degrees ± 4.4 degrees (mean ± SD). IVL was achieved within 5 degrees of the plan in 299 levels (81.9%). IVL offset

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			depended on the approach of the lumbar interbody fusion and was achieved within 5 degrees for 85.9% of LLIF, 82.6% of transforaminal lumbar interbody fusions and 78.6% of ALIFs. Ten levels (2.7%) missed the planned IVL by >10 degrees. ALIF and LLIF levels in which the plan was missed by more than 5 degrees tended to be overcorrected." Conclusion: "Personalized interbody implants successfully attained the IVL goal within a 1.1-degree margin, facilitating essential foundational alignment crucial for overall sagittal alignment. However, overcorrection observed with ALIF and LLIF implants implies the necessity for more coordinated planning to integrate alignment changes induced by posterior instrumentation. In sum, this study advocates for the adoption of personalized interbody cages as a reliable method for consistently achieving IVL objectives."
Sadrameli et al.		Submitted for publication *An evaluation of Patient Specific Interbody Devices to Achieve Planned Distal Lumbar Lordosis in Patients with Lumbar Degenerative Pathology*	Authors: Saeed Sadrameli,[1] Joseph Osorio,[1] Ashvin Patel,[1] Aaron Clark,[1] Jeffrey Mullin,[1] Jonathan Hobbs, Adil Samad, Sigurd Berven[1] Description: "The study is a retrospective analysis of a cohort of 72 patients treated with instrumented lumbar fusion at L4 or L5 to the sacrum, with a total of 102 levels fused. The inclusion criteria was [lumbar degenerative pathology] associated with at least one level of spondylolisthesis

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			(any degree) treated with a [patient specific interbody (PSI)]. Patients with prior lumbar fusion, additional spinal pathologies, or fusion extending above L3 were excluded. A Pearson correlation test (comparing post-operative to plan) and proportion z-test was performed to assess statistical significance.”

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			Results: “The post-operative analysis demonstrated that DLL improved from 34.4 degrees (±9.3 degrees) preoperatively to 38.1 degrees (±8.3 degrees) post-operatively. This correlated significantly with the planned DLL (r=0.79, P<0.001), showing that the targets were achieved. Preoperative DLL was <35 degrees in 46% of patients (33/72) and 45% of this group (15/33) were corrected to a DLL of ≥35 degrees. This represents a statistically significant increase compared to Manoharan, et al. (P<0.001) in which only 10% improved to a DLL of ≥35 degrees.” Conclusion: “This study demonstrates that 3D planning combined with PSI implants resulted in highly predictable alignment in patients with lumbar degenerative pathology and [degenerative spondylolisthesis] or [isthmic spondylolisthesis] across all surgical approaches. The significant improvement in patients having pre-operative DLL less than 35 degrees, who were corrected to a DLL of greater than or equal to 35 degrees, suggests that PSI may help to reduce the risk of revision surgery for adjacent segment degeneration in these patients.”
Smith et al., 2023		*Global Spine Journal 2025 Mar;15(2):930-939. doi: 0.1177/*	Authors: Justin S. Smith,[1,3] Gregory M. Mundis, Joseph A. Osorio,[1] Rodrigo J. Nicolau,[2] Michele

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			21925682231216926. Epub 2023 Nov 21. *Analysis of Personalized Interbody Implants in the Surgical Treatment of Adult Spinal Deformity*	Temple-Wong,[2] Renaud Lafage,[1] Shay Bess,[4] Christopher P. Ames[1] Description: "A report from the International Spine Study Group (ISSG) noted that surgeons failed to achieve alignment goals in nearly two-thirds of 266 complex adult deformity surgery (CADS) cases. We assess whether personalized interbody spacers are associated with improved rates of achieving goal alignment following adult spinal deformity (ASD) surgery." Results: "Compared with the ISSG CADS cohort, utilization of personalized interbodies resulted in significant improvement in achieving PI-LL <5 degrees of plan (P=0.046) and showed a significant reduction in cases with PI-LL >15 degrees of plan (P=0.012)." Conclusion: "Segmental alignment was achieved close to plan for levels with personalized interbodies, with mean difference between goal and achieved within one degree. Compared with the ISSG CADS cohort, utilization of personalized interbodies resulted in significant improvement in achieving PI-LL less than five degrees of plan and showed a significant reduction in cases with PI-LL greater than 15 degrees of plan. Collectively, this study supports use of personalized

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			interbodies as a means of better achieving goal segmental sagittal and coronal alignment and significantly improving achievement of goal PI-LL compared with stock devices."
Smith et al.		Submitted for publication Subject to acceptance	Authors: Justin Smith,[1,3] Christopher Ames,[1, 4] Joseph Osorio,[1,4] Donald Blaskiewicz,[1, 4] Robert Robinson, Chun Po Yen,[1, 4]

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			Two-Year Revision Rate for Mechanical Complications Following Adult Spinal Deformity Surgery Using 3D Preoperative Planning and Personalized Interbody Implants	Sigurd Berven,[1] J. Rush Fisher, Gregory Mundis, Jr.,[1] Mark Tantorski, Joseph Gjolaj,[1] Roland Kent[1,4] Description: "Multicenter data on mechanical complications leading to reoperation were collected on 115 ASD patients with [personalized interbody ("PI")] implants and minimum 2-year follow-up. This cohort was compared to a similar multicenter ASD cohort whose treatment did not include PI implants using the same indications for reoperation. Statistical comparisons were performed, and significance levels assessed. Pre- and post-operative lumbar alignment parameters were compared." Results: "In the similar multicenter ASD cohort whose treatment did

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			not include PI implants, 144 of 997 patients (14.4%) required revisions due to mechanical complications at 6 weeks to 2-years, consisting of revisions for implant failure (6.1%) and for x-ray imbalance (8.3%). The PI cohort showed significantly fewer revisions at 6 weeks to 2-years (p=0.0010), with 4 of 115 (3.5%) requiring reoperation, consisting of one iliac bolt breakage (0.9%) and 3 cases x-ray imbalance (PJK) (2.6%).” Conclusion: “Patients receiving a 3D plan and PI device showed significantly reduced reoperation rates compared to the multicenter cohort, and a significant improvement in post-operative alignment versus pre-op. These findings suggest that achieving planned alignment targets with PI devices is associated with reduced need for revision surgery for mechanical complications. This reduced

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			rate of revisions for mechanical complications may improve patient outcomes and reduce cost."

[1] Receives consulting fees from Carlsmed.
[2] Employee of Carlsmed.
[3] Stockholder of Carlsmed.
[4] Receives research support from Carlsmed.
[5] Clinical research investigator for Carlsmed.

Industry Publications

The table below identifies the industry sources that we relied upon in estimating various factors relating to the lumbar fusion market and other related matters.

Reference	**Source**	**Authors, Description, Conclusions and Relevant Findings**
Andrés-Cano et al.	*Orthopedic Surgery. 2018 May 16;10:89–97. doi: 10.1111/ os.12371* *Surgical Infection after Posterolateral Lumbar Spine Arthrodesis: CT Analysis of Spinal Fusion*	Authors: Pablo Andrés-Cano, Ana Cerván, Miguel Rodríguez-Solera, Jose Antonio Ortega, Natividad Rebollo, Enrique Guerado aprevo Technology Platform not studied Conclusion: "Deep infection after instrumented lumbar spine arthrodesis is a common complication that compromises the radiographic outcome of surgery. Patients who develop a postoperative infection and

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			require debridement surgery are 12 times less likely to achieve satisfactory radiological fusion."
Bari et al.		*Neurospine. 2021 Sep 30;18(3):543-553. doi:0.14245/ ns.2040744.372* *Lordosis Distribution Index in Short-Segment Lumbar Spine Fusion – Can Ideal Lordosis Reduce Revision Surgery and Iatrogenic Deformity?*	Authors: Tanvir Johanning Bari, Martin Heegaard, Rachid Bech-Azeddine, Benny Dahl, Martin Gehrchen aprevo Technology Platform not studied Relevant Findings: "Patients with normal postoperative LDI had predominantly normal preoperative LDI (74%). Similarly, patients with hypolordotic postoperative LDI were mainly hypolordotic preoperatively (71%) and patients with postoperative hyperlordosis were also hyperlordotic preoperatively (75%)." "Comparing LDI groups, results showed a significantly increased 1-year all- cause revision rate in the hypolordotic group compared to the normal LDI group (19.4% vs. 6.5%, p= 0.046)."

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			The average LDI of hypolordotic patients preoperatively was 38.5 degrees ± 24.8 degrees. The average LDI of this group of hypolordotic patients post-operatively worsened to 32.8 degrees ± 22.3 degrees. Similarly, the average LDI of hyperlordotic patients preoperatively was 85.8 degrees ± 15.7 degrees. The average LDI of this group of hyperlordotic patients post-operatively worsened to 90.6 degrees ± 8.5 degrees.
Diebo et al.		*J Bone Joint Surg Am. 2024;106:445-57 doi:10.2106/ JBJS.23.00672.* *Sagittal Alignment in the Degenerative Lumbar Spine: Surgical Planning*	Authors: Bassel G. Diebo, Mariah Balmaceno-Criss, Renaud Lafage, Christopher L. McDonald, Daniel Alsoof, Sereen Halayqeh, Kevin J. DiSilvestro, Eren O. Kuris, Virginie Lafage, Alan H. Daniels aprevo Technology Platform not studied Relevant Findings: “The first concept is to not create malalignment. The spinal surgery community remains poor at restoring alignment, with 1 study showing that 28% of patients remained malaligned following short-segment

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			fusion for degenerative lumbar pathologies. Despite advances in segmental fixation and the power of newer interbody devices, there remains a high prevalence of iatrogenic sagittal plane deformity following short-segment fusions. Subsequent management of these patients can include the need for invasive procedures such as pedicle subtraction osteotomies, with complication rates as high as 60%. This indicates the importance of careful preoperative planning at the index surgical procedure.”
Feng et al.		*SPINE. 2018 Jul 1;43(13):919-927. doi: 10.1097/ BRS.0000000000002450* *Lumbar Vertebral Endplate Defects on Magnetic Resonance Images - Classification, Distribution Patterns,*	Authors: Zhiyun Feng, Yuanhao Liu, Ge Yang, Michele C. Battié, Yue Wang aprevo Technology Platform not studied

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		and Associations with Modic Changes and Disc Degeneration	Results: "Endplate defects were observed in 27.8% of endplates studied. Greater age was associated with the presence of endplate defects. Focal defects were the most common (13.5%), followed by erosive defects (11.1%) and corner defects (3.2%). Defect types also differed in size and distribution patterns. Endplate defects and MCs had similar distribution patterns in the lumbar spine. The presence of endplate defects were associated with the presence of MCs (odds ratio ¼ 4.29, $P < 0.001$), and associated with less disc signal intensity and disc height, and greater disc bulging ($P < 0.05$)." Relevant Findings: "Overall, the prevalence rate of endplate

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			defects of any type increased progressively from T12/L1 to L5/S1, with the highest prevalence at the L5/S1 disc level (48.9%, Figure 3).”
Glassman et al.		*Spine Deform. 2020 December ; 8(6): 1333–1339. doi:10.1007/ s43390-020-00154-w.* *Cost Effectiveness of Adult Lumbar Scoliosis Surgery: An As- Treated Analysis from the Adult Symptomatic Scoliosis Surgery Trial with Five Year Follow-up*	Authors: Steven D. Glassman, Leah Y. Carreon, Christopher I. Shaffrey, Michael P. Kelly, Charles H. Crawford 3rd, Elizabeth L. Yanik, Jon D. Lurie, R. Shay Bess, Christine R. Baldus, Keith H. Bridwell aprevo Technology Platform not studied Relevant Findings: Patients with revision, N=36 of 122 in total cohort, equals 29.5% (Figure 4).
Hallager et al.		*SPINE. 2017Jul 15;42(14):E855-E863. doi: 10.1097/ BRS.0000000000000199.* *Radiographic Predictors for Mechanical Failure After Adult Spinal Deformity Surgery: A Retrospective Cohort Study in 138 Patients*	Authors: Dennis W Hallager, Sven Karstensen, Naeem Bukhari, Martin Gehrchen, Benny Dahl aprevo Technology Platform not studied Results: “ A total of 138 patients with median age of 61 years were included for analysis. Follow up ranged 2.1 to

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			6.8 years. In total 47% had revision and estimated failure rates were 16% at 1 year increasing to 56% at 5 years." Relevant Findings: "From CIF probability estimation, the rate of mechanical failure was 16% at 1 year, 30% at 2 years, 41% at 3 years, 50% at 4 years and 56% at 5 years."
Kos et al.		*Medical Archives. 2019 Dec;73(6):421-424. doi:10.5455/ medarh.2019.73.421-424* *A Brief Review of the Degenerative Inteervertebral Disc Disease*	Authors: Natasa Kos, Lidija Gradisnik, Tomaz Velnar aprevo Technology Platform not studied Relevant Findings: The incidence of low back pain varies widely among different reports. It is the fifth most common cause for the visit to the doctor and affects 7.6 to 37% of patients. Long lasting pain and movement difficulties are experienced by 10% of patients. The degeneration of intervertebral disc tissue starts sooner than the

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			degeneration of other muscular and skeletal tissues and is in many cases asymptomatic.

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Krol et al.		*Spine J. 2021 Sep;21(9 Suppl):S69. doi:10.1016/ j.spinee.2021.05.166* *Radiographic Malalignment Has a Far Greater Impact on Clinical Outcomes than Perioperative and Postoperative Complications in ASD Surgery*	Authors: Oscar Krol, Peter G. Passias, Virginie Lafage, Eric O. Klineberg, Shay Bess aprevo Technology Platform not studied Results: "Through CIT ranking, malalignment was found to have the greatest negative effect on both ODI and SRS, followed by neurological complications."
Lafage et al.		*Spine. 2024 Jun 15;49(12):829-839. doi:10.1097/ BRS.0000000000004969* *Complication Rates Following Adult Spinal Deformity Surgery: Evaluation of the Category of Complication and Chronology*	Authors: Renaud Lafage, R Daniel Bass, Eric Klineberg, Justin Smith, Shay Bess, Christopher Shaffrey, Douglas Burton, Han Jo Kim, Robert Eastlack, Gregory Mundis Jr., Christopher Ames, Peter Passias, Munish Gupta, Richard Hostin, Kojo Hamilton, Frank Schwab, Virginie Lafage aprevo Technology Platform not studied Relevant Findings: Reoperation at one year due to implant-related complications =

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			29 (implant failure), 10 (implant malposition) and 58 (X-ray imbalance), totaling 97 of 997 patients = 9.7%. (Note – implant related complications include implant malposition, implant failure and X-ray imbalance whereas mechanical complications include only implant failure and X-ray imbalance.) Implant related mechanical complications at 6 weeks to one year were 54 (implant failure), and 104 (X-ray imbalance). Implant related mechanical complications between one and two years were 65 (implant failure), and 57 (X-ray imbalance), totaling 280 of 997 patients = 28.1%. Reoperations due to mechanical complications between 6 weeks to one year were 29 (implant failure), and 58 (X-ray imbalance). Implant related mechanical complications between one and two years were 32 (implant failure), and 25

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			(X-ray imbalance), totaling 144 of 997 patients = 14.4%.
Leveque et al.		*Spine. 2018 Jul 1;43(13):E782-E789. doi:10.1097/ BRS.0000000000002500.* *A Multicenter Radiographic Evaluation of the Rates of Preoperative and Postoperative Malalignment in Degenerative Spinal Fusions*	Authors: Jean-Christophe A. Leveque, Bradley Segebarth, Samuel R. Schroerlucke, Nitin Khanna, John Pollina Jr, Jim A. Youssef, Antoine G. Tohmeh, Juan S. Uribe aprevo Technology Platform not studied Results: "Preoperatively, 173 (30%) patients exhibited malalignment. Postoperatively, 161 (28%) of patients were malaligned. Alignment was preserved in 63%, restored in 9%, not corrected in 21%, and worsened in 7% of patients."

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			Relevant Findings: "Grouping of patients into categories based on preoperative and postoperative alignment changes revealed preserved alignment in 367 (63.5%), restored alignment in 50 (8.7%), alignment not corrected in 123 (21.2%), and worsened alignment in 38 (6.6%) patients (Figures 3 and 4)." Of the 173 preoperatively malaligned patients, 123 (71%) were not corrected. Therefore 29% were corrected.
Lovecchio et al.		*Medical Archives. 2019 Dec;73(6):421-424. doi:10.5455/ medarh.2019.73.421-424* *A Brief Review of the Degenerative Inteervertebral Disc Disease*	Authors: Francis C. Lovecchio, Avani S. Vaishnav, Michael E. Steinhaus, Yahya A. Othman, Catherine Himo Gang, Sravisht Iyer, Steven J. McAnany, Todd J. Albert, Sheeraz A. Qureshi aprevo Technology Platform not studied Relevant Findings: "There were no

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			differences in [segmental lordosis] gained by cage lordotic angle (2.7 degrees SL gain with 6–8 degree cages, 1.6 degrees with 10–12 degree cages, and 3.4 degrees with 15–20 degree cages, p = 0.581)."
Manoharan et al.		*Global Spine Journal 2025, Vol. 15(1) 143–151.* *Distal Lumbar Lordosis is Associated with Reoperation for Adjacent Segment Disease After Lumbar Fusion for Degenerative Conditions*	Authors: Ragavan Manoharan, Ahmed Cherry, Aditya Raj, Nisaharan Srikandarajah, Mark Xu, Carlo Iorio, Christopher J. Nielsen, Yoga Raja Rampersaud, Stephen J. Lewis aprevo Technology Platform not studied Relevant Findings: "In our study, the mean post-operative DL was slightly lower than the mean pre-operative DL in the R group (28.7 vs 27.3 de) and correction of distal lordosis from a pre-operative value of <35 degrees to a post-operative value of ≥35 degrees was only achieved in approximately 10% of patients. Further study is required to determine whether advances in

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			surgical techniques and implant design will facilitate achievement of this distal lordosis target from a posterior approach in a broader range of patients." The number of patients with DLL malalignment (<35 degrees) preoperatively was 285, and post operatively was 257. (This reflects the 10% of patients who were corrected, as cited by the authors). Among 257 patients having abnormal sagittal alignment post-operatively, there were 52 (20.2%) revisions for adjacent segment disease. Among 78 patients having normal sagittal alignment post-operatively, there were 6 (7.7%) revisions for adjacent segment disease.
Moal et al.		*Spine Deform. 2014 May;2(3):219-225. doi: 10.1016/ j.jspd.2014.01.003*	Authors: Bertrand Moal, Frank Schwab, Christopher P. Ames, Justin S. Smith, Devon Ryan, Praveen V. Mummaneni, Gregory M. Mundis Jr, Jamie S. Terran,

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			Radiographic Outcomes of Adult Spinal Deformity Correction: A Critical Analysis of Variability and Failures Across Deformity Patterns.	Eric Klineberg, Robert A. Hart, Oheneba Boachie-Adjei, Christopher I. Shaffrey, Wafa Skalli, Virginie Lafage aprevo Technology Platform not studied Relevant Findings: "Results from this study illustrate the gap between the scientific community and clinical practice. The combination of the 3 sagittal parameters revealed that sagittal deformity was present in 71% of patients preoperatively and 62% post-operatively, again perhaps indicating a lack of focus on sagittal imbalance during surgery." "The GCA [global coronal alignment] was corrected in 54% of those patients. However, GCA was also one of the most likely deteriorated parameters, because 18% of patients with a normal alignment at baseline met the threshold for deformity 1 year after surgery. This led to an

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			overall rate of postoperative coronal malalignment of 25%, the same as the preoperative deformity rate."
Moore et al.		*World Neurosurg. 2021 Sep;153:e392-e402. doi: 10.1016/ j.wneu.2021.10.169* *Workforce Trends in Spinal Surgery: Geographic Distribution and Practice Patterns*	Authors: M. Lane Moore, Rohin Singh, Kyli McQueen, Matthew K. Doan, Harjiven Dodd, Justin L. Makovicka, Jeffrey D. Hassebrock, Naresh P. Patel aprevo Technology Platform not studied Description: "Neurosurgical and orthopedic data from 2012 to 2017 were obtained from the Medicare Provider Utilization Database. The databases were filtered by the primary specialty to include "Neurosurgeons" and "Orthopedic surgery." To select specifically for spine surgeons, the 203 Healthcare Common Procedure Coding System codes relating to spinal procedures were chosen as additional filters." Results: "Between 2012 and 2017, the total number of spine surgeons in the United States increased

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			by 9.6% from 3,861 to 4,241 total surgeons."
Parenteau et al.		*Scientific Reports. 2021 Mar 8;11(1):5389. doi:10.1038/ s41598-021-84724-6* *Prevalence of Spine Degeneration Diagnosis by Type, Age, Gender, and Obesity Using Medicare Data*	Authors: Chantal S. Parenteau, Edmund C. Lau, Ian C. Campbell, Amy Courtney aprevo Technology Platform not studied Relevant Findings: "The Medicare Claims 5% Limited Data Set was queried to identify diagnoses of degenerative spinal pathologies. Unique patient diagnoses per year were further evaluated as a function of age, gender, and obesity diagnosis. Participants were also stratified by coding for radiological imaging accompanying each diagnosis. The overall prevalence of diagnosed spinal degenerative disease was 27.3% and increased with age. The prevalence of diagnosed disc disease was 2.7 times greater in those with radiology.

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			The results demonstrate that degenerative findings in the spine are common, and, since asymptomatic individuals may not receive a diagnosis of degenerative conditions, this analysis likely underestimates the general prevalence of these conditions."
Parisian et al.		*Int'l Journal of Spine Surgery. 2022 Dec;16(6):1103-1118.doi:https://doi.org/10.14444/8363* *Subsidence of Spinal Fusion Cages: A Systematic Review*	Authors: Ariane Parisien, Eugene K. Wai, Mostafa S. A. ElSayed, Hanspeter Frei aprevo Technology Platform not studied Relevant Findings: "This systematic review outlines the main observations and results related to subsidence. According to the resulting median from the data analysis, subsidence typically occurs in 13% to 27% of patients regardless of the chosen [lumbar interbody fusion] method, including a range of results between 0.0% and 51.2% (Table 6)."
Passias et al.		*Spine J. 2025 Jun;25(6):1229-1235. doi:10.1016/j.spinee.2024.12.023* *Cause and Effect of Revisions in Adult Spinal Deformity Surgery: A*	Authors: Peter G. Passias, Pooja Dave, Justin S. Smith, et al.

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		Multicenter Study on Outcomes Based on Etiology	aprevo Technology Platform not studied Results: "Compared to without revision, the odds of MCID in ODI were 48.6% lower across groups (OR: 0.514 [.280, .945], p=.032). Indications of x-ray malalignment were 93.0% less likely to reach MCID (OR: 0.071, [.006, .866], p=.038)."
Phan et. al.		*Eur Spine J. 2018 Aug; 27(8): 1981-1991.* *Relationship between sagittal balance and adjacent segment disease in surgical treatment of degenerative lumbar spine disease: meta-analysis and implications for choice of fusion technique.*	Authors: Kevin Phan, Alexander Nazareth, Awais K Hussain, Adam A. Dmytriw, Mithun Nambiar, Damian Nguyen, Jack Kerferd, Steven Phan, Chet Sutterlin 3rd, Samuel K. Cho, Ralph J. Mobbs aprevo Technology Platform not studied Conclusion: "The sagittal parameters: PT, SS, PI-LL, and LL may predict development of ALD [adjacent level disease] in patients' post-lumbar fusion for degenerative disease. Decision-making aimed at correcting these parameters may decrease risk of developing ALD in this cohort."

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Raman et al.		*SPINE. 2018 Jun 1;43(11):791-797. doi:10.1097/BRS.0000000000002481* *Cost-Effectiveness of Primary and Revision Surgery for Adult Spinal Deformity*	Authors: Tina Raman, Suresh K. Nayar, Shuiqing Liu, Richard L. Skolasky, Khaled M. Kebaish aprevo Technology Platform not studied Relevant Findings: "Median surgical and spine-related 2-year follow-up costs were $137,990 (interquartile range [IQR], $84,186) for primary surgery and $115,509 (IQR, $63,753) for revision surgery and were not significantly different between the two groups (P = 0.12)."

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			"The cost/QALY ratio for primary surgery for ASD exceeded the threshold for cost effectiveness at 2 years."
Reisener et al.		*J Spine Surg. 2020 Dec;6(4):752–761. doi: 10.21037/ jss-20-492* *Trends in lumbar spinal fusion—a literature review*	Authors: Marie-Jacqueline Reisener, Matthias Pumberger, Jennifer Shue, Federico P Girardi, Alexander P Hughes aprevo Technology Platform not studied: Relevant Findings: "Spine surgery fusion rates continue to increase worldwide as a result of new developments in spine fusion procedures and surgical techniques, improved implants and interbody devices, and advancements in complication prevention strategies."
Rothenfluh et al.		*Eur Spine J. 2015 Jun;24(6):1251-8. doi: 10.1007/ s00586-014-3454-0* *Pelvic Incidence–Lumbar Lordosis Mismatch Predisposes to Adjacent Segment Disease After Lumbar Spinal Fusion*	Authors: Dominique A. Rothenfluh, Daniel A. Mueller, Esin Rothenfluh, Kan Min aprevo Technology Platform not studied Conclusion: "In degenerative disease of the

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			lumbar spine a high pelvic incidence with diminished lumbar lordosis seems to predispose to adjacent segment disease. Patients with such pelvic incidence-lumbar lordosis mismatch exhibit a 10-times higher risk for undergoing revision surgery than controls if sagittal malalignment is maintained after lumbar fusion surgery."
Tempel et al.		*Neurosurgery. 2017 Jun;80(6):880-886. doi:10.1093/neuros/nyw073* *The Influence of Pelvic Incidence and Lumbar Lordosis Mismatch on Development of Symptomatic Adjacent Level Disease Following Single-Level Transforaminal Lumbar Interbody Fusion*	Authors: Zachary J. Tempel, Gurpreet S. Gandhoke, Bryan D. Bolinger, Nicolas K. Khattar, Phillip V. Parry, Yue-Fang Chang, David O. Okonkwo, Adam S. Kanter aprevo Technology Platform not studied Relevant Findings: "One hundred fifty-nine patients met the inclusion criteria. The results noted that, for a 1 degree increase in PI-LL mismatch (preop and postop), the odds of developing ALD [adjacent level disease] requiring surgery increased by 1.3 and 1.4 fold, respectively, which were statistically

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			significant increases. Based on our analysis, a PI-LL mismatch of >11 degrees had a positive predictive value of 75% for the development of symptomatic ALD requiring revision surgery.”

Research and Development: Device and Digital

We invest in research and development efforts to continuously improve the aprevo Technology Platform. We believe that investment is critical to achieving our goal of establishing the aprevo Technology Platform as the standard of care for spine fusion and expanding the use of the aprevo Technology Platform into additional disease states. Our research and development initiatives are focused on introducing enhancements and new capabilities aimed at increasing the value provided by the aprevo Technology Platform to patients, surgeons, and payors.

Our research and development team includes not only biomedical scientists with deep knowledge of the spine but also hardware and software engineers with deep expertise in mechanical and electrical engineering, computer

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science, programming, image processing, data science, AI, and software design. We employ an integrated team approach to product development and emphasize collaboration of team members across various disciplines to design, test, and obtain regulatory clearance and approvals for our products more effectively.

Our research and development efforts are further supported by a high degree of automation and use of AI in the product improvement process. Our database currently includes over five million radiographic images and will continue to expand with data from new procedures. We leverage this growing database to continuously improve the aprevo Technology Platform for better clinical performance. We have introduced multiple iterations of our AI-enabled algorithms and software to drive further improvements of our predictive analytics and diagnostics. We believe that these improvements will strengthen our ability to leverage the post-operative data we collect to build a clinical decision model to further help physicians make better decisions earlier on in the treatment process.

We also invest in developing technology and products for indications expansion. In November 2024, we received FDA 510(k) clearance for our aprevo interbody implants for cervical interbody fusion surgeries. We anticipate that we will fully commercialize the aprevo Technology Platform for cervical fusion surgery in 2026. In addition, we continue to explore other potential opportunities to leverage our platform technology, including additional indications and disease states within the spine, such as cervical corpectomy and cervical disc arthroplasty, and other musculoskeletal applications beyond spine.

Sales and Marketing

We market and sell the aprevo Technology Platform to hospitals through a combination of our direct sales team and independent sales agents. Our direct sales team consists of Area Business Directors, Regional Sales Directors, Account Managers, and Strategic and National Account leadership, who are primarily responsible for selling the aprevo Technology Platform to surgeons and working with hospitals to secure product approval. They are also responsible for recruiting indirect sales agents that cover each surgery, generating leads, and training clinics. Our direct sales team has significant experience launching new technology solutions to accounts and selling innovative spine procedures and products, with established customer relationships in their respective territories.

Our direct sales team is supported by a team of independent sales agents, who are responsible for generating leads, providing surgical instruments, and covering cases. In some instances, the independent sales agent provides customer leads and helps to secure meetings to facilitate sales. Our independent sales agents have deep surgeon relationships, spine expertise, and provide clinical support in aprevo surgical procedures. In addition, they are compensated to drive broader procedural adoption and deeper account penetration with the surgeons and hospitals they are assigned. Each agreement appoints an individual as an independent sales agent on an exclusive basis with respect to specific surgeons for an initial term of one calendar year, automatically extending for one additional year thereafter unless notice of intent not to renew is provided by either party within 30 days prior to the end of the current term. As an independent sales agent, such individuals will be responsible for supporting our direct sales team with generating leads, providing surgical instruments, and covering cases. As an independent sales agent, each individual will receive a standard commission based on sales of aprevo interbody implants. The Company enters into agreements with independent sales agents in the ordinary course of business.

We expect to continue to increase our sales territories and our independent sales agents in the United States to deepen our penetration in the United States in our existing markets and expand into new geographic territories. We believe that the expansion of our U.S. sales force provides us with significant opportunities for future growth as we continue to penetrate existing geographic markets and enter new ones. In addition to our in-house sales team and independent sales agents, our commercial organization includes personnel in product and brand marketing, professional education, strategic accounts contracting support, and sales operations.

We devote significant resources to training and educating our independent sales agents and customers. Our training teams are deployed to new accounts in order to seamlessly integrate the aprevo Technology Platform into each surgeon’s clinic and operating room and to drive deeper adoption of our technology by surgeons and hospitals. We have also developed our aprevo Personalized Spine Provider program, supported by the Carlsmed personalizedspine.com website for patient education materials and access to our aprevo Personalized Spine Provider locator within their geographic area. This tool helps connect patients with surgeons within the aprevo network, increases our exposure, drives brand awareness, and facilitates adoption of the aprevo Technology Platform. We do

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not incorporate the information contained on, or accessible through, *personalizedspine.com* into this prospectus, and you should not consider it a part of this prospectus.

Coverage and Reimbursement for aprevo Interbody Implants

In the United States, healthcare providers generally rely on third-party payors, including private insurers, governmental payors, such as Medicare and Medicaid, managed care organizations, and administrative contractors to cover and pay for all or part of the cost of a spine surgery in which the aprevo Technology Platform is used. Hospitals are the primary purchasers of our aprevo interbody implants under the aprevo Technology Platform, which are primarily used in a hospital inpatient setting. Hospitals bill various third-party payors for the services and items that they provide to patients. Hospitals and surgeons that purchase and use our products generally rely on third-party payors to pay for all or part of the costs and fees associated with the procedures using the aprevo Technology Platform.

When procedures using the aprevo Technology Platform are performed, both the surgeon or other healthcare provider and the hospital or healthcare facility submit claims for reimbursement to the third-party payor. Generally, the hospital or healthcare facility obtains a lump sum payment, or facility fee, for spine surgery procedures. Surgeons are reimbursed separately for their professional time and effort to perform a spine surgery procedure. We do not bill any third-party payors for the aprevo platform. Instead, we invoice hospitals. Hospitals receive reimbursement payments from third-party payors that cover the episode of care, including implant costs. Third-party payors may deny reimbursement if they determine that a device used in a procedure was not medically necessary or in accordance with cost-effective treatment methods or was used for an unapproved indication. These third-party payors regularly update reimbursement amounts and also from time to time revise the methodologies used to determine reimbursement amounts. This includes routine updates to payments to surgeons, other healthcare providers, hospitals, and healthcare facilities for procedures during which our products are used. Medicare coverage and reimbursement policies are developed by CMS, the federal agency responsible for administering the Medicare program, and its contractors.

CMS establishes these Medicare policies for medical products and procedures, and such policies are periodically reviewed and updated. While private payors vary in their coverage and payment policies, the Medicare program is viewed as a benchmark. Medicare payment rates for the same or similar procedures vary due to geographic location, nature of the facility in which the procedure is performed (i.e., teaching or community hospital), and other factors. CMS policies may alter coverage and payment related to our product portfolio in the future. These changes may occur as the result of national coverage determinations issued by CMS or as the result of local coverage determinations by contractors under contract with CMS to review and make coverage and payment decisions. Medicaid programs are funded by both federal and state governments and may vary from state to state and from year to year. We cannot provide assurance that government or private third-party payors will cover and provide adequate payment for the procedures in which our products are used. The ACA and other reform proposals contain significant changes regarding Medicare, Medicaid, and other third-party payors.

The MS-DRG payments for procedures using the aprevo Technology Platform are intended to cover all hospital costs associated with treating a patient during his or her hospital stay, with the exception of physician charges associated with performing medical procedures. The MS-DRGs for lumbar fusions are 426, 447, 448, 450, 451, 456, 457, and 458, depending on the number of levels being fused, existence of complicating or comorbid conditions, existence of malignancy or infection, and whether a “custom-made anatomically designed interbody fusion device” is utilized. For the fiscal year beginning October 1, 2025, CMS has proposed national average payment amounts for these MS-DRGs ranging between $24,049 and $82,040. Given that most procedures using the aprevo Technology Platform are mapped to the “custom-made anatomically designed interbody fusion device” MS-DRG’s, 426, 447 and 450, the incremental CMS reimbursement to the hospital for an aprevo procedure under these MS-DRG’s ranges from approximately $12,000 to $50,000. Hospitals receive incremental reimbursement for most aprevo procedures.

We believe that CMS may adopt similar codes for use of our aprevo Technology Platform in cervical spine procedures. In April 2025, CMS announced proposed X-codes for the use of custom-made anatomically designed fusion devices for cervical spine fusion surgeries. While there is no guarantee that this proposal will be approved in its current form, if approved in the CMS Final Rule, these X-codes will identify claims that are eligible for hospitals

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to receive NTAP of up to $21,125 per cervical spine fusion procedure, including those that use our aprevo interbody implants.

For the year ended December 31, 2024, we estimate that our payor mix was approximately 44% commercial insurance and 56% Medicare and Medicare Advantage insurance. Medicaid and private payors often follow Medicare payment limitations in setting their own reimbursement rates, and any reduction in Medicare reimbursement may result in a similar reduction in payments from private payors, which may result in reduced demand for our products. Because there is no uniform policy of coverage and reimbursement among third-party payors in the United States, coverage and reimbursement for procedures can differ significantly from payor to payor. Based on our experience as of the date of this prospectus, third-party payors generally reimburse for the procedures in which our products are used only if the patient meets the established medical necessity criteria for surgery, and reimbursement decisions by particular third-party payors may depend upon a number of factors, including the payor's determination that use of a product is (i) a covered benefit under its health plan, (ii) appropriate and medically necessary for the specific indication, (iii) cost effective, and (iv) neither experimental nor investigational. See the risk factor titled "*The continued commercialization of the aprevo Technology Platform depends in part on the extent to which third-party payors provide coverage and adequate reimbursement levels. Failure to obtain and maintain coverage and adequate reimbursement for aprevo interbody implants could limit our ability to market them and decrease our ability to generate revenue*."

Manufacturing and Supply

Our aprevo interbody implants specifically address each patient's pathology and vertebral bone topography for surgical correction, starting with our personalized digital surgical plans. The design and manufacture of our aprevo interbody implants require significant and diverse technical expertise. Accordingly, our manufacturing strategy is a critical component of our success. We rely exclusively on CMOs to manufacture our aprevo interbody implants. To manage this, we have developed two essential value streams within our operations.

Our streamlined DPS manages both the upstream and downstream processes involved in producing these patient-specific aprevo interbody implants. On the upstream side, DPS applies AI to convert the patient's computerized tomography ("CT") scans into a 3D digital twin of their spine, applies the surgeon's desired correction, and designs the corresponding aprevo interbody implants that precisely address the patient's pathology and vertebral bone topography to deliver the optimal alignment for spine fusion surgery. On the downstream side, DPS integrates with both our enterprise resource planning and our CMOs' "shop floor" systems. This integration enables rapid, secure, and accurate information flow and streamlines our "procure-to-pay" processes, ensuring that each aprevo interbody implant design rapidly moves into manufacturing.

We have a streamlined supply chain that allows us to timely deliver aprevo interbody implants within 10 business days of surgical plan approval. The supply chain integrates all processes in connection with the manufacture of our products. We leverage and rely on a limited number of CMOs to manufacture our products to our specifications and do not own or operate our own manufacturing facilities for clinical or commercial production of aprevo interbody implants. We currently do not have long-term contracts with our CMOs. Under this manufacturing model, our CMOs electronically receive the aprevo interbody implant designs, perform all of the various processes in connection with the manufacture of our products, including 3D printing, heat treatment, post-processing, cleaning and packaging, and sterilization, and then ship the completed aprevo surgical kit directly for use in surgery. All of our CMOs are located within the United States. See the risk factor titled "*We rely on a limited number of CMOs for the manufacture, treatment, sterilization, packaging, and distribution of our products. This reliance on third parties increases the risk that we will not have sufficient quantities of our products or such quantities at an acceptable cost and reduces our control over the manufacturing process, which could delay, prevent, or impair our development or commercialization efforts, as well as our ability to timely deliver our aprevo interbody implants*."

We are registered with the FDA as a medical device manufacturer, specification developer, and complaint file establishment and are licensed by the State of California to manufacture and distribute medical devices. We are required to manufacture our products in compliance with the FDA's Quality System Regulation (21 C.F.R. Part 820). We have been ISO 13485-certified since February 2025. As of the date of this prospectus, no major non-conformities have been identified in any FDA or ISO audit.

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Competition

The medical device industry is highly competitive, subject to rapid technological change and significantly affected by new product introductions and market activities of other participants. Our currently marketed products, and any future products we commercialize, will compete against manufacturers of conventional spine and orthopedic devices. To our knowledge, there are no other commercially available patient-specific interbody technology platforms cleared or approved for sale in the United States for lumbar and cervical spine fusions. Our products currently compete with stock implants manufactured or developed by other companies, including Medtronic PLC, Johnson & Johnson, and Globus Medical Inc. Some of these competitors are large, well-capitalized companies with greater market share and resources than we have. As a consequence, they may be able to spend more on product development, marketing, sales, and other product initiatives than we can. We also compete with smaller to mid-sized medical device companies, such as Orthofix Medical Inc., Alphatec Holdings, Inc., Highridge, Inc., and VB Spine. We have no knowledge of, nor can we predict, when devices or solutions in development by our competitors might be available for sale. Additionally, we may also face competition from smaller companies that have developed or are developing similar technologies for our addressable markets.

We believe that the principal competitive factors in our markets include:

•improved outcomes for medical conditions;

•acceptance by surgeons;

•acceptance by the patient community;

•ease of use and reliability;

•product price and qualification for reimbursement;

•technical leadership and superiority;

•effective marketing and distribution; and

•speed to market.

As the first commercially available solution to provide personalized digital surgical plans with patient-specific interbody implants, we believe that the aprevo Technology Platform provides a compelling value proposition to compete favorably in this market.

Intellectual Property

Intellectual property rights are important to the success of our business. We seek to protect the intellectual property and proprietary technology that we consider important to our business, by pursuing patent applications that cover our technologies and product candidates and methods of using the same, as well as any other relevant inventions and improvements that are considered commercially important to the development of our business. We have developed, and are continuing to develop, a comprehensive intellectual property portfolio related to the aprevo personalized surgery platform.

Our success depends in part on our ability to: (a) obtain, maintain, protect, and enforce intellectual property and other proprietary rights for our current and future technology, inventions, improvements, and know-how that we consider important to our business; (b) preserve the confidentiality of our trade secrets; (c) defend and enforce our intellectual property rights; (d) operate without infringing, misappropriating, or violating the intellectual property and other proprietary rights of others; and (e) prevent others from infringing, misappropriating, or violating our intellectual property and other proprietary rights. Our policy is to seek to protect our proprietary position by, among other methods, pursuing and obtaining patent protection in the United States and in jurisdictions outside of the United States related to our proprietary technology, inventions, and improvements that are important to the development and implementation of our business. Our patent portfolio is intended to cover our surgical planning technology, aprevo personalized surgery platform and software run thereon, personalized spinal implants, and any other inventions that are commercially important to our business. We also rely on trademarks, trade secrets, and know-how to develop and maintain our proprietary position.

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Patents have a limited lifespan, and the term of individual patents depends upon the date of filing of the patent application, the date of patent issuance, and the legal term of patents in the countries in which they are obtained. In most countries, including the United States, issued patents are granted a term of 20 years from the earliest effective non-provisional filing date. In certain instances, a patent term of a U.S. patent may be adjusted to recapture a portion of delay by the USPTO in examining the patent application or extended to account for term effectively lost as a result of the FDA regulatory review period, or both. The period of extension may be up to five years but cannot extend the remaining term of a patent beyond a total of 14 years from the date of approval. Only one patent among those eligible for an extension and only those claims covering the approved product, a method for using it, or a method for manufacturing it may be extended. However, there is no guarantee that the applicable authorities, including the FDA, will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions may be less than the maximum extension available.

We solely own all of the patents and patent applications in our portfolio. As set forth in the tabular form below, as of March 31, 2025, our patent portfolio contains 33 total issued patents and approximately 117 pending patent applications relating to the aprevo Technology Platform, including our myaprevo application and aprevo devices. The 33 issued patents include 28 issued U.S. patents and five issued foreign patents in the European Union and Japan. These issued patents are expected to expire between 2037 and 2044, without accounting for potentially available patent term adjustments or extensions or terminal disclaimers and assuming payment of appropriate maintenance, renewal, annuity, and other governmental fees. We also own approximately 117 pending patent applications, including approximately 57 pending U.S. patent applications and 60 pending foreign patent applications. We are pursuing protection in Australia, Canada, the European Union, Japan, the United Kingdom, the Republic of Korea, Singapore, and other jurisdictions. Any patents that may issue from these pending patent applications are expected to expire between 2037 and 2044, without accounting for potentially available patent term adjustments or extensions and assuming payment of appropriate maintenance, renewal, annuity, and other governmental fees.

Country	Title	Type	Patent Application No.	Patent No.	Publication No.	Case Status	Est. Expiration Date	Owner
United States of America	SYSTEMS AND METHODS FOR ASSISTING AND AUGMENTING SURGICAL PROCEDURES	Utility	16/048,167	11,166,764	US20190029757A1	Issued	2038-07-27	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR PHYSICIAN DESIGNED SURGICAL PROCEDURES	Utility	17/702,591	11,497,559	US20220346879A1	Issued	2038-07-27	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR PHYSICIAN DESIGNED SURGICAL PROCEDURES	Utility	17/899,370	11,857,264	US20230000560A1	Issued	2038-07-27	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR ASSISTING A SURGEON AND PRODUCING PATIENT-SPECIFIC MEDICAL DEVICES	Utility	16/242,877	11,112,770	US20190146458A1	Issued	2039-04-08	Carlsm Inc
European Patent Office	SYSTEMS AND METHODS FOR MULTI-PLANAR ORTHOPEDIC ALIGNMENT	Utility	18885367.5	3720392	EP3720392	Issued	2038-12-02	Carlsm Inc
United Kingdom	SYSTEMS AND METHODS FOR MULTI-PLANAR ORTHOPEDIC ALIGNMENT	Utility	18885367.5	3720392	GB3720392	Issued	2038-12-02	Carlsm Inc
Japan	SYSTEMS AND METHODS FOR MULTI-PLANAR	Utility	2020-550591	7527964	JP2021505352	Issued	2038-12-02	Carlsm Inc

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	ORTHOPEDIC ALIGNMENT							
Unitary Patent	SYSTEMS AND METHODS FOR MULTI-PLANAR ORTHOPEDIC ALIGNMENT	Utility	18885367.5	UP3720392	UP3720392	Issued	2038-12-31	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR MULTI-PLANAR ORTHOPEDIC ALIGNMENT	Utility	16/207,116	11,083,586	US20190167435A1	Issued	2037-12-04	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANT FIXATION	Utility	16/352,699	11,432,943	US20190282367A1	Issued	2039-04-17	Carlsm Inc
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANT FIXATION	Utility	16/383,215	11,439,514	US20190321193A1	Issued	2039-07-12	Carlsm Inc

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Country	Title	Type	Patent Application No.	Patent No.	Publication No.	Case Status	Est. Expiration Date	Owne
United States of America	DISPLAY SCREEN WITH A GRAPHICAL USER INTERFACE FOR SURGICAL PLANNING	Design	29/658,309	D958,151	—	Issued	2037-07-19	Carls In
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANTS	Utility	16/569,494	11,696,833	US20200078180A1	Issued	2042-02-19	Carls In
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANTS	Utility	18/071,555	11,717,412	US20230087107A1	Issued	2039-09-12	Carls In
Japan	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANTS	Utility	2021-531331	7547333	JP2022509995	Issued	2039-11-29	Carls In
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANTS	Utility	16/699,447	12,133,803	US20200170802A1	Issued	2041-09-28	Carls In
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANTS	Utility	18/754,123		US20240341960A1	Allowed	2039-11-29	Carls In
United States of America	PATIENT-SPECIFIC MEDICAL PROCEDURES AND DEVICES, AND ASSOCIATED SYSTEMS AND METHODS	Utility	16/735,222	10,902,944	—	Issued	2040-01-06	Carls In
United States of America	PATIENT-SPECIFIC MEDICAL PROCEDURES AND DEVICES, AND ASSOCIATED SYSTEMS AND METHODS	Utility	17/124,822	11,854,683	US20210210189A1	Issued	2040-06-15	Carls In
United States of America	PATIENT-SPECIFIC MEDICAL SYSTEMS, DEVICES, AND METHODS	Utility	17/342,439	11,376,076	US20220000556A1	Issued	2040-01-06	Carls In
United States of America	PATIENT-SPECIFIC MEDICAL SYSTEMS,	Utility	17/838,727	11,678,938	US20220313362A1	Issued	2040-01-06	Carls In

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	DEVICES, AND METHODS							
United States of America	PATIENT-SPECIFIC MEDICAL SYSTEMS, DEVICES, AND METHODS	Utility	18/139,907	12,137,983	US20240016547A1	Issued	2040-01-06	Carls In
United States of America	PATIENT-SPECIFIC ARTIFICIAL DISCS, IMPLANTS AND ASSOCIATED SYSTEMS AND METHODS	Utility	16/987,113	—	US20220039965A1	Allowed	2040-08-06	Carls In
United States of America	PATIENT-SPECIFIC JIG FOR PERSONALIZED SURGERY	Utility	17/531,417	12,127,769	US20220160405A1	Issued	2042-06-22	Carls In
United States of America	PATIENT-SPECIFIC EXPANDABLE SPINAL IMPLANTS AND ASSOCIATED SYSTEMS AND METHODS	Utility	17/835,777	—	US20220387191A1	Allowed	2042-06-08	Carls In
United States of America	NON-FUNGIBLE TOKEN SYSTEMS AND METHODS FOR STORING AND ACCESSING HEALTHCARE DATA	Utility	17/678,874	11,443,838	—	Issued	2042-02-23	Carls In
United States of America	NON-FUNGIBLE TOKEN SYSTEMS AND METHODS FOR STORING AND ACCESSING HEALTHCARE DATA	Utility	17/878,633	11,984,205	US20230268040A1	Issued	2042-05-07	Carls In
United States of America	NON-FUNGIBLE TOKEN SYSTEMS AND METHODS FOR STORING AND ACCESSING HEALTHCARE DATA	Utility	18/219,052	12,142,357	US20240087696A1	Issued	2042-02-23	Carls In
United States of America	SYSTEM FOR MANUFACTURING AND PRE-OPERATIVE INSPECTING OF PATIENT-SPECIFIC IMPLANTS	Utility	17/951,085	11,806,241	—	Issued	2042-09-22	Carls In

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Country	Title	Type	Patent Application No.	Patent No.	Publication No.	Case Status	Est. Expiration Date	O
United States of America	TECHNIQUES TO MAP THREE-DIMENSIONAL HUMAN ANATOMY DATA TO TWO-DIMENSIONAL HUMAN ANATOMY DATA	Utility	18/102,444	11,793,577	—	Issued	2043-01-27	C
United States of America	SYSTEM FOR MODELING PATIENT SPINAL CHANGES	Utility	18/408,452	—	US20240225531A1	Allowed	2044-01-09	C
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANT FIXATION	Utility	17/880,277	12,251,320	US20230086886A1	Issued	2039-04-12	C
United States of America	SYSTEMS AND METHODS FOR ORTHOPEDIC IMPLANT FIXATION	Utility	18/754,101	12,245,952	US20240341973A1	Issued	2039-04-12	C

In addition to patents, we also rely upon trademarks, trade secrets, know-how, and continuing technological innovation to develop and maintain our competitive position. We maintain and will continue to pursue trademark protection for our company name, products, and brand, including the registered trademarks CARLSMED and APREVO in the United States, the European Union, Japan, and other foreign jurisdictions.

We rely on trade secrets to protect certain aspects of our technology related to our current and future proprietary algorithms. However, trade secrets can be difficult to protect. We seek to protect our proprietary information, including trade secrets, in part, by using confidentiality agreements with our commercial partners, collaborators, employees, and consultants, and invention assignment agreements with our employees. We also have a trade secret policy that our employees are required to comply with and have confidentiality agreements and/or invention assignment agreements with our employees, commercial partners, and consultants. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining the physical security of our premises and physical and electronic security of our information technology systems. See the section titled "*Risk Factors—Risks Related to Our Intellectual Property*" for a more comprehensive description of risks related to our intellectual property.

Government Regulation

Our products and operations are subject to extensive regulation by the FDA and other federal and state authorities in the United States, as well as comparable authorities in foreign jurisdictions. Our product candidates are subject to regulation as medical devices in the United States under the FDCA, as implemented and enforced by the FDA.

U.S. Regulation of Medical Devices

The FDA regulates the development, design, non-clinical and clinical research, manufacturing, safety, efficacy, labeling, packaging, storage, installation, servicing, recordkeeping, premarket clearance or approval, adverse event reporting, advertising, promotion, marketing and distribution, and import and export of medical devices to ensure that medical devices distributed domestically are safe and effective for their intended uses and otherwise meet the requirements of the FDCA.

FDA Premarket Clearance and Approval Requirements

Unless an exemption applies, each medical device commercially distributed in the United States requires either FDA clearance of a 510(k) premarket notification or approval of a PMA application. Under the FDCA, medical devices are classified into one of three classes—Class I, Class II, or Class III—depending on the degree of risk associated with each medical device and the extent of manufacturer and regulatory control needed to ensure its safety and effectiveness. Class I includes devices with the lowest risk to the patient for which safety and effectiveness can be assured by adherence to the FDA's General Controls for medical devices, which include compliance with the applicable portions of the QSR, facility registration and product listing, reporting of adverse medical events, and truthful and non-misleading labeling, advertising, and promotional materials. Class II devices are subject to the FDA's General Controls, as well as any special controls deemed necessary by the FDA to ensure

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the safety and effectiveness of the device. These special controls can include, among other things, performance standards, post-market surveillance, patient registries, and FDA guidance documents.

While most Class I devices are exempt from the 510(k) premarket notification requirement, manufacturers of most Class II devices are required to submit to the FDA a premarket notification under Section 510(k) of the FDCA, requesting permission to commercially distribute the device. The FDA's permission to commercially distribute a device subject to a 510(k) premarket notification is generally known as 510(k) clearance. Devices deemed by the FDA to pose the greatest risks, such as life-sustaining, life-supporting, and some implantable devices, devices that have a new intended use, or devices that use advanced technology that is not substantially equivalent to that of a legally marketed device, are placed in Class III, requiring approval of a PMA. Some pre-amendment devices are unclassified but are subject to FDA's premarket notification and clearance process in order to be commercially distributed. The majority of the products that we currently market are classified as Class II devices and have received FDA marketing authorization through the 510(k) clearance process.

FDA Medical Device Marketing Authorization Pathway

To obtain 510(k) clearance, a manufacturer must submit to the FDA a premarket notification demonstrating that the proposed device is "substantially equivalent" to a predicate device already on the market. A predicate device is a legally marketed device that is not subject to premarket approval, i.e., a device that was legally marketed prior to May 28, 1976 (pre-amendments), and for which a PMA is not required; a device that has been reclassified from Class III to Class II, or I; or a device that was found substantially equivalent through the 510(k) process. The FDA's 510(k) clearance process usually takes from three to twelve months but may take longer. The FDA may require additional information, including clinical data, to make a determination regarding substantial equivalence. FDA collects fees for 510(k) applications and annual fees and for medical device establishments.

If the FDA agrees that the device is substantially equivalent to a predicate device, it will grant 510(k) clearance to commercially market the device. If the FDA determines that the device is "not substantially equivalent" to a previously cleared device, the device is automatically designated as a Class III device. The device sponsor must then fulfill more rigorous PMA requirements, or can request a risk-based classification determination for the device in accordance with the "*de novo*" process, which is a route to market for novel medical devices that are low to moderate risk and are not substantially equivalent to a predicate device. This procedure allows a manufacturer whose novel device is automatically classified into Class III to request down-classification of its medical device into Class I or Class II on the basis that the device presents low or moderate risk, rather than requiring the submission and approval of a PMA application. The PMA process requires that the manufacturer demonstrate that the device is safe and effective for its intended uses, which generally requires the submission of extensive data, including results from preclinical studies and human clinical trials. A PMA must also contain a full description of the device and its components; the methods, facilities, and controls used for manufacturing and proposed labeling. The PMA process is burdensome, and in practice, the FDA's review of a PMA application may take up to several years following initial submission. We currently do not market any medical devices pursuant to an approved PMA application, nor have we sought or obtained *de novo* classification for our products.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change or modification in its intended use, will require a new 510(k) clearance or, depending on the modification, PMA approval or *de novo* classification. The FDA requires each manufacturer to determine whether the proposed change requires submission of a 510(k), *de novo* request, or a PMA in the first instance, but the FDA can review any such decision and disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA can require the manufacturer to cease marketing and/or request the recall of the modified device until 510(k) marketing clearance or PMA approval is obtained or a *de novo* request is granted. In these circumstances, the manufacturer may be subject to significant regulatory fines or penalties.

Medical Device Clinical Trials

Clinical trials are sometimes required to support 510(k) or *de novo* submissions. All clinical investigations of devices to determine safety and effectiveness must be conducted in accordance with the FDA's IDE, regulations that govern investigational device labeling, prohibit promotion of the investigational device, and specify an array of

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recordkeeping, reporting, and monitoring responsibilities of study sponsors and study investigators. If the device presents a "significant risk" to human health, as defined by the FDA, the FDA requires the device sponsor to submit an IDE application to the FDA, which must become effective prior to commencing human clinical trials. If the device under evaluation does not present a significant risk to human health, then the device sponsor is not required to submit an IDE application to the FDA before initiating human clinical trials but must still comply with abbreviated IDE requirements when conducting such trials. A significant risk device is one that presents a potential for serious risk to the health, safety, or welfare of a patient and either is implanted, used in supporting or sustaining human life, substantially important in diagnosing, curing, mitigating, or treating disease or otherwise preventing impairment of human health, or otherwise presents a potential for serious risk to a patient. An IDE application must be supported by appropriate data, such as animal and laboratory test results, demonstrating to the FDA satisfaction that the risks of testing the device in subjects would not be outweighed by the anticipated benefits, there are no subject protection concerns that could preclude initiation of the study, and the testing protocol is scientifically sound. An IDE application is approved if the FDA has determined that the sponsor has provided sufficient data to support initiation of a human clinical study, no subject protection concerns preclude initiation of the investigation, and no additional conditions must be met. The IDE will automatically become effective 30 days after receipt by the FDA unless the FDA notifies the company that the investigation may not begin. If the FDA determines that there are deficiencies or other concerns with an IDE for which it requires modification, the FDA may permit a clinical trial to proceed under a conditional approval.

Regardless of the degree of risk presented by the medical device, clinical studies must be approved by, and conducted under the oversight of, an IRB, for each clinical site or under a centralized IRB. The IRB is responsible for the initial and continuing review of the clinical study and may pose additional requirements for the conduct of the study. If an IDE application is approved by the FDA and one or more IRBs, human clinical trials may begin at a specific number of investigational sites with a specific number of patients, as approved by the FDA. If the device presents a non-significant risk to the patient, a sponsor may begin the clinical trial after obtaining approval for the trial by one or more IRBs without separate approval from the FDA but must still follow abbreviated IDE requirements, such as monitoring the investigation, ensuring that the investigators obtain informed consent, and labeling and record-keeping requirements. Submission of an IDE application for review does not guarantee that the FDA will allow the IDE to become effective and, if it does become effective, the FDA may or may not determine that the data derived from the trials support the safety and effectiveness of the device or warrant the continuation of clinical trials.

During a clinical study, the sponsor is required to comply with the applicable FDA requirements, including, for example, trial monitoring, selecting clinical investigators, and providing them with the investigational plan, ensuring IRB review, adverse event reporting, record keeping, and prohibitions on the promotion of investigational devices or on making safety or effectiveness claims for them. The clinical investigators in the clinical study are also subject to FDA's regulations and must obtain patient informed consent, rigorously follow the investigational plan and study protocol, control the disposition of the investigational device, and comply with all reporting and record keeping requirements. Additionally, after a trial begins, the FDA or the IRB could suspend or terminate a clinical trial at any time for various reasons, such as a belief or determination that the risks to study subjects outweigh the anticipated benefits. The study sponsor may also suspend or terminate a clinical trial at any time for strategic business decisions.

Expedited Development and Review Programs

Following passage of the 21st Century Cures Act, the FDA implemented the Breakthrough Devices Program, which is a voluntary program offered to manufacturers of certain medical devices and device-led combination products that may provide for more effective treatment or diagnosis of life-threatening or irreversibly debilitating diseases or conditions. The goal of the program is to provide patients and health care providers with more timely access to qualifying devices by expediting their development, assessment, and review, while preserving the statutory standards for PMA approval, 510(k) clearance, and *de novo* classification. The program is available for medical devices that meet certain eligibility criteria, including that the device provides more effective treatment or diagnosis of life-threatening or irreversibly debilitating diseases or conditions, and that: (i) the device represents a breakthrough technology, (ii) no approved or cleared alternatives exist, (iii) the device offers significant advantages over existing approved or cleared alternatives, or (iv) the availability of the device is in the best interest of patients. Breakthrough Device Designation provides certain benefits to device developers, including more interactive and

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timely communications with FDA staff; use of post-market data collection, when scientifically appropriate, to facilitate expedited and efficient development and review of the device; opportunities for more efficient and flexible clinical study design; and prioritized review of premarket submissions. When reviewing Breakthrough Device Designation requests, the FDA may require a combination of literature or preliminary bench, animal, or clinical data to demonstrate a reasonable likelihood of clinical and technological success. Receiving a Breakthrough Device Designation from the FDA does not guarantee that the FDA will grant marketing authorization for the device.

Post-Market Regulation

After a device is cleared or approved for marketing, numerous and pervasive regulatory requirements continue to apply. These may include:

- establishment registration and device listing with the FDA;
- QSR requirements, which currently require manufacturers, including third-party manufacturers, to follow stringent design, testing, control, documentation, and other quality assurance procedures during all aspects of the design and manufacturing process;
- labeling regulations and FDA prohibitions against the promotion of investigational products, or the promotion of "off-label" uses of cleared or approved products;
- requirements related to promotional activities;
- clearance or approval of product modifications to cleared devices or devices authorized through the *de novo* classification process that could significantly affect safety or effectiveness, or that would constitute a major change in intended use of such devices, or approval of certain modifications to PMA-approved devices;
- medical device reporting regulations, which require that a manufacturer report to the FDA if a device it markets may have caused or contributed to a death or serious injury, or has malfunctioned and the device or a similar device that it markets would be likely to cause or contribute to a death or serious injury, if the malfunction were to recur;
- correction, removal, and recall reporting regulations, which require that manufacturers report to the FDA field corrections and product recalls or removals if undertaken to reduce a risk to health posed by the device or to remedy a violation of the FDCA that may present a risk to health;
- complying with laws and regulations requiring Unique Device Identifiers on medical devices and also requiring the submission of certain information about each device to the FDA's Global Unique Device Identification Database;
- the FDA's recall authority, whereby the agency can order device manufacturers to recall from the market a product that is in violation of governing laws and regulations; and
- post-market surveillance activities and regulations, which apply when deemed by the FDA to be necessary to protect the public health or to provide additional safety and effectiveness data for the device.

Manufacturing processes for medical devices are required to comply with the applicable portions of the QSR, which currently cover the methods and the facilities and controls for the design, manufacture, testing, production, processes, controls, quality assurance, labeling, packaging, distribution, installation, and servicing of finished devices intended for human use. The QSR also requires, among other things, maintenance of a device master file, device history file, and complaint files. Medical device manufacturers are subject to periodic scheduled or unscheduled inspections by the FDA. Failure to maintain compliance with the QSR requirements could result in the shutdown of, or restrictions on, manufacturing operations and the recall or seizure of marketed products. The discovery of previously unknown problems with marketed medical devices, including unanticipated adverse events or adverse events of increasing severity or frequency, whether resulting from the use of the device within the scope of its clearance or off-label by a physician in the practice of medicine, could result in restrictions on the device, including the removal of the product from the market or voluntary or mandatory device recalls.

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The FDA has broad regulatory compliance and enforcement powers. If the FDA determines that a manufacturer has failed to comply with applicable regulatory requirements, it can take a variety of compliance or enforcement actions, which may result in any of the following sanctions, among others:

- warning letters, untitled letters, "it has come to our attention" letters, fines, injunctions, consent decrees, and civil penalties;
- recalls, withdrawals, or administrative detention or product seizures;
- operating restrictions or partial suspension or total shutdown of production;
- refusing or delaying requests for 510(k) clearance, *de novo* classification, or PMA approvals of new products or modified products;
- withdrawing 510(k) clearances or PMA approvals that have already been granted;
- refusal to grant export approvals for devices being shipped to foreign markets; or
- criminal prosecution.

We are also subject to regulation by the California Department of Public Health Food and Drug Branch (the "FDB") through the Medical Device Safety Program. We must maintain a California Medical Device Manufacturing license. Our facilities may be subjected to scheduled or unscheduled inspections by the FDB.

Healthcare Fraud and Abuse Laws

In the United States, we are subject to a number of federal and state healthcare regulatory laws that restrict business practices in the healthcare industry. These laws include, but are not limited to, federal and state anti-kickback, false claims, and other healthcare fraud and abuse laws.

The federal Anti-Kickback Statute prohibits, among other things, any person or entity from knowingly and willfully offering, paying, soliciting, receiving, or providing any remuneration, directly or indirectly, overtly or covertly, to induce reward, or in return for purchasing, leasing, ordering, or arranging for or recommending the purchase, lease, or order of any good, facility, item, or service reimbursable, in whole or in part, under Medicare, Medicaid, or other federal healthcare programs. A person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

The federal false claims laws, including the civil False Claims Act, prohibit, among other things, any person or entity from knowingly presenting, or causing to be presented, a false, fictitious, or fraudulent claim for payment to, or approval by, the federal government, knowingly making, using, or causing to be made or used a false record or statement material to a false or fraudulent claim or obligation to pay or transmit money or property to the federal government, or knowingly making a false statement to avoid, decrease, or conceal an obligation to pay money to the federal government. A claim includes "any request or demand" for money or property presented to the government. Actions under the civil False Claims Act may be brought by the Attorney General or as a qui tam action by a private individual in the name of the government. Moreover, a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act.

In addition, the civil monetary penalties statute, subject to certain exceptions, prohibits, among other things, the offer or transfer of remuneration, including waivers of copayments and deductible amounts (or any part thereof), to a Medicare or state healthcare program beneficiary if the person knows or should know that it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state healthcare program.

HIPAA created additional federal criminal statutes that prohibit, among other actions, knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors, knowingly and willfully embezzling or stealing from a healthcare benefit program, willfully obstructing a criminal investigation of a healthcare offense, and knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false, fictitious, or fraudulent statement in connection with the

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delivery of or payment for healthcare benefits, items, or services. Similar to the U.S. federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

The federal Physician Payments Sunshine Act requires certain manufacturers of drugs, devices, biologics, and medical supplies for which payment is available under Medicare, Medicaid, or the Children's Health Insurance Program, with specific exceptions, to report annually to CMS information related to payments or other transfers of value made to physicians (defined to include doctors, dentists, optometrists, podiatrists, and chiropractors), certain other healthcare professionals such as physician assistants and nurse practitioners, and teaching hospitals, and applicable manufacturers and applicable group purchasing organizations to report annually to CMS ownership and investment interests held by physicians and their immediate family members.

Several states in which we operate have also adopted fraud and abuse laws similar to those described above. The scope of these laws and the interpretations of them vary from state to state and are enforced by state courts and regulatory authorities, each with broad discretion. Some state fraud and abuse laws apply to items or services reimbursed by any third-party payor, including patients and commercial insurers, not just those reimbursed by a federally funded healthcare program.

Violations of fraud and abuse laws, including federal and state anti-kickback and false claims laws, may be punishable by criminal and civil sanctions, including fines and civil monetary penalties, the possibility of exclusion from federal healthcare programs (including Medicare and Medicaid), disgorgement, and corporate integrity agreements, which impose, among other things, rigorous operational and monitoring requirements on companies. Similar sanctions and penalties, as well as imprisonment, also can be imposed upon executive officers and employees of such companies.

Coverage and Reimbursement Regulation

In the United States, our commercial success depends in part on the extent to which governmental authorities, private health insurers, and other third-party payors provide coverage for and establish adequate reimbursement levels for aprevo interbody implants. Use of aprevo interbody implants are typically covered and reimbursed under existing physician and hospital codes. These procedures are typically performed in a hospital inpatient setting, where governmental payors such as Medicare reimburse hospitals a single bundled payment based on the MS-DRG system. Failure by surgeons, healthcare systems, and hospitals to obtain adequate reimbursement from third-party payors for services performed with our products, or adverse changes in government and private third-party payors' coverage and reimbursement policies, could adversely impact demand for our products.

Coverage and reimbursement for use of aprevo interbody implants can differ significantly from payor to payor. Third-party payors are increasingly auditing and challenging the prices charged for medical products and services with concern for upcoding, miscoding, using inappropriate modifiers, or billing for inappropriate care settings. Some third-party payors must approve coverage for new or innovative devices before they will reimburse healthcare providers who use the products or therapies. Even though a new product may have been cleared for commercial distribution by the FDA, we may find limited demand for the product unless and until reimbursement approval has been obtained from governmental and private third-party payors.

In addition to uncertainties surrounding coverage policies, there are periodic changes to reimbursement levels. Third-party payors regularly update reimbursement amounts and also from time to time revise the methodologies used to determine reimbursement amounts. This includes routine updates to payments to hospitals under the IPPS. These updates could directly impact the demand for our products.

We believe that the overall escalating cost of medical products and services being paid for by the government and private health insurance has led to, and will continue to lead to, increased pressures on the healthcare and medical device industries to reduce the costs of products and services. Third-party payors are developing increasingly sophisticated methods of controlling patient access to new technology through prospective reimbursement and capitation programs, group purchasing, redesign of benefits, and exploration of more cost-effective methods of delivering healthcare. In the United States, some insured individuals enroll in managed care programs, which monitor and often require pre-approval of the services that a member will receive. Some managed

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care programs pay their providers on a per-capita (patient) basis, which puts the providers at financial risk for the services provided to their patients by paying these providers a predetermined payment per member per month and, consequently, may limit the willingness of these providers to use our products.

Although we do not currently sell into international markets, we note that reimbursement and healthcare payment systems vary significantly by country, and many countries have instituted price ceilings on specific product lines and procedures. There can be no assurance that our products will be considered cost-effective by third-party payors, that an adequate level of reimbursement will be available, or that the third-party payors' reimbursement policies will not adversely affect our ability to sell our products profitably. More and more, local, product-specific reimbursement law is applied as an overlay to medical device regulation, which has provided an additional layer of clearance requirements.

Healthcare Reform

The United States and some foreign jurisdictions are considering or have enacted a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably. Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting changes in healthcare systems with the stated goals of containing healthcare costs, improving quality, or expanding access. Current and future legislative proposals to further reform healthcare or reduce patient access to new technology may limit coverage of or lower reimbursement for the procedures associated with the use of our products. The cost-containment measures that payors and providers are instituting and the effect of any healthcare reform initiative implemented in the future could impact our revenue from the sale of our products.

The implementation of the ACA in the United States, for example, has substantially changed healthcare financing and delivery by both governmental and private insurers and significantly affected medical device manufacturers. The ACA, among other things, provided incentives to programs that increase the federal government's comparative effectiveness research, and implemented payment system reforms, including a national pilot program on payment bundling to encourage hospitals, physicians, and other providers to improve the coordination, quality, and efficiency of certain healthcare services through bundled payment models. Additionally, the ACA expanded eligibility criteria for Medicaid programs and created a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research. Since its enactment, there have been judicial, executive, and political challenges to certain aspects of the ACA. On June 17, 2021, the U.S. Supreme Court dismissed a judicial challenge to the ACA brought by several states without specifically ruling on its constitutionality.

Other legislative changes have been proposed and adopted since the ACA was enacted. For example, the Budget Control Act, among other things, reduced Medicare payments to providers, effective on April 1, 2013, and, due to subsequent legislative amendments to the statute, will remain in effect through 2032, with the exception of a temporary suspension from May 1, 2020, through March 31, 2022, unless additional congressional action is taken. Additionally, the American Taxpayer Relief Act of 2012, among other things, further reduced Medicare payments to several providers, including hospitals, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years.

We expect additional state and federal healthcare reform measures to be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for our products or additional pricing pressure.

State Corporate Practice of Medicine and Fee-Splitting Laws

Our arrangements with contracted telehealth providers who provide reading services to certain customers are subject to various state laws, including those commonly referred to as corporate practice of medicine and fee-splitting laws, which are intended to prevent unlicensed persons from interfering with or influencing the physician's professional judgment, and prohibiting the sharing of professional service fees with non-professional or business interests. These laws vary from state to state and are subject to broad interpretation and enforcement by state regulators and other bodies. A determination that we and/or our contracted providers are not compliant with such

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laws could lead to adverse judicial or administrative action, civil or criminal penalties, receipt of cease-and-desist orders from state regulators, loss of customers, and/or restructuring of these contractual arrangements.

Data Privacy and Security Laws

Numerous state, federal, and foreign laws, regulations, and standards govern the collection, use, disclosure, access to, confidentiality, and security of health-related and other personal information, and could apply now or in the future to our operations or the operations of our collaborators, third-party providers, and others upon whom we commercially rely.

In the United States, numerous federal and state laws and regulations, including data breach notification laws, health information privacy and security laws, and consumer protection laws and regulations, govern the collection, use, disclosure, and protection of health-related and other personal information that could apply to our operations.

In addition, we may in the future also become subject to certain foreign laws that govern the privacy and security of personal data, including health-related data. If we become subject to certain foreign laws, such laws may create the ability for regulatory bodies to pursue investigations, proceedings, or actions and impose civil and/or criminal penalties and restrictions on data processing in jurisdictions where we do business. Privacy and security laws, regulations, and other obligations are constantly evolving; may conflict with each other to complicate compliance efforts and increase both legal risk and compliance costs for us and the third parties upon whom we rely; and can result in investigations, proceedings, or actions that lead to significant civil and/or criminal penalties and restrictions on data processing that could adversely affect our business, financial condition, reputation, and results of our operations.

Finally, the loss of, unauthorized access to, or disclosure of personal information due to a cybersecurity event or otherwise may trigger breach notification statutes and notification obligations under federal laws in both the United States and other jurisdictions where we do business. A cybersecurity event may result in investigations, legal actions, including class action litigation, regulatory inquiries, and regulatory enforcement actions, as well as fines, consent orders, or mandated corrective actions.

Employees and Human Capital Resources

As of March 31, 2025, we had 100 full-time and part-time employees worldwide, of which 75 were located at our headquarters in Carlsbad, California, 25 were remote and field-based employees throughout the United States, and zero were located outside of the United States. Of these employees, 35 were in sales, marketing, and commercial operations; 22 were in manufacturing, operations, and quality; 31 were in research and development, clinical, and regulatory; and 12 were in general and administration. None of our employees are represented by a labor union or party to a collective bargaining agreement with respect to their employment with us. We rely on both our internal sales team and independent sales agents to promote and market the aprevo Technology Platform and to solicit sales of our personalized spinal implants. We expect to dedicate meaningful resources to significantly expand our in-house sales force as we continue to expand. We believe that we have a good relationship with our workforce. Our human capital is a key factor in our current and future success, which largely depends upon our continued ability to attract and retain highly skilled employees. To do so, we continue to focus on creating and maintaining a great workplace. We believe in attracting the right people, maintaining and building employee engagement, and developing our employees.

Our human capital resources objectives include, as applicable, identifying, recruiting, retaining, incentivizing, and integrating our existing and additional employees while integrating diversity, equity, and inclusion principles and practices into our core values. The principal purposes of our equity incentive plans are to attract, retain, and motivate selected employees, consultants, and directors through the granting of stock-based compensation awards and cash-based performance bonus awards.

Facilities

Our corporate headquarters is located in Carlsbad, California, where we lease approximately 16,162 rentable square feet of office, research and development, digital case planning, and administrative space pursuant to a lease agreement that commenced on March 1, 2021, and expires on June 30, 2028. We believe that our existing facility is

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adequate to support our expansion through the end of the facility's lease period. We believe that suitable additional or alternative space would be available in the future as required on commercially reasonable terms.

Legal Proceedings

From time to time, we may be involved in various legal proceedings arising from the normal course of business activities. We are not presently a party to any litigation the outcome of which, we believe, if determined adversely to us, would individually or taken together, materially and adversely affect our business, financial condition, or results of operations. Future litigation may be necessary to defend ourselves, our partners, and our customers by determining the scope, enforceability, and validity of third-party proprietary rights, to establish our proprietary rights, or for other matters. Involvement in such proceedings is costly and can impose a significant burden on management and employees. The results of any current or future litigation cannot be predicted with certainty, and, regardless of the outcome, litigation can have an adverse impact on us because of legal expenses and settlement costs, diversion of management attention and resources, and other factors.

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MANAGEMENT

The following table sets forth information about our executive officers, significant employees, and directors as of the date of this prospectus.

Name	Age	Position(s)
Executive Officers and Significant Employees		
Michael (Mike) Cordonnier	49	Chairman, Chief Executive Officer, President, and Co-Founder
Leonard (Leo) Greenstein	49	Chief Financial Officer, Treasurer
William (Scott) Durall	61	Chief Commercial Officer
Niall Casey	49	Co-Founder, Chief Intellectual Property Officer, Secretary, Director
Non-Employee Directors		
Jonathan (Jon) Root, M.D.	65	Director
Robert Mittendorff, M.D.	49	Director
Philip (Phil) Young	85	Director
Kevin Sidow	67	Director
Kevin O'Boyle	69	Director

The following is a biographical summary of the experience of our executive officers and directors.

Executive Officers and Significant Employees

Michael (Mike) Cordonnier has served as Chairman of our Board of Directors, Chief Executive Officer, President, and Co-Founder since June 2018. Mr. Cordonnier also served as Treasurer from November 2022 to August 2023. Prior to our formation, Mr. Cordonnier was the Founder of EM-Cor medical, LLC from August 2017 to July 2018, when it was acquired by us. He was also Director of Product Development of Ellipse Technologies, Inc., a privately held medical device company, from August 2015 to August 2017, which was acquired by NuVasive Specialized Orthopedics, and Director of Research & Development at Zimmer Biomet, a private medical equipment developer and manufacturer, from August 2011 to August 2015. Mr. Cordonnier received a B.S. in mechanical engineering from the University of Dayton.

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We believe that Mr. Cordonnier is qualified to serve on our Board of Directors as the Chairman due to his experience as our Chief Executive Officer, President, and Co-Founder and due to his leadership and business acumen.

Leonard (Leo) Greenstein has served as our Chief Financial Officer and Treasurer since August 2023. Prior to serving as our Chief Financial Officer, Mr. Greenstein served as Chief Financial Officer of Tarsus Pharmaceuticals, Inc., a public biopharmaceutical company, from April 2020 to June 2023 and Senior Vice President of Finance & Corporate Controller of Spectrum Pharmaceuticals, Inc., a public biopharmaceutical company (prior to its acquisition by Assertio Holdings, Inc.) from October 2013 to April 2020. Mr. Greenstein received a J.D. from Temple University Beasley School of Law and a B.A. in accounting from Arcadia University. Mr. Greenstein is a Certified Public Accountant and member of the California State Bar.

William (Scott) Durall has served as our Chief Commercial Officer since December 2024. Prior to serving as our Chief Commercial Officer, Mr. Durall served as our Senior Vice President, Marketing, from September 2024 to December 2024. Prior to serving as our Senior Vice President, Marketing, Mr. Durall served as Chief Commercial Officer of Surgalign Holdings, Inc., a public global medical technology company, from June 2020 to June 2023 and Executive Vice President of Sales at Earlens Corporation, a privately held medical equipment company, from February 2019 to June 2020. Mr. Durall received a B.B.A. in marketing from the University of Kentucky.

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Niall Casey has served as a member of our Board of Directors, Secretary, and Co-Founder since June 2018 and Chief Intellectual Property Officer since December 2023. Prior to that, Mr. Casey served as our Chief Technology Officer from September 2018 to December 2023, Vice President of Research and Development from June 2018 to September 2018, and Treasurer from June 2018 to April 2020. Prior to our formation, Mr. Casey was a Director of Development at Alphatec Spine, Inc., a wholly owned subsidiary of Alphatec Holdings, Inc., a public medical technology company, from April 2017 to March 2018 and a Director of Engineering, Spine at Ellipse Technologies, Inc., a privately held medical device company, from March 2015 to August 2017, which was acquired by NuVasive Specialized Orthopedics. Mr. Casey received a J.D. from Suffolk University, an M.S. in biomedical engineering from Case Western Reserve University, and a B.S. in biomedical engineering from Case Western Reserve University. Mr. Casey is registered to practice before the USPTO and licensed to practice law in the State of Massachusetts.

We believe that Mr. Casey is qualified to serve on our Board of Directors due to his experience as our Chief Intellectual Property Officer and Co-Founder and due to his leadership, education, professional credentials, and significant experience in the spine industry.

Non-Employee Directors

Jonathan (Jon) Root, M.D., M.B.A has served as a member of our Board of Directors since December 2020. Dr. Root has served as the Managing Member of Presidio Management Group X, LLC and several U.S. Venture Partners' funds, which are the general partners of various other venture capital funds, since 1998. Dr. Root has served on the board of Edgewise Therapeutics, Inc. since August 2019, where he is a member of the audit committee and nominating and corporate governance committee. Previously, Dr. Root served as a board member for Inari Medical, Inc. from September 2011 to February 2025, where he was a member of the compensation committee and a member of the nominating and corporate governance committee. Other past board seats include OncoMed Pharmaceuticals, Inc. from August 2004 to April 2019, eFFECTOR Therapeutics, Inc. from April 2014 to February 2022, and Silverback Therapeutics, Inc. (until its acquisition by ARS Pharmaceuticals, Inc.) from March 2020 to November 2022. Additionally, Dr. Root currently serves on the board of directors of several private companies in the healthcare industry. Dr. Root received an A.B. in economics from Dartmouth College, an M.D. from the University of Florida College of Medicine, and an M.B.A. from Columbia Business School.

We believe that Dr. Root is qualified to serve on our Board of Directors due to his experience serving on the boards of both public and private companies.

Robert Mittendorff, M.D., M.B.A. has served as a member of our Board of Directors since April 2022. Dr. Mittendorff has served as General Partner and Head of Healthcare at B Capital Group, a global investment firm, since March 2021. He currently serves as a board member or investor for seven companies that leverage AI in their core product or service offering. Previously, Dr. Mittendorff was a Partner and Co-Head of Healthcare Ventures at Norwest Venture Partners, a venture and growth equity investment firm, from February 2012 to March 2021, was formerly the Vice President of Marketing and Business Development at Hansen Medical, Inc., a public medical robotics company, from July 2008 to February 2012, and currently serves on the board of directors of several private companies in the healthcare industry. Notably, Dr. Mittendorff previously served as a public director on the board of formerly public company Silk Road Medical, and he also served as an observer on several other relevant public company medical device companies, including iRhythm and Intersect ENT. Dr. Mittendorff received his M.D. from Harvard University and MIT in the HST Program, an M.B.A. from Harvard Business School, and an M.A. in international relations from Kings College London. As part of his doctoral research at Harvard Medical School, Dr. Mittendorff was also awarded a Howard Hughes Institute Fellowship in neuroscience at MIT, MGH, and Harvard Medical School, where his work involved both neural networks and statistical neural spike train models.

We believe that Dr. Mittendorff is qualified to serve on our Board of Directors due to his experience serving as a director on the boards of both public and private companies.

Philip (Phil) Young has served as a member of our Board of Directors since December 2020. Mr. Young has served as Senior Advisor at U.S. Venture Partners, a venture capital investment firm, since January 2015 and previously served as Managing General Partner from April 1990 to December 2009 and Partner from January 2010 to December 2014. He has served on the Board of Trustees of the Palo Alto Medical Foundation since 2006 and on

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the Board of Trustees of Cornell University from 2004 to 2012 and remains on that Board as a Trustee Emeritus. From 2002 to 2021, he also served as Chair of the board of directors of eCornell, the University Endowment's for-profit online learning corporation, and from 2015 to 2024 served on the Advisory Board of the Smithsonian Astrophysical Observatory in the Center for Astrophysics at Harvard and Smithsonian. Mr. Young has also previously served on the board of directors of several publicly traded companies in the healthcare and information technology industries. Mr. Young received an M.B.A. from Harvard Business School, an M.S. in engineering physics from George Washington University, and a B.M.E. from Cornell University.

We believe that Mr. Young is qualified to serve on our Board of Directors due to his experience serving as a director on boards of both public and private companies.

Kevin Sidow has served as a member of our Board of Directors since December 2020. Previously, Mr. Sidow was President and Chief Executive Officer of Moximed, Inc., a privately held medical device company, from February 2008 until his retirement in July 2017. Prior to serving as President and Chief Executive Officer of Moximed, Inc., he was President and Chief Executive Officer of St. Francis Medical Technologies, Inc., a spinal implant company acquired in January 2007, from May 2004 until May 2007. Mr. Sidow currently serves on the board of directors of another private company in the healthcare industry. Mr. Sidow received a B.S. in accounting from West Virginia University.

We believe that Mr. Sidow is qualified to serve on our Board of Directors due to his experience serving as a director on the boards of private companies and his extensive experience in the medical device industry.

Kevin O'Boyle has served as a member of our Board of Directors since September 2024. Mr. O'Boyle has over 20 years of executive management experience in the medical device industry. Mr. O'Boyle previously served on the boards of Nevro, Inc., from March 2019 until it was acquired in April 2025, where he was the chair of the audit committee; Sientra, Inc., from May 2014 to June 2023, where he was the chair of the audit committee and a member of the nominating and corporate governance committee; GenMark Diagnostics, Inc. from, February 2010 until it was acquired in April 2021, where he was chairman of the board and the chair of the audit committee, and Wright Medical Group N.V., from November 2015 until it was acquired in November 2020, where he was the chair of the audit committee. Mr. O'Boyle received a B.S. in accounting from the Rochester Institute of Technology and completed the Executive Program at the University of California Los Angeles, Anderson School of Management.

We believe that Mr. O'Boyle is qualified to serve on our Board of Directors due to his experience serving as a director on boards of other companies in the medical device industry, financial expertise, and extensive management experience in the medical device industry.

Family Relationships

There are no family relationships among any of our executive officers or directors.

Composition of Our Board of Directors

Our business and affairs are managed under the direction of our Board of Directors. Our Board of Directors currently consists of seven members, each of whom is a member pursuant to the board composition provisions of our existing amended and restated certificate of incorporation and agreements with our stockholders, which agreements are described in the section of this prospectus titled "*Certain Relationships and Related Person Transactions*." These board composition provisions will terminate upon the closing of this offering.

Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will provide that, subject to the rights of the holders of preferred stock, the number of directors on our Board of Directors shall be fixed exclusively by resolution adopted by our Board of Directors. Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will provide that our Board of Directors will be divided into three classes, as nearly equal in number as possible, with the directors in each class serving for a three-year term and one class being elected each year by our stockholders.

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When considering whether directors have the experience, qualifications, attributes, or skills, taken as a whole, to enable our Board of Directors to satisfy its oversight responsibilities effectively in light of our business and structure, the Board of Directors focuses primarily on each person's background and experience as reflected in the information discussed in each of the directors' individual biographies set forth above. We believe that our directors provide an appropriate mix of experience and skills relevant to the size and nature of our business.

In accordance with the terms of our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering , and our amended and restated bylaws that will be in effect immediately prior to the completion of this offering, our Board of Directors will be divided into three staggered classes of directors, and each director will be assigned to one of the three classes. At each annual meeting of the stockholders, one class of directors will be elected for a three-year term to succeed the directors of the same class whose terms are then expiring. The terms of the directors will expire upon the election and qualification of successor directors at the annual meeting of stockholders to be held during the years 2026 for Class I directors, 2027 for Class II directors, and 2028 for Class III directors.

•Our Class I directors will be Phil Young and Niall Casey;

•Our Class II directors will be Robert Mittendorff, Jon Root, and Kevin O'Boyle; and

•Our Class III directors will be Mike Cordonnier and Kevin Sidow.

Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering and our amended and restated bylaws that will be in effect immediately prior to the completion of this offering will provide that the number of our directors shall be fixed from time to time by a resolution of the majority of our Board of Directors.

The division of our Board of Directors into three classes with staggered three-year terms may delay or prevent stockholder efforts to effect a change of our management or a change in control.

Director Independence

We have applied to list our common stock on Nasdaq and this offering is contingent upon obtaining approval of such listing. Under the Nasdaq listing rules, independent directors must comprise a majority of a listed company's Board of Directors within 12 months from the date of listing. In addition, the Nasdaq listing rules require that, subject to specified exceptions, each member of a listed company's audit, compensation, and nominating and governance committees be independent within 12 months from the date of listing. Audit committee members must also satisfy additional independence criteria, including those set forth in Rule 10A-3 under the Exchange Act, and compensation committee members must also satisfy the independence criteria set forth in Rule 10C-1 under the Exchange Act. Under the Nasdaq listing rules, a director will only qualify as an "independent director" if, in the opinion of that company's Board of Directors, that person does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. In order to be considered independent for purposes of Rule 10A-3 under the Exchange Act, a member of an audit committee of a listed company may not, other than in his or her capacity as a member of the audit committee, the Board of Directors, or any other board committee: (i) accept, directly or indirectly, any consulting, advisory, or other compensatory fee from the listed company or any of its subsidiaries, other than compensation for board service; or (ii) be an affiliated person of the listed company or any of its subsidiaries. In order to be considered independent for purposes of Rule 10C-1, the Board of Directors must consider, for each member of a compensation committee of a listed company, all factors specifically relevant to determining whether a director has a relationship to such company that is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, including, but not limited to: the source of compensation of the director, including any consulting advisory or other compensatory fee paid by such company to the director, and whether the director is affiliated with the company or any of its subsidiaries or affiliates.

Our Board of Directors undertook a review of the composition of our Board of Directors and its committees and the independence of each director. Based upon information requested from and provided by each director concerning his background, employment, and affiliations, including family relationships, our Board of Directors has determined that each of Robert Mittendorff, Kevin O'Boyle, Jon Root, Kevin Sidow, and Phil Young are

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independent directors, including for purposes of Nasdaq. In making that determination, our Board of Directors considered the relationships that each director has with us and all other facts and circumstances that the Board of Directors deemed relevant in determining independence, including the beneficial ownership of our capital stock by each director, and the transactions involving them described in the section titled "*Certain Relationships and Related Person Transactions*." Pursuant to the independence requirements for the audit committee, such committee must be composed of at least three members, one of whom must be independent at the time of this offering, a majority of whom must be independent within 90 days of the date of this prospectus, and all of whom must be independent within one year of the date of this prospectus.

We have adopted a policy, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, that which outlines a process for our securityholders to send communications to the Board of Directors.

Committees of Our Board of Directors

Our Board of Directors has established an audit committee, a compensation committee, and a nomination and corporate governance committee, each of which will operate pursuant to a charter to be adopted by our Board of Directors and will be effective upon the effectiveness of the registration statement of which this prospectus forms a part. We believe that the composition and functioning of all of our committees will comply with the applicable requirements of Nasdaq, the Sarbanes-Oxley Act, and SEC rules and regulations that will be applicable to us. We intend to comply with future requirements to the extent that they become applicable to us.

Following the completion of this offering, the full text of our audit committee charter, compensation committee charter, and nomination and corporate governance committee charter will be posted on the investor relations portion of our website at https://www.carlsmed.com. We do not incorporate the information contained on, or accessible through, our corporate website into this prospectus, and you should not consider it a part of this prospectus.

Audit Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our audit committee will consist of Kevin O'Boyle, Kevin Sidow, and Phil Young, and will be chaired by Mr. O'Boyle. The functions of the audit committee will include:

- Overseeing our accounting and financial reporting processes and audits of our financial statements;
- Reviewing our quarterly and annual financial results, earnings releases, and related public disclosures;
- Reviewing and discussing our financial statements, including disclosures under "Management's Discussion and Analysis," with management and our independent auditors;
- Monitoring the independence and performance of our independent registered public accounting firm;
- Appointing, compensating, retaining, and overseeing our independent auditors;
- Reviewing and pre-approving all audit and permitted non-audit services provided by our independent auditors;
- Overseeing our internal audit function and reviewing the adequacy and effectiveness of our internal control over financial reporting and disclosure controls;
- Overseeing procedures for handling complaints about accounting, internal controls, and auditing matters, including anonymous submissions by employees;
- Reviewing related party transactions and potential conflicts of interest;
- Overseeing compliance with legal and regulatory requirements, including matters related to the FCPA and whistleblower reports;
- Reviewing reports of fraud, significant deficiencies or material weaknesses in internal control;

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•Reviewing risk assessment and management policies, including those related to financial, cybersecurity, and information technology risks; and

•Preparing the audit committee report for inclusion in our annual proxy statement, as required by SEC rules.

All members of our audit committee will meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq listing rules. Our Board of Directors has determined that Mr. O'Boyle qualifies as an "audit committee financial expert" within the meaning of applicable SEC regulations. In making this determination, our Board of Directors considered the nature and scope of experience that Mr. O'Boyle has previously had with public reporting companies, including service as a principal financial officer and principal accounting officer. Rule 10A-3 of the Exchange Act and the Nasdaq rules require that our audit committee have at least one independent member upon the listing of our common stock, have a majority of independent members within 90 days of the date of this prospectus and, be composed entirely of independent members within one year of the date of this prospectus. Our Board of Directors has affirmatively determined that Mr. O'Boyle, Mr. Sidow and Mr. Young each meet the definition of "independent director" for purposes of serving on the audit committee under Nasdaq rules and the independence standards under Rule 10A-3 of the Exchange Act, which is different from the general test for independence of board and committee members. Our Board of Directors has adopted a written charter for the audit committee, which will be effective as of the date of the registration statement of which this prospectus forms a part is declared effective, and which will be available on our principal corporate website at https://www.carlsmed.com substantially concurrently with the completion of this offering. The information on any of our websites is deemed not to be incorporated in this prospectus or to be part of this prospectus.

Compensation Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our compensation committee will consist of Kevin Sidow, Kevin O'Boyle, and Robert Mittendorff, and will be chaired by Mr. Sidow. The functions of the compensation committee will include:

•Reviewing and approving compensation for our executive officers (other than the CEO), including salary, incentive awards, equity grants, and perquisites;

•Reviewing and approving employment agreements, severance, change in control, and similar arrangements for executive officers;

•Establishing and evaluating corporate performance goals related to executive compensation;

•Reviewing and approving (or recommending to the Board of Directors) CEO compensation based on performance and market comparisons;

•Administering our equity and incentive compensation plans, including approving grants and material amendments;

•Reviewing and approving equity plan awards to comply with tax, securities, or regulatory requirements;

•Setting the peer group used for benchmarking executive compensation;

•Reviewing and recommending to the board any changes to non-employee director compensation;

•Reviewing and discussing the "Compensation Discussion and Analysis", if required, and recommending its inclusion in SEC filings;

•Preparing the Compensation Committee report, if required, for inclusion in our annual report or proxy statement;

•Overseeing human capital management matters, including corporate culture, inclusion, talent development, and succession planning;

•Reviewing the Company's compensation risk profile and clawback policies, including those required under SEC and Nasdaq rules;

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•Recommending to the board how frequently to hold say-on-pay and say-on-frequency votes and reviewing related proxy proposals;

•Reviewing and recommending changes to the compensation committee charter as appropriate; and

•Performing other duties as directed by the Board of Directors or consistent with its charter.

Each member of our compensation committee will be a non-employee director, as defined in Rule 16b-3 promulgated under the Exchange Act, and an outside director, as defined pursuant to Section 162(m) of the Code. Each of Mr. Sidow, Mr. O'Boyle, and Dr. Mittendorff qualifies as "independent directors" under Nasdaq rules. Our Board of Directors has adopted a written charter for the compensation committee, which will be effective as of the date of the registration statement of which this prospectus forms a part is declared effective, and which will be available on our principal corporate website at https://www.carlsmed.com substantially concurrently with the completion of this offering. The information on any of our websites is deemed not to be incorporated in this prospectus or to be part of this prospectus.

Nominating and Corporate Governance Committee

Upon the effectiveness of the registration statement of which this prospectus forms a part, our nominating and corporate governance committee will consist of Jon Root, Robert Mittendorff, and Kevin Sidow, and will be chaired by Dr. Root. The functions of the nominating and corporate governance committee will include:

•Identifying, evaluating, and recommending candidates for election to our Board of Directors;

•Reviewing the composition of our Board of Directors and recommending changes to ensure a balance of skills, experience, diversity, and independence;

•Assessing director qualifications and potential conflicts of interest;

•Making recommendations regarding board committee assignments and the size and structure of our Board of Directors and its committees;

•Reviewing and recommending changes to our corporate governance practices, including our certificate of incorporation, bylaws, and committee charters;

•Overseeing the annual self-evaluation process for the board, its committees, and individual directors;

•Recommending the frequency and structure of board meetings;

•Monitoring the effectiveness of our board and its committees and recommending changes, including the creation or elimination of committees;

•Overseeing our environmental, social, and governance ("ESG") policies and initiatives;

•Assisting in evaluating strategic objectives related to our product commercialization or business development plans;

•Developing and reviewing our CEO succession plan and recommending succession candidates; and

•Reviewing the committee's charter and performance on a regular basis and performing other responsibilities assigned by our Board of Directors.

Each of Dr. Root, Dr. Mittendorff, and Mr. Sidow qualifies as "independent directors" under Nasdaq rules. Our Board of Directors has adopted a written charter for the nominating and corporate governance committee, which will be effective as of the date of the registration statement of which this prospectus forms a part is declared effective, and which will be available on our principal corporate website at https://www.carlsmed.com substantially concurrently with the completion of this offering. The information on any of our websites is deemed not to be incorporated in this prospectus or to be part of this prospectus.

Our Board of Directors may from time to time establish other committees.

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Risk Oversight

Our Board of Directors is responsible for overseeing our risk management process. Our Board of Directors focuses on our general risk management policies and strategy, the most significant risks facing us, and oversees the implementation of risk mitigation strategies by management. Our Board of Directors is also apprised of particular risk management matters in connection with its general oversight and approval of corporate matters and significant transactions.

Compensation Committee Interlocks and Insider Participation

None of the members of our compensation committee is, or has at any time during the prior three years, been one of our officers or employees. None of our executive officers currently serve, or have in the past fiscal year served, as a member of the Board of Directors or compensation committee of any entity that has one or more of its executive officers serving as a member of our Board of Directors or our compensation committee.

Board Leadership Structure

Michael Cordonnier is the Chairman of our Board of Directors. As Mr. Cordonnier is not an "independent director," Kevin Sidow will be appointed by our Board of Directors to serve as our lead independent director, effective at the time of effectiveness of the registration statement of which this prospectus forms a part. The lead independent director's responsibilities include, but are not limited to: presiding over all meetings of the Board of Directors at which the Chairman of the Board of Directors is not present, including any executive sessions of the independent directors; calling meetings or separate sessions of the independent directors; approving board meeting schedules and agendas; approving information sent to the Board of Directors; and when appropriate, meeting or otherwise communicating with our major stockholders or other constituencies. Our corporate governance guidelines provide the flexibility for our Board of Directors to modify our leadership structure in the future as it deems appropriate.

Code of Business Conduct and Ethics

Our Board of Directors has adopted, subject to and effective upon the effectiveness of the registration statement of which this prospectus forms a part, a Code of Business Conduct and Ethics in connection with this offering. The Code of Business Conduct and Ethics will apply to all of our employees, officers (including our principal executive officer, principal financial officer, principal accounting officer, or controller, or persons performing similar functions), agents and representatives, including directors and consultants.

We intend to disclose future amendments to certain provisions of our Code of Business Conduct and Ethics and our Code of Ethics on our website identified below. Upon the completion of this offering, the full text of our Code of Business Conduct and Ethics and our Code of Ethics will be posted on our website at https://www.carlsmed.com. The inclusion of our website address in this prospectus does not include or incorporate by reference the information on our website into this prospectus, and you should not consider that information a part of this prospectus.

Involvement in Certain Legal Proceedings

To our knowledge, during the past ten years, none of our directors, executive officers, promoters, control persons, or nominees has:

- been convicted in a criminal proceeding or been subject to a pending criminal proceeding (excluding traffic violations and other minor offenses);

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•had any bankruptcy petition filed by or against the business or property of the person, or of any partnership, corporation, or business association of which he was a general partner or executive officer, either at the time of the bankruptcy filing or within two years prior to that time; except that in 2023, a public corporation with which Mr. Durall held an executive officer position filed for bankruptcy protection;

•been subject to any order, judgment, or decree, not subsequently reversed, suspended, or vacated, of any court of competent jurisdiction or federal or state authority, permanently, or temporarily enjoining, barring, suspending, or otherwise limiting, his involvement in any type of business, securities, futures, commodities, investment, banking, savings and loan, or insurance activities, or to be associated with persons engaged in any such activity;

•been found by a court of competent jurisdiction in a civil action or by the SEC or the Commodity Futures Trading Commission to have violated a federal or state securities or commodities law, and the judgment has not been reversed, suspended, or vacated;

•been the subject of, or a party to, any federal or state judicial or administrative order, judgment, decree, or finding, not subsequently reversed, suspended, or vacated (not including any settlement of a civil proceeding among private litigants), relating to an alleged violation of any federal or state securities or commodities law or regulation, any law or regulation respecting financial institutions or insurance companies, including, but not limited to, a temporary or permanent injunction, order of disgorgement or restitution, civil money penalty or temporary or permanent cease-and-desist order, or removal or prohibition order, or any law or regulation prohibiting mail or wire fraud or fraud in connection with any business entity; or

•been the subject of, or a party to, any sanction or order, not subsequently reversed, suspended, or vacated, of any self-regulatory organization (as defined in Section 3(a)(26) of the Exchange Act), any registered entity (as defined in Section 1(a)(29) of the Commodity Exchange Act), or any equivalent exchange, association, entity, or organization that has disciplinary authority over its members or persons associated with a member.

Limitations on Liability and Indemnification Matters

Our amended and restated certificate of incorporation and our amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, limit our directors' and officers' liability and provide that we shall indemnify our directors and officers to the fullest extent permitted under the DGCL. The DGCL provides that directors and officers of a corporation will not be personally liable for monetary damages for breach of their fiduciary duties as directors or officers, except for liability for any:

•transaction from which the director or officer derives an improper personal benefit;

•act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;

•unlawful payment of dividends or redemption of shares; or

•breach of a director's or officer's duty of loyalty to the corporation or its stockholders.

These limitations of liability do not apply to liabilities arising under federal securities laws and do not affect the availability of equitable remedies such as injunctive relief or recession.

The DGCL provides, and our amended and restated certificate of incorporation and our amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, will provide, that we will, in certain situations, indemnify our directors and officers and may indemnify other employees and other agents, to the fullest extent permitted by law. Any indemnified person is also entitled, subject to certain limitations, to advancement, direct payment, or reimbursement of reasonable expenses (including attorneys' fees and disbursements) in advance of the final disposition of the proceeding.

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In addition, we have entered, and intend to continue to enter, into separate indemnification agreements with our directors and officers. These indemnification agreements, among other things, require us to indemnify our directors and officers for certain expenses, including attorneys' fees, judgments, fines, and settlement amounts incurred by a director or officer in any action or proceeding arising out of their services as a director or officer, or any other company or enterprise to which the person provides services at our request.

We maintain a directors' and officers' insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers. We believe that these provisions in our amended and restated certificate of incorporation and amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, and these indemnification agreements are necessary to attract and retain qualified persons as directors and officers.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, or control persons, in the opinion of the SEC, such indemnification is against public policy, as expressed in the Securities Act and is therefore unenforceable.

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EXECUTIVE AND DIRECTOR COMPENSATION

This section discusses the material components of the executive compensation program for our executive officers, who are named in the "2024 Summary Compensation Table" below. In 2024, the "named executive officers" and their positions were as follows, who included our principal executive officer and the two most highly compensated executive officers (other than our principal executive officer):

- Michael (Mike) Cordonnier, Chairman, Chief Executive Officer, President, and Co-Founder;
- Leonard (Leo) Greenstein, Chief Financial Officer and Treasurer; and
- William (Scott) Durall, Chief Commercial Officer.

Mr. Durall commenced services with us in September 2024 as our SVP, Global Marketing, and subsequently took on the role of Chief Commercial Officer in December 2024.

This discussion may contain forward-looking statements that are based on our current plans, considerations, expectations, and determinations regarding future compensation programs. Actual compensation programs that we adopt following the completion of this offering may differ materially from the currently planned programs summarized in this discussion. As an "emerging growth company" as defined in the JOBS Act, we are not required to include a Compensation Discussion and Analysis section and have elected to comply with the scaled disclosure requirements applicable to emerging growth companies.

2024 Summary Compensation Table

The following table sets forth information concerning the compensation of the named executive officers for the year ended December 31, 2024.

Name and Principal Position		Salary ($)	Option Awards ($)(1)	Non-Equity Incentive Plan Compensation ($)(2)	All Other Compensation ($)(3)
Mike Cordonnier	Chief Executive Officer, President, and Co-Founder	$ 361,924	—	$144,770	$ 13,340	$ 520,034
Leo Greenstein	Chief Financial Officer	$ 345,000	—	$138,000	$ 5,386	$ 488,386
Scott Durall[4]	Chief Commercial Officer	$ 99,615	$ 123,524	$ 50,558	—	$ 273,697

(1)Amounts reflect the grant date fair value of stock options granted during the year ended December 31, 2024, computed in accordance with FASB *ASC Topic 718*, rather than the amounts actually paid to or realized by the named individual. See *Note 6* of our audited financial statements and our unaudited condensed financial statements included elsewhere in this prospectus for a discussion of valuation assumptions made in determining the grant date fair value and compensation expense of our stock options.

(2)Amounts represent annual bonus earned by each named executive officer in 2024, which were paid by us after certification of performance achievement in early 2025. See "*2024 Bonuses*" below.

(3)Amounts represent employer contributions under our 401(k) plan.

(4)Mr. Durall commenced employment with us in September 2024 as our SVP, Global Marketing, and subsequently took on the role of Chief Commercial Officer in December 2024 and his salary reflects the pro rata amount earned in 2024.

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Narrative to Summary Compensation Table

2024 Salaries

In 2024, the named executive officers received an annual base salary to compensate them for services rendered to us. The base salary payable to each named executive officer is intended to provide a fixed component of compensation reflecting the executive's skill set, experience, role, and responsibilities.

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For fiscal year 2024, Mr. Cordonnier's annual base salary was $365,000 effective as of March 1, 2024, but his annual base salary was $350,000 from January 1, 2024, to February 29, 2024. Mr. Greenstein's base salary was $345,000 effective as of January 1, 2024. Mr. Durall's annual base salary was $380,000 but was pro-rated for 2024 for his partial employment with us starting on September 3, 2024. The base salaries earned by our named executive officers for the year ended December 31, 2024, are included in the "*Summary Compensation Table*" above.

2024 Bonuses

In 2024, each of Mr. Cordonnier, Mr. Greenstein, and Mr. Durall was eligible to earn an annual cash bonus targeted at 40%, 40%, and 50%, respectively, of their respective annual base salaries. Pursuant to our annual cash bonus program, each named executive officer was eligible to earn his annual cash bonus based on the attainment of pre-established annual company performance objectives, which included a revenue target. Our Board of Directors determined that the performance metrics were achieved at 100% of target level. Accordingly, our named executive officers were awarded the bonuses for achievement at their respective target bonus, with Mr. Durall's bonus being pro-rated to reflect the number of days employed during 2024. The actual annual cash bonuses earned by each named executive officer for 2024 performance are set forth above in the Summary Compensation Table in the column titled "*Non-Equity Incentive Plan Compensation.*"

Equity Compensation

Our equity-based incentive awards are designed to align our interests and those of our stockholders with those of our employees, including our executive officers. The Board of Directors or an authorized committee thereof is responsible for approving equity grants.

Prior to this offering, we have granted stock options pursuant to our 2019 Plan to certain of our executives. Following this offering, we will grant equity awards under the terms of our 2025 Plan. The terms of our equity plans are described below under the section titled "*Equity Compensation Plans*."

Each of our named executive officers currently holds outstanding stock option awards granted pursuant to the 2019 Plan. In November 2024, in connection with his employment, we granted Mr. Durall a stock option award covering 500,000 shares of our common stock, which vests and becomes exercisable over four years, with 25% vesting on September 3, 2025, and the remainder vesting in 36 equal monthly installments thereafter, subject to Mr. Durall's continued service through the applicable vesting date.

Certain stock option awards granted to the named executive officers are subject to accelerated vesting on a qualifying termination of employment, as set forth in each of their respective stock option agreements. For additional information about the accelerated vesting provisions, please see the section titled "*Executive Compensation Arrangements*" below.

Other Elements of Compensation

Retirement Plans

We maintain a 401(k)-retirement savings plan for our employees, including our named executive officers, who satisfy certain eligibility requirements. Our named executive officers are eligible to participate in the 401(k) plan on the same terms as other full-time employees. We provided matching contributions for our employees, including our named executive officers, with respect to 100% of the first 3% of the employees' contributions and 50% of the next 2% of the employees' contributions. We anticipate that, following the completion of this offering, our named executive officers will continue to participate in this 401(k) plan on the same terms as other full-time employees.

Employee Benefits and Perquisites

Health/Welfare Plans. All of our full-time employees, including our named executive officers, are eligible to participate in our health and welfare plans, including:

•medical, dental, and vision benefits;

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•medical and dependent care flexible spending accounts;

•short-term disability insurance; and

•life insurance.

We believe that the employee benefits described above are necessary and appropriate to provide a competitive compensation package to our named executive officers.

No Tax Gross-Ups

We do not make gross-up payments to cover our named executive officers' personal income taxes that may pertain to any of the compensation or perquisites paid or provided by our company.

Outstanding Equity Awards at Fiscal Year-End

The following table summarizes the number of shares of common stock underlying outstanding equity incentive plan awards for each named executive officer as of December 31, 2024.

	Option Awards						Stock Awards	
Name	Vesting Commencement Date (1)	Number of Securities Underlying Unexercised Options (#) Exercisable		Number of Securities Underlying Unexercised Options (#) Unexercisable		Option Exercise Price ($)		Option Expiration Date
Mike Cordonnier	12/15/2020	3,054,311	—	0.06	01/07/2031	—	—	
Leo Greenstein	08/14/2023	155,633	311,267	0.21	08/14/2027	—	—	
	08/14/2023	—	—	—	—	533,334	$ 416,001	
Scott Durall	09/03/2024	—	500,000	0.40	09/03/2028	—	—	

(1)Each of the stock options vests and becomes exercisable over four years, with 25% vesting on the first anniversary of the applicable vesting commencement date and the remainder vesting in 36 equal monthly installments thereafter, subject to continued service through the applicable vesting date.

(2)Mr. Greenstein exercised a stock option to purchase 800,000 shares of our common stock prior to such stock option becoming fully vested. Our repurchase right with respect to such shares lapses over a four-year vesting period, with 25% vesting on the first anniversary of the vesting commencement date and the remainder vesting in 36 equal monthly installments thereafter, subject to continued service through the applicable vesting date. The market value of the shares subject to our repurchase right is based on the fair market value of a share of our common stock, which is equal to $0.78 per share as of December 31, 2024, as determined by our Board of Directors.

Executive Compensation Arrangements

Executive Employment Agreements

We historically had offer letters with Messrs. Cordonnier, Greenstein, and Durall that provide for base salary, target bonus, and, for Messrs. Greenstein, and Durall only, severance benefits on a qualifying termination. In June 2025, we entered into new employment agreements with each of Messrs. Cordonnier, Greenstein, and Durall, which

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employment agreements supersede their old offer letters. The material terms of each of these agreements are described below. These agreements provide for base salaries and incentive compensation, and each component reflects the scope of each named executive officer's anticipated responsibilities and the individual experience they bring to our Company. The employment of each of our named executive officers is "at will" and may be terminated at any time.

Mr. Cordonnier's employment agreement provides for an initial annual base salary of $425,000 and the eligibility to earn an annual cash bonus with a target bonus opportunity equal to 60% of his base salary. Mr. Greenstein's employment agreement provides for an initial annual base salary of $360,000 and the eligibility to earn

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an annual cash bonus with a target bonus opportunity equal to 40% of his base salary. Mr. Durall's employment agreement provides for an initial annual base salary of $380,000 and the eligibility to earn an annual cash bonus with a target bonus opportunity equal to 60% of his base salary. The Board has approved, subject to the completion of this offering, that the base salary for Messrs. Cordonnier, Greenstein and Durall will increase to $550,000, $400,000, and $450,000, respectively, and the target annual bonus opportunity for Messrs. Cordonnier and Greenstein will increase to 75%, and 50% of their applicable base salary, respectively.

Pursuant to their employment agreements, if a named executive officer's employment is terminated by us without "cause" or due to his resignation for "good reason" outside the period beginning three months before and ending 12 months after the consummation of a "corporate transaction" (such period, the "Change in Control Period"), then, subject to a release of claims in favor of the Company, the named executive officer will receive (i) continuing payments of base salary for 18 months for Mr. Cordonnier (and 12 months for Messrs. Greenstein and Durall), (ii) any earned but unpaid annual bonus for the year prior to the year of termination, (iii) a pro-rated annual bonus for the year of termination based on achievement of performance targets, and (iv) COBRA reimbursements for up to 18 months (and up to 12 months for Messrs. Greenstein and Durall).

If a named executive officer's employment is terminated by us without "cause" or due to his resignation for "good reason" during the Change in Control Period, then, subject to a release of claims in favor of the Company, the named executive officer will receive, in addition to the aforementioned benefits listed in (ii) and (iii) of the paragraph above, (i) continuing payments of base salary for 18 months, (ii) accelerated vesting of 100% of his then-outstanding unvested time-based equity awards, (iii) an amount equal to one and a half times his target annual bonus, payable in substantially equal installments over 18 months, and (iv) COBRA reimbursements for up to 18 months. Pursuant to their employment agreements, in the event that any amounts payable to a named executive officer are subject to an excise tax pursuant to Section 280G of the Code, the named executive officer will receive either (i) the value of such payments net of all federal, state, local, foreign income, employment, and excise taxes or (ii) such payments reduced to the minimum extent necessary to prevent the application of such excise tax, whichever will result in the greatest economic benefit to the named executive officer.

For purposes of the employment agreements, "cause" generally means: (i) a material breach of any covenant or condition under the employment agreement, or any other agreement between the named executive officer and the Company, (ii) any willful conduct which would be reasonably likely to bring the Company into substantial public disgrace or disrepute, (iii) the commission of a felony or a crime of moral turpitude, (iv) a material violation of any written Company policy applicable to such executive that causes material economic or reputational harm to us, (v) material and repeated refusal to follow or implement a directive of our Board of Directors that is within the scope of the executive's duties and responsibilities, (vi) gross negligence or willful and material incompetence in the performance of their duties that causes material economic or reputational harm to us, or (vii) a material breach of fiduciary duty.

For purposes of the employment agreements, "good reason" generally means any of the following events without the named executive officer's consent: (i) a material reduction in base salary or target annual bonus opportunity unless such reduction applies to all similarly situated executives, (ii) a material reduction in duties, authority, reporting structure, responsibilities, or title, provided, that the acquisition of the Company and subsequent conversion of the Company to a subsidiary, division or unit of the acquiring company does not by itself, or coupled with any related change in their title and/or reporting structure, constitute "good reason", (iii) for Mr. Cordonnier only, no longer being a member of our Board of Directors, or (iv) the relocation of their principal place of employment in a manner that lengthens their one-way commute distance by 30 or more miles.

For purposes of the named executive officers' employment agreements, the term "corporate transaction" is defined in the 2019 Plan.

2025 RSU Grant

On March 5, 2025, we granted Mr. Cordonnier 627,630 performance and market-based vesting RSUs under the 2019 Plan. The RSUs expire on the fourth anniversary of the grant date if the "market-based" vesting conditions described below are not achieved. Following the listing of our common stock on one or more established stock exchange or national market systems, the RSUs are eligible to vest based on our common stock price achievement,

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as measured based on an average during any consecutive 90-day trading period. Fifty percent (50%) of the RSUs will vest if our common stock price equals or exceeds $7.70 per share, and the other 50% of the RSUs will vest if our common stock price equals or exceeds $9.62 per share. Vesting based on our stock price achievement is subject to Mr. Cordonnier remaining employed as our Chief Executive Officer through the date that such stock price achievement is certificated by the Board of Directors or a committee of the Board of Directors. Subject to Mr. Cordonnier remaining employed as our Chief Executive Officer through a "corporation transaction" in the event that (i) the corporate transaction occurs at a time when our common stock is not publicly listed, the RSUs will vest based on the fair market value per share of our Series C convertible preferred stock in the corporation transaction, with 50% vesting at a price achievement of $7.70 per share or above, and the other 50% vesting at a price achievement of $9.62 per share or above; and (ii) if the corporate transaction occurs at a time when our common stock is publicly listed, the RSUs will vest based on the fair market value per share achieved in the corporation transaction, with 50% vesting at a price achievement of $7.70 per share or above, and the other 50% vesting at a price achievement of $9.62 per share or above. In addition, provided that Mr. Cordonnier remains our Chief Executive Officer until immediately prior to the closing of a corporate transaction, any unvested RSUs that are assumed in connection with such corporate transaction will vest if Mr. Cordonnier's employment is terminated by us (or our successor) without "cause" or by Mr. Cordonnier resignation for "good reason," in each case, that occurs during the one-year period immediately following the completion of such corporate transaction but before the RSUs expire. The term "corporate transaction" is defined in the 2019 Plan, as described in the section titled "*Equity Compensation Plans – 2019 Stock Incentive Plan*" below, and the terms "cause" and "good reason" will have the meaning set forth in the employment agreement entered into between the Company and Mr. Cordonnier, as further described above.

Equity Compensation Plans

The following summarizes the material terms of the 2019 Plan, under which we have previously made periodic grants of equity and equity-based awards to our named executive officers and other key employees. In addition, we intend to adopt the 2025 Plan and the 2025 ESPP in connection with this offering.

2019 Stock Incentive Plan

The 2019 Plan was adopted by our Board of Directors, effective as of September 17, 2019, and was amended effective as of April 24, 2020. The 2019 Plan will be terminated on the date that the 2025 Plan becomes effective, and thereafter no further stock awards will be granted under the 2019 Plan. However, any outstanding stock awards granted under the 2019 Plan will remain outstanding, subject to the terms of our 2019 Plan and award agreements, until such outstanding options are exercised or until any stock awards terminate or expire by their terms.

Administration. The 2019 Plan is administered by our Board of Directors, or a committee thereof appointed by the Board of Directors and composed of members of Board of Directors. The plan administrator has the authority, in its discretion, to (i) select the employees, directors, and consultants to whom awards may be granted from time to time under the 2019 Plan; (ii) determine whether and to what extent awards are granted under the 2019 Plan; (iii) determine the number of shares or the amount of other consideration to be covered by each award granted under the 2019 Plan; (iv) approve forms of award agreements for use under the 2019 Plan; (v) determine the terms and conditions of any award granted under the 2019 Plan; (vi) establish additional terms, conditions, rules, or procedures to accommodate the rules or laws of applicable non-U.S. jurisdictions and afford grantees favorable treatment under such rules or laws, subject to the provisions of the 2019 Plan; (vii) amend the terms of any outstanding award granted under the 2019 Plan, subject to certain restrictions set forth in the 2019 Plan; (viii) construe and interpret the terms of the 2019 Plan and awards, including any notice of award or award agreement pursuant to the 2019 Plan; and (ix) take such other actions, not inconsistent with the terms of the 2019 Plan, it deems appropriate. All decisions, or actions taken, by the plan administrator or in connection with the administration of the 2019 Plan are final, conclusive, and binding on all persons having an interest in the 2019 Plan.

Eligibility. Our employees, consultants, and directors, as well as the employees and consultants of our parents or subsidiaries (if any), and non-employee members of our Board of Directors are eligible to receive awards under the 2019 Plan, provided that only employees may be granted awards intended as incentive stock options.

Share Reserve. As of March 31, 2025, a maximum aggregate of 22,629,288 shares of our common stock were reserved for the issuance of equity awards under the 2019 Plan. This number is subject to adjustment in the event of

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a stock split, stock dividend, or other change in our capitalization. The shares may be authorized but unissued or reacquired shares. As of March 31, 2025, a total of 22,629,288 shares of our common stock had been authorized for issuance under the 2019 Plan. As of March 31, 2025, options to purchase a total of 12,033,524 shares of our common stock were issued and outstanding and a total of 8,745,694 shares of common stock had been issued upon the exercise of options or pursuant to other awards granted under the 2019 Plan and were outstanding. Shares that will be available for issuance at the time the 2019 Plan is terminated will be retired and will become part of the new share reserve under the 2025 Plan.

Awards. The 2019 Plan provides that the plan administrator may grant or issue incentive stock options with the meaning of Section 422 of the Code, non-statutory stock options, stock appreciation rights ("SARs"), dividend equivalent rights, restricted stocks, restricted stock units, any combination of aforementioned awards, or other rights or benefits consistent with the terms of the 2019 Plan to eligible employees, consultants, and directors. In general, awards granted under the 2019 Plan may not be sold or otherwise transferred except pursuant to a beneficiary designation, by will, in accordance with the laws of descent and distribution or, except in the case of incentive stock options, to the extent and in the manner authorized by the administrator by gift or pursuant to domestic relations order to members of the grantee's immediate family.

- *Stock Options*. Stock options may be granted to any eligible person, provided that incentive stock options may only be granted to our employees or employees of our parents or subsidiaries (if any), subject to the 2019 Plan and such restrictions as may be determined by the plan administrator and set forth in an applicable award agreement. The exercise price of stock options granted to employees, directors, or consultants are to be determined by the plan administrator and set forth in an applicable award agreement; provided that such exercise price may not be less than fair market value of a share on grant date (or 110% of fair market value with respect to incentive stock options granted to employees holding 10% or more of the total combined voting power of us). No stock option award may have a term of more than 10 years following the date of grant.

- *Restricted Stock*. Restricted stock may be granted to any eligible individual and made subject to such restrictions as may be determined by the administrator. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. In general, restricted stock may not be sold, or otherwise transferred or hypothecated, until restrictions are removed or expire. Recipients of restricted stock, unlike recipients of options and restricted stock units, have voting rights and have the right to receive dividends, if any, prior to the time when the restrictions lapse; however, extraordinary dividends are generally be placed in escrow and may not be released until restrictions are removed or expire.

- *Restricted Stock Units*. Restricted stock units may be awarded to any eligible individual, typically without payment of consideration, but subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Like restricted stock, restricted stock units may not be sold, or otherwise transferred or hypothecated, until vesting conditions are removed or expire. Unlike restricted stock, stock underlying restricted stock units may not be issued until the restricted stock units have vested, and recipients of restricted stock units generally have no voting or dividend rights prior to the time when vesting conditions are satisfied.

- *Stock Appreciation Rights*. SARs typically provide for payments to the holder-based upon increases in the price of our common stock over a set exercise price. The exercise price of any SAR granted under the 2019 Plan must be at least 100% of the fair market value of a share of our common stock on the date of grant. SARs under the 2019 Plan may be settled in cash or shares of our common stock, or in a combination of both, at the election of the administrator.

- *Other Awards*. Other stock-based or cash-based awards may be granted to participants and may also be available as a payment form in the settlement of other awards, as standalone payments, and as payment in lieu of cash compensation otherwise payable to any individual who is eligible to receive awards. The administrator determines the terms and conditions of other awards, which may include vesting conditions based on continued service, performance, and/or other conditions.

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•*Dividend Equivalent Rights*. Dividend equivalent rights represent the right to receive the equivalent value of dividends paid on shares of our common stock and may be granted alone or in tandem with

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awards other than stock options or SARs. Dividend equivalents are credited as of dividend payment dates during the period between a specified date and the date such award terminates or expires, as determined by the plan administrator. In addition, dividend equivalents with respect to shares covered by a performance award may only be paid to the participant at the same time or times and to the same extent that the vesting conditions, if any, are subsequently satisfied and the performance award vests with respect to such shares.

Adjustments of Awards. In the event of any increase or decrease in the number of issued shares resulting from a stock split, reverse stock split, stock dividend, recapitalization, combination, or reclassification of the shares or similar transaction affecting the shares, any other increase or decrease in the number of issued shares effected without receipt of consideration by us or any other transaction with respect to common stock (including a corporate merger, consolidation, acquisition of property, or stock, separation (including a spin-off or other distribution of stock or property), reorganization, partial or complete liquidation, or any similar transaction), proportionate adjustments will be made to the number of shares covered by each outstanding award and the number of shares that have been authorized for issuance under the 2019 Plan, the exercise or purchase price of each such outstanding award, the maximum number of shares with respect to which awards may be granted to any grantee in any calendar, as well as any other terms that the plan administrator determines required. In the event of any distribution of cash or other assets to stockholders other than a normal cash dividend, the plan administrator will also make such adjustments or substitute, exchange, or grant awards to effect such adjustments. All adjustments will be made in a manner that precludes the enlargement of rights and benefits under such awards. In connection with the foregoing adjustments, the plan administrator may, in its discretion, prohibit the exercise of awards or other issuance of shares, cash, or other consideration pursuant to awards during certain periods of time.

Corporate Transactions. Effective upon the consummation of a merger, consolidation, reverse merger, or series of related transactions culminating in a reverse merger, liquidation, dissolution, acquisition in a single or series of related transactions by any person or related group of persons of beneficial ownership of securities possessing more than 50% of the total combined voting power of our outstanding securities (unless otherwise determined by the plan administrator), or the sale, transfer, or other disposition of all or substantially all of our assets, all outstanding awards under the 2019 Plan terminate but only to the extent that they are not assumed in connection with such corporate transaction. The plan administrator has the authority, exercisable either in advance of any actual or anticipated corporate transaction or at any time of an actual corporate transaction and exercisable at the time of the grant of an award under the 2019 Plan or at any time while an award remains outstanding, to provide for the full or partial automatic vesting and exercisability of one or more outstanding unvested awards under the plan and the release from restrictions on transfer and repurchase or forfeiture rights of such awards in connection with a corporate transaction on such terms and conditions as the plan administrator may specify. The plan administrator also has the authority to condition any such award vesting and exercisability or release from such limitation upon subsequent termination of the continuous service of the grantee within a specified period following the effective date of the corporate transaction.

Amendment and Termination. Our Board of Directors may amend, suspend, or terminate the 2019 Plan at any time, subject to stockholder approval where such approval is required by applicable law and provided any such amendment, suspension, or termination does not affect granted awards (subject to certain exceptions). The 2019 Plan will be terminated on the date that the 2025 Plan becomes effective, and thereafter no further stock awards will be granted under the 2019 Plan.

2025 Equity Incentive Plan

We intend to adopt and have our stockholders approve the 2025 Plan, which will become effective upon the execution of the underwriting agreement for this offering. Our 2025 Plan is a successor to our 2019 Plan. As of the date our 2025 Plan becomes effective, no further grants will be made under our 2019 Plan and any shares of common stock reserved for future issuance under our 2019 Plan will be cancelled.

Types of Awards. Our 2025 Plan provides for the grant of incentive stock options ("ISOs") to employees, including employees of any parent or subsidiary, and for the grant of nonstatutory stock options ("NSOs"), stock appreciation rights, restricted stock awards, restricted stock unit awards, performance awards and other forms of stock awards to employees, directors and consultants, including employees and consultants of our affiliates.

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A*uthorized Share*s. As of the effective date of our 2025 Plan, the aggregate maximum number of shares of our common stock that may be issued under our 2025 Plan will not exceed shares, which is the sum of (i) new shares, plus (ii) shares of our common stock available for issuance under our 2019 Plan; plus (iii) a number of shares equal to the shares of our common stock subject to outstanding stock awards granted under our 2019 Plan that, after the date our 2025 Plan becomes effective, (a) are not issued because such stock award or any portion thereof expires or terminates without all of the shares of common stock underlying such stock award having been issued; (b) are not issued because such stock award is settled in cash; (c) are forfeited back to or repurchased by us because of the failure to satisfy the required vesting conditions; (d) are withheld or reacquired to satisfy the exercise, strike, or purchase price; or (e) are reacquired or withheld to satisfy a tax withholding obligation, for each of clauses (a)—(e), if any, as such shares become available from time to time. In addition, subject to any necessary adjustments, the aggregate number of shares of our common stock reserved for issuance under our 2025 Plan will automatically increase on January 1 of each year, starting on January 1, 2026 (assuming our 2025 Plan becomes effective in 2025) through January 1, 2035, in an amount equal to % of the total number of shares of our capital stock outstanding on December 31 of the preceding year; provided, however, that the Board of Directors may act prior to January 1 of a given year to provide that the increase for such year will be a lesser number of shares of our common stock. The aggregate maximum number of shares of our common stock that may be issued on the exercise of ISOs under our 2025 Plan is shares.

Shares of common stock subject to stock awards granted under our 2025 Plan that (i) expire or terminate without the shares covered by such portion of the stock award being issued; (ii) are settled in cash rather than in shares; (iii) would otherwise be issued by us but are withheld to satisfy the exercise, strike or purchase price of stock award; or (iv) would otherwise be issued by us but are withheld to satisfy a tax withholding obligation in connection with a stock award, do not reduce the number of shares of common stock available for issuance under our 2025 Plan. Additionally, shares of common stock become available for future issuance under our 2025 Plan if such shares of common stock were previously issued pursuant to a stock award and are subsequently (i) forfeited back to or repurchased by us because of a failure to satisfy the required vesting conditions; or (ii) reacquired by us to satisfy (a) the exercise, strike or purchase price of a stock award; or (b) a tax withholding obligation in connection with a stock award.

Plan Administration. Our Board of Directors, or a duly authorized committee of our Board of Directors, will administer our 2025 Plan. Our Board of Directors may also delegate to one or more persons or bodies the authority to do one or more of the following: (i) designate recipients (other than officers) of specified stock awards, provided that no person or body may be delegated authority to grant a stock award to themselves; (ii) determine the number of shares of common stock subject to such stock award; and (iii) determine the terms of such stock awards in accordance with applicable law. Under our 2025 Plan, our Board of Directors has the authority to determine and amend the terms of stock awards and underlying agreements, including, but not limited to:

- recipients;
- type or combination of types of stock awards to be granted;
- the exercise, purchase or strike price of stock awards, if any;
- the number of shares of common stock or cash equivalent subject to each stock award;
- the vesting schedule applicable to the awards, together with any vesting acceleration; and
- the form of consideration, if any, payable on exercise or settlement of the award.

Under our 2025 Plan, the Board of Directors also generally has the authority to effect, with the consent of any adversely affected participant:

- the reduction of the exercise, purchase, or strike price of any outstanding award;
- the cancellation of any outstanding award and the grant in substitution therefore of other awards, cash, or other consideration; or
- any other action that is treated as a repricing under generally accepted accounting principles.

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Stock Options. ISOs and NSOs are granted under stock option agreements adopted by the plan administrator. The plan administrator determines the exercise price for stock options, within the terms and conditions of our 2025 Plan, provided that the exercise price of a stock option generally cannot be less than 100% of the fair market value of our common stock on the date of grant. Options granted under our 2025 Plan vest at the rate specified in the applicable stock option agreement as determined by the plan administrator.

Tax Limitations on ISOs. The aggregate fair market value, determined at the time of grant, of our common stock with respect to ISOs that are exercisable for the first time by an optionholder during any calendar year under all of our stock plans may not exceed $100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISOs may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of our total combined voting power or that of any of our affiliates unless (i) the exercise price is at least 110% of the fair market value of the shares of common stock subject to the stock option on the date of grant; and (ii) the stock option is not exercisable after the expiration of five years from the date of grant.

Restricted Stock Unit Awards. Restricted stock units are granted under restricted stock unit award agreements adopted by the plan administrator. Restricted stock units may be granted in consideration for any form of legal consideration that may be acceptable to our Board of Directors and permissible under applicable law. A restricted stock unit may be settled by cash, delivery of stock, a combination of cash and stock as deemed appropriate by the plan administrator, or in any other form of consideration set forth in the restricted stock unit award agreement. Additionally, dividend equivalents may be credited in respect of shares of common stock covered by a restricted stock unit. Except as otherwise provided in the applicable award agreement, restricted stock units that have not vested will be forfeited for no consideration once the participant's continuous service ends for any reason.

Restricted Stock Awards. Restricted stock awards are granted under restricted stock award agreements adopted by the plan administrator. A restricted stock award may be awarded in consideration for cash, check, bank draft or money order, past services to us, or any other form of legal consideration that may be acceptable to our Board of Directors and permissible under applicable law. The plan administrator determines the terms and conditions of restricted stock awards, including vesting and forfeiture terms. Except as otherwise provided in the applicable award agreement, if a participant's continuous service with us terminates for any reason, we may receive any or all of the shares of our common stock held by the participant that have not vested as of the date the participant continuous service terminates through a forfeiture condition or a repurchase right.

Stock Appreciation Rights. Stock appreciation rights are granted under stock appreciation grant agreements adopted by the plan administrator. The plan administrator determines the purchase price or strike price for a stock appreciation right, which generally cannot be less than 100% of the fair market value of our common stock on the date of grant. A stock appreciation right granted under our 2025 Plan vests at the rate specified in the stock appreciation right award agreement as determined by the plan administrator.

Performance Awards. Our 2025 Plan permits the grant of performance-based stock and cash awards. The plan administrator may structure awards so that the shares of our common stock, cash, or other property will be issued or paid only following the achievement of certain pre-established performance goals during a designated performance period. The performance criteria that will be used to establish such performance goals may be based on any one of, or combination of, the following as determined by the plan administrator: earnings (including earnings per share and net earnings); earnings before interest, taxes and depreciation; earnings before interest, taxes, depreciation and amortization; total stockholder return; return on equity or average stockholder's equity; return on assets, investment, or capital employed; stock price; margin (including gross margin); income (before or after taxes); operating income; operating income after taxes; pre-tax profit; operating cash flow; sales or revenue targets; increases in revenue or product revenue; expenses and cost reduction goals; improvement in or attainment of working capital levels; economic value added (or an equivalent metric); market share; cash flow; cash flow per share; share price performance; debt reduction; customer satisfaction; stockholders' equity; capital expenditures; debt levels; operating profit or net operating profit; workforce diversity; growth of net income or operating income; billings; financing; regulatory milestones; stockholder liquidity; corporate governance and compliance; intellectual property; personnel matters; progress of internal research; progress of partnered programs; partner satisfaction; budget management; partner or collaborator achievements; internal controls, including those related to the Sarbanes-Oxley Act of 2002; investor relations, analysts and communication; implementation or completion of projects or processes; employee retention; number of users, including unique users; strategic partnerships or transactions (including in-licensing and

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out-licensing of intellectual property); establishing relationships with respect to the marketing, distribution and sale of the Company's products; supply chain achievements; co-development, co-marketing, profit sharing, joint venture or other similar arrangements; individual performance goals; corporate development and planning goals; and other measures of performance selected by the plan administrator.

The performance goals may be based on a Company-wide basis, with respect to one or more business units, divisions, affiliates or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise (i) in the award agreement at the time the award is granted or (ii) in such other document setting forth the performance goals at the time the goals are established, we will appropriately make adjustments in the method of calculating the attainment of performance goals as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of items that are "unusual" in nature or occur "infrequently" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by us achieved performance objectives at targeted levels during the balance of a performance period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of our common stock by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under our bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; and (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles. In addition, our Board of Directors retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of the goals. The performance goals may differ from participant to participant and from award to award.

Other Stock Awards. The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares of common stock under the stock award and all other terms and conditions of such awards.

Non-Employee Director Compensation Limit. The aggregate value of all compensation granted or paid to any non-employee director with respect to any period commencing on the date of our annual meeting of stockholders for a particular year and ending on the day immediately prior to the date of our annual meeting of stockholders for the next subsequent year (Annual Period), including stock awards granted and cash fees paid by us to such non-employee director, will not exceed $ in total value, or in the event such non-employee director is first appointed or elected to the Board of Directors during such Annual Period, $ in total value (in each case, calculating the value of any such stock awards based on the grant date fair value of such stock awards for financial reporting purposes). This limitation shall apply commencing with the Annual Period that begins on our first annual meeting of stockholders following the effective date of our 2025 Plan.

Changes to Capital Structure. In the event there is a specified type of change in our capital structure, such as a stock split, reverse stock split or recapitalization, appropriate adjustments will be made to (i) the class(es) and maximum number of shares reserved for issuance under our 2025 Plan, (ii) the class(es) and maximum number of shares by which the share reserve may increase automatically each year, (iii) the class(es) and maximum number of shares that may be issued on the exercise of ISOs and (iv) the class(es) and number of shares and exercise price, strike price or purchase price of shares of common stock subject to outstanding stock awards.

Change in Control. The following applies to stock awards under our 2025 Plan in the event of a change in control, unless otherwise provided in a participant's stock award agreement or other written agreement with us or one of our affiliates or unless otherwise expressly provided by the plan administrator at the time of grant.

In the event of a change in control, any stock awards then outstanding under our 2025 Plan may be assumed, continued or substituted by any surviving or acquiring corporation (or its parent company), and any reacquisition or repurchase rights held by us with respect to the stock award may be assigned to the successor (or its parent company). If the surviving or acquiring corporation (or its parent company) does not assume, continue or substitute for such stock awards, then with respect to any such stock awards, the vesting (and exercisability, if applicable) of

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such stock awards will be accelerated in full to a date prior to the effective time of the change in control (contingent upon the effectiveness of the change in control), and such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the change in control, and any reacquisition or repurchase rights held by us with respect to such stock awards will lapse (contingent upon the effectiveness of the change in control). With respect to performance awards with multiple vesting levels depending on performance level, unless otherwise provided by an award agreement or by the plan administrator, the applicable stock award will accelerate at 100% of target. The plan administrator is not obligated to treat all stock awards or portions of stock awards in the same manner and is not obligated to take the same actions with respect to all participants.

In the event a stock award will terminate if not exercised prior to the effective time of a change in control, the plan administrator may provide, in its sole discretion, that the holder of such stock award may not exercise such stock award but instead will receive a payment equal in value to the excess (if any) of (i) the value of the property the participant would have received upon the exercise of the stock award over (ii) any exercise price payable by such holder in connection with such exercise.

Under our 2025 Plan, a change in control generally includes: (i) the acquisition by any person or company of more than 50% of the combined voting power of our then outstanding stock; (ii) for any consecutive period of 12 months, the members of our Board of Directors, at the beginning of such period, together with their approved successors, cease to be a majority of the Board of Directors, (c) the consummation of (A) a merger, consolidation, reorganization, business combination, (B) a sale or disposition of all or substantially all of our assets, or (C) the acquisition of assets or stock of another entity, unless with respect to clauses (C), our stockholders continue to hold 50% or more of the voting power of the successor entity, no person or group beneficially owns 50% or more of the voting power of the successor entity, or at least a majority of the Board of Directors of the successor entity were members of our Board or Directors at the time of our Board of Director's approval of the execution of the initial agreement providing for such change in control.

Clawback. All awards granted under our 2025 Plan will be subject to recoupment in accordance with any clawback policy that we are required to adopt pursuant to the listing standards of any national securities exchange or association on which our securities are listed or as is otherwise required by the U.S. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 or other applicable law. In addition, our Board of Directors may impose such other clawback, recovery or recoupment provisions in a stock award agreement as our Board of Directors determines necessary or appropriate.

Transferability. A participant may not transfer stock awards under our 2025 Plan other than by will, the laws of descent and distribution, or as otherwise provided under our 2025 Plan.

Plan Amendment or Termination. Our Board of Directors has the authority to amend, suspend or terminate our 2025 Plan, provided that such action does not materially impair the existing rights of any participant without such participant's written consent. Certain material amendments also require the approval of our stockholders. No ISOs may be granted after the tenth anniversary of the date our Board of Directors adopted our 2025 Plan. No stock awards may be granted under our 2025 Plan while it is suspended or after it is terminated.

2025 Employee Stock Purchase Plan

We intend to adopt and have our stockholders approve the 2025 ESPP, which will become effective upon the execution of the underwriting agreement for this offering. The purpose of the 2025 ESPP is to secure and retain the services of new employees, to retain the services of existing employees, and to provide incentives for such individuals to exert maximum efforts toward our success and the success of our affiliates. Our 2025 ESPP will include two components. One component will be designed to allow eligible U.S. employees to purchase our ordinary shares in a manner that may qualify for favorable tax treatment under Section 423 of the Code. The other component will permit the grant of purchase rights that do not qualify for such favorable tax treatment in order to allow deviations necessary to permit participation by eligible employees who are foreign nationals or employed outside of the U.S. while complying with applicable foreign laws.

Share Reserve. Following this offering, the maximum number of shares of common stock authorized for issuance under the 2025 ESPP will not exceed shares of our common stock under purchase rights granted to

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our employees or to employees of any of our designated affiliates. The number of shares of our common stock reserved for issuance will automatically increase on January 1 of each year, beginning on January 1, 2026 (assuming the 2025 ESPP becomes effective in 2025) through January 1, 2035, by the lesser of (i) % of the total number of shares of our capital stock outstanding on December 31 of the preceding calendar year and (ii) shares; provided that before the date of any such increase, our Board of Directors may determine that such increase will be less than the amount set forth in clauses (i) and (ii). As of the date hereof, no shares of our common stock have been purchased under the 2025 ESPP.

Administration. Our Board of Directors, or a duly authorized committee thereof, will administer our 2025 ESPP. Our Board of Directors may delegate concurrent authority to administer the 2025 ESPP to our compensation committee under the terms of the compensation committee's charter. The 2025 ESPP is implemented through a series of offerings under which eligible employees are granted purchase rights to purchase shares of our common stock on specified dates during such offerings. Under the 2025 ESPP, we may specify offerings with durations of not more than 27 months and may specify shorter purchase periods within each offering. Each offering will have one or more purchase dates on which shares of our common stock will be purchased for employees participating in the offering. An offering under the 2025 ESPP may be terminated under certain circumstances.

Payroll Deductions. Generally, all regular employees, including executive officers, employed by us or by any of our designated affiliates, may participate in the 2025 ESPP and may contribute, normally through payroll deductions, up to 15% of their earnings (as defined in the 2025 ESPP) for the purchase of our common stock under the 2025 ESPP. Unless otherwise determined by our Board of Directors, common stock will be purchased for the accounts of employees participating in the 2025 ESPP at a price per share equal to the lower of (i) 85% of the fair market value of a share of our common stock on the first trading date of an offering; or (ii) 85% of the fair market value of a share of our common stock on the date of purchase.

Limitations. Employees may have to satisfy one or more of the following service requirements before participating in the 2025 ESPP, as determined by our Board of Directors, including: (i) being customarily employed with us or one of our affiliates for more than 20 hours per week and more than five months per calendar year; or (ii) continuous employment with us or one of our affiliates for a minimum period of time (not to equal or exceed two years). No employee may purchase shares of common stock under the 2025 ESPP at an aggregate rate in excess of $25,000 worth of our common stock based on the fair market value per share of our common stock at the beginning of an offering for each year such a purchase right is outstanding. Finally, no employee will be eligible for the grant of any purchase rights under the 2025 ESPP if immediately after such rights are granted, such employee has voting power equal to or exceeding five percent of our outstanding capital stock measured by vote or value under Section 424(d) of the Code.

Changes to Capital Structure. In the event that there occurs a change in our capital structure through such actions as a stock split, merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, large nonrecurring cash dividend, liquidating dividend, combination of securities, exchange of securities, change in corporate structure or similar transaction, the Board of Directors will make appropriate adjustments to: (i) the class(es) and maximum number of securities reserved under the 2025 ESPP; (ii) the class(es) and maximum number of securities by which the share reserve may increase automatically each year; (iii) the classes(s) and number of securities and purchase price of all outstanding offering and purchase rights; and (iv) the number of securities that are subject to purchase limits under ongoing offerings.

Corporate Transactions. In the event of certain significant corporate transactions, including: (i) a sale or other disposition of all or substantially all of our assets; (ii) the sale or disposition of more than 50% of our outstanding securities; (iii) the consummation of a merger or consolidation or similar transaction where we are not the surviving corporation; and (iv) the consummation of a merger or consolidation or similar transaction where we are the surviving corporation but the shares of our common stock outstanding immediately before such transaction are converted or exchanged into other property by virtue of the transaction, any then-outstanding rights to purchase our stock under the 2025 ESPP may be assumed, continued or substituted for by any surviving or acquiring entity (or its parent company). If the surviving or acquiring entity (or its parent company) elects not to assume, continue, or substitute for such purchase rights, then the participants' accumulated payroll contributions will be used to purchase shares of our common stock within ten business days before such corporate transaction, and such purchase rights will terminate immediately.

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Plan Amendment or Termination. Our Board of Directors has the authority to amend or terminate our 2025 ESPP, provided that except in certain circumstances such amendment or termination may not materially impair any outstanding purchase rights without the holder's consent. We will obtain stockholder approval of any amendment to our 2025 ESPP as required by applicable law or listing requirements.

Clawback Policy

In connection with this offering, we have adopted an incentive compensation recovery policy, or a clawback policy, that is compliant with the Nasdaq listing rules, as required by the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010.

Non-Employee Director Compensation

Prior to the effectiveness of the registration statement of which this prospectus forms a part, we did not have a formal policy with respect to compensation payable to our non-employee directors. We historically did not pay cash fees to our non-employee directors for service as directors. From time to time, we have granted equity awards to certain non-employee directors for their service on our Board of Directors. In November 2024, we granted Mr. O'Boyle an option to purchase 578,660 shares of our common stock, which vests monthly over four years, subject to Mr. O'Boyle's continued service on the applicable vesting date. In May 2024, we granted Mr. Sidow an option to purchase 250,000 shares of our common stock, which vests monthly over four years, subject to Mr. Sidow's continued service on the applicable vesting date. We also covered lodging, transportation and food expenses that Mr. Sidow incurred in connection with attending meetings of our Board of Directors and committees of our Board of Directors.

Director Compensation Table for Fiscal Year 2024

The following table sets forth information regarding the compensation of our non-employee directors for the fiscal year ended December 31, 2024. Messrs. Root, Mittendorff, and Young did not receive any compensation for fiscal year ended December 31, 2024.

Name	Fees Earned or Paid in Cash ($)(1)	Option Awards ($)(2)(3)	All Other Compensation ($)	Total ($)
Kevin Sidow	$ 5,625	$ 59,035	—	$ 64,660
Kevin O'Boyle	$ 6,250	$ 143,463	—	$ 149,713

(1)Amounts reflect the amount of cash fees that Messrs. Sidow and O'Boyle received for their services for the fourth quarter of fiscal year 2024, which payments were made in February 2025.

(2)Amounts reflect the full grant-date fair value of stock options granted during 2024 computed in accordance with FASB *ASC Topic 718*. See *Note 6* of our audited financial statements and our unaudited condensed financial statements included elsewhere in this prospectus for a discussion of valuation assumptions made in determining the grant date fair value and compensation expense of our stock options.

(3)The aggregate number of option awards (whether exercisable or unexercisable) held as of December 31, 2024, by Mr. Sidow and Mr. O'Boyle is 538,142 and 578,660, respectively. None of our other directors held outstanding options as of December 31, 2024.

Finally, in connection with this offering, we have adopted a non-employee director compensation program for our non-employee directors (the "Director Compensation Program"), which will become effective upon the date of effectiveness of the registration statement of which this prospectus forms a part.

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Pursuant to the Director Compensation Program, our non-employee directors will receive cash compensation as set forth in the tables below.

	Board of Directors Service
Non-Employee Director	$ 45,000

	Additional Board of Directors Service
Lead Independent Director	$ 25,000

	Additional Committee Service	
	Chair	**Non-Chair**
Audit Committee Member	$ 20,000	$ 10,000
Compensation Committee Member	$ 15,000	$ 7,500
Nominating and Corporate Governance Committee Member	$ 10,000	$ 5,000

Our Board of Directors or the Compensation Committee thereof may, in its discretion, provide our non-employee directors with the opportunity to elect to receive all or a portion of their cash fees in restricted stock units granted under our 2025 Plan, with each such restricted stock unit award covering a number of shares calculated by dividing (i) the amount of cash fees elected to be received in restricted stock units by (ii) the average per share closing trading price of our common stock over the most recent 30 trading days as of the grant date (the "30-day average price"). Such restricted stock units will be automatically granted on the fifth day of the month following the end of the calendar quarter to which the corresponding fees were earned and will be fully vested on grant.

Under the Director Compensation Program, unless otherwise provided by our Board of Directors prior to commencement of service of an applicable director, each non-employee director will automatically be granted an RSU award upon the director's initial appointment or election to our Board of Directors (the "Initial RSU Award") covering a number of shares calculated by dividing (i) $260,000 by (ii) the 30-day average price. One-third of the Initial RSU Award will vest on each of the first three anniversaries of the applicable grant date, subject to the non-employee director's continuous service through each applicable vesting date.

In addition, each non-employee director will automatically be granted an RSU award on the close of business on the date of each of our annual stockholder's meetings following this offering (the "Annual RSU Award") covering a number of shares calculated by dividing (i) $130,000 by (ii) the 30-day average price. However, for any non-employee director whose continuous service is less than one year as of such annual meeting, their Annual RSU Award will be prorated based on the number of calendar days they served as a non-employee director prior to the date of such annual meeting. The Annual RSU Award will vest on the earlier of the first anniversary of the grant date or the date of the next annual stockholder's meeting, subject to continued service through the applicable vesting date.

All equity awards held by non-employee directors under the Director Compensation Program will vest in full upon the consummation of a "change in control" (as defined in the 2025 Plan), subject to continued service through immediately prior to such date. Each non-employee director may elect to defer all or a portion of their restricted stock units they receive under the Director Compensation Program until the earliest of a fixed date properly elected by the non-employee director, the non-employee director's termination of service, or a "change in control".

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CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

The following is a summary of certain transactions or a series of transactions since January 1, 2022, and any currently proposed transactions, to which we were or are to be a participant, in which (i) the amount involved exceeded or will exceed $120,000; and (ii) any of our directors, executive officers, or holders of more than 5% of our issued share capital, or any affiliate or member of the immediate family of the foregoing persons, had or will have a direct or indirect material interest, other than compensation and other arrangements that are described under the section titled "Executive and Director Compensation." The following summaries are qualified in their entirety by reference to all the provisions of their respective agreements. Because these descriptions are only summaries of the applicable agreements, they do not necessarily contain all the information that you may find useful. We therefore urge you to review the agreements in their entirety. Copies of the agreements have been filed as exhibits to the registration statement of which this prospectus is a part and are available electronically on the website of the SEC at www.sec.gov.

Series C Financing

In March 2024, September 2024, and January 2025, we completed the initial and subsequent closings of the sale of an aggregate of 33,523,906 shares of our Series C convertible preferred stock at a purchase price of $1.924 per share for aggregate gross proceeds of $64.5 million. Each share of our Series C convertible preferred stock will convert into shares of our common stock immediately prior to the closing of this offering in accordance with existing amended and restated certificate of incorporation.

The following table summarizes the Series C convertible preferred stock purchased by holders of more than 5% of our capital stock, our Board of Directors, our executive officers, and any entities affiliated with our executive officers or a member of our Board of Directors.

Participants[1]	Shares of Series C Convertible Preferred Stock	Aggregate Purchase Price
Entities affiliated with B Capital Group[2]	22,869,022	$ 43,999,998.33
Entities affiliated with U.S. Venture Partners[3]	9,355,508	$ 17,999,997.41

(1)Additional details regarding these stockholders and their equity holdings are provided in the section titled "*Principal Stockholders*."

(2)Includes 12,474,012 shares of Series C convertible preferred stock purchased by B Capital Global Growth III, L.P. ("B Capital Global Growth III"), 5,197,505 shares of Series C convertible preferred stock purchased by B Capital Healthcare I, L.P. ("B Capital Healthcare I"), and 5,197,505 shares of Series C convertible preferred stock purchased by Hornet Co-Invest, L.P. ("Hornet Co-Invest"). B Capital Group Management, LP ("B Capital Group Management," and together with B Capital Global Growth III, B Capital Healthcare I. and Hornet-Co Invest, "B Capital Group") is the general partner of B Capital Global Growth III and B Capital Healthcare I. Hornet Co-Invest Investors, Ltd. is the ultimate general partner of Hornet Co-Invest. Robert Mittendorff, M.D., a member of our Board of Directors, is a General Partner at B Capital Group Management.

(3)Includes 2,967,879 shares of Series C convertible preferred stock purchased by U.S. Venture Partners XII, L.P. ("U.S. Venture Partners XII"), 150,623 shares of Series C convertible preferred stock purchased by U.S. Venture Partners XII-A, L.P ("U.S. Venture Partners XII-A") and 6,237,006 shares of Series C convertible preferred stock purchased by U.S. Venture Partners Select Fund I, L.P. ("U.S. Venture Partners Select I") on its own behalf and as nominee for U.S. Venture Partners Select Fund I-A, L.P. ("U.S. Venture Partners Select I-A"). Presidio Management Group XII, L.L.C ("PMG XII") is the general partner of U.S. Venture Partners XII and U.S. Venture Partners XII-A. Presidio Management Group Select Fund I, L.L.C ("PMG SFI," and, together with U.S. Venture Partners XII, U.S. Venture Partners XII-A, U.S. Venture Partners Select Fund I, U.S. Venture Partners Select Fund I-A, and PMG XII, "U.S. Venture Partners") is the general partner of U.S. Venture Partners Select Fund I and U.S. Venture Partners Select Fund I-A. Jon Root, M.D., a member of our Board of Directors, is a managing member of PMG XII and PMG SFI.

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Series B Financing

In April 2022, we completed the sale of an aggregate of 24,189,639 shares of our Series B convertible preferred stock at a purchase price of $1.2402 per share for aggregate gross proceeds of $30.0 million. Each share of our Series B convertible preferred stock will convert into shares of our common stock immediately prior to the closing of this offering in accordance with our existing amended and restated certificate of incorporation.

The following table summarizes the Series B convertible preferred stock purchased by holders of more than 5% of our capital stock, members of our Board of Directors, our executive officers, and any entities affiliated with our executive officers or a member of our Board of Directors.

Participants[1]	Shares of Series B Convertible Preferred Stock	Aggregate Purchase Price
Entities affiliated with B Capital Group[2]	16,126,430	$ 19,999,998.50
Entities affiliated with U.S. Venture Partners[3]	4,837,928	$ 5,999,998.32
Michael Cordonnier[4]	20,158	$ 24,999.96
Niall Casey[5]	20,158	$ 24,999.96
Kevin Sidow[6]	161,264	$ 199,999.62
Philip Young[7]	161,264	$ 199,999.62

(1)Additional details regarding these stockholders and their equity holdings are provided in the section titled "*Principal Stockholders*."

(2)Includes 8,063,215 shares of Series B convertible preferred stock purchased by B Capital Global Growth III and 8,063,215 shares of Series B convertible preferred stock purchased by B Capital Healthcare I. B Capital Group Management, LP is the general partner of B Capital Global Growth III and B Capital Healthcare I. Robert Mittendorff, M.D., a member of our Board of Directors, is a general partner at B Capital Group Management, LP.

(3)Includes 4,604,257 shares of Series B convertible preferred stock purchased by U.S. Venture Partners XII and 233,671 shares of Series B convertible preferred stock purchased by U.S. Venture Partners XII-A. PMG XII is the general partner of U.S. Venture Partners XII and U.S. Venture Partners XII-A. Jon Root, M.D., a member of our Board of Directors, is a managing member of PMG XII.

(4)Mike Cordonnier is our Chief Executive Officer, President, and Co-Founder, and the chairman of our Board of Directors.

(5)Niall Casey is our Co-Founder, Chief Intellectual Property Officer, Secretary, and a member of our Board of Directors.

(6)Kevin Sidow is a member of our Board of Directors.

(7)Philip Young is a member of our Board of Directors. Mr. Young is the sole general partner of PMY Partners L.P, through which he holds 161,264 shares of our Series B convertible preferred stock.

Amended and Restated Investor Rights Agreement

We are party to an amended and restated investor rights agreement with certain holders of our convertible preferred stock and common stock, entities affiliated with certain of our executive officers and directors, as well as certain of our executive officers and directors. The amended and restated investor rights agreement grants rights to certain holders, including certain registration rights with respect to the registrable securities held by them, and also imposes certain affirmative obligations on us, including with respect to the furnishing of financial statements and information to the holders. See the section titled "*Description of Capital Stock—Registration Rights*" for additional information.

As a result of this offering, most of the covenants and restrictions set forth in the amended and restated investor rights agreement that apply to us will terminate and we will remain obligated to comply with reporting requirements under the Exchange Act. The provisions relating to registration rights included in the amended and restated investor rights agreement will not terminate as a result of this offering.

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Amended and Restated Voting Agreement

We are party to the amended and restated voting agreement with certain holders of our convertible preferred stock and common stock, entities affiliated with certain of our executive officers and directors, as well as certain of our executive officers and directors. Pursuant to the amended and restated voting agreement, these holders have agreed to vote in a certain way on certain matters, including with respect to the election of directors.

The amended and restated voting agreement will terminate by its terms in connection with the completion of this offering, and none of our stockholders will have any continuing voting rights, including special rights regarding the election or designation of members of our Board of Directors, following this offering.

Amended and Restated Right of First Refusal and Co-Sale Agreement

We are party to an amended and restated first refusal and co-sale agreement with certain holders of our convertible preferred stock and common stock, entities affiliated with certain of our executive officers and directors, as well as certain of our executive officers and directors, pursuant to which we have a right of first refusal, and holders of our common stock that are party to the amended and restated first refusal and co-sale agreement have a right of first refusal and a co-sale right.

The amended and restated first refusal and co-sale agreement will terminate in connection with the completion of this offering.

Executive Officer and Director Compensation

Please see the section titled "*Executive and Director Compensation*" for information regarding the compensation of our directors and executive officers.

Employment Agreements

We have entered into employment agreements with certain of our executive officers. For a description of these agreements with our named executive officers, see the section titled "*Executive and Director Compensation*."

Indemnification Agreements and Director and Officer Insurance

Prior to the closing of this offering, we will enter into indemnification agreements with each of our executive officers and directors. The indemnification agreements will provide the indemnitees with contractual rights to indemnification, and expense advancement and reimbursement, to the fullest extent permitted under the DGCL, subject to certain exceptions contained in those agreements. Further, our amended and restated certificate of incorporation and amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, will limit the liability of our directors and executive officers to the fullest extent permitted by the DGCL. We will also purchase directors' and officers' liability insurance. See the section titled "*Description of Capital Stock—Limitations on Liability and Indemnification*."

There is no pending litigation or proceeding naming any of our directors or officers for which indemnification is being sought, and we are not aware of any pending litigation that may result in claims for indemnification by any director or executive officer.

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Our Policy Regarding Related Person Transactions

Our Board of Directors recognizes the fact that transactions with related persons present a heightened risk of conflicts of interests or improper valuation (or the perception thereof). Subject to the consummation of this offering, our Board of Directors intends has adopted a written policy on transactions with related persons that is in conformity with the requirements for issuers having publicly held common stock that is listed on Nasdaq. Under such policy, a related person transaction (as defined in the policy), and any material amendment or modification to a related person transaction, will be reviewed and approved or ratified by our audit committee.

In connection with the review and approval or ratification of a related person transaction:

•management will disclose to the committee or disinterested directors, as applicable, information such as the name of the related person and the basis on which the person is a related person, the material terms of the related person transaction, including the approximate dollar value of the amount involved in the transaction, and other the material facts as to the related person's direct or indirect interest in, or relationship to, the related person transaction;

•management will advise the committee or disinterested directors, as applicable, as to other relevant considerations such as whether the related person transaction conflicts with the terms of our agreements governing our material outstanding indebtedness that limit or restricts our ability to enter into a related person transaction; and

•related person transactions will be disclosed in our applicable filings under the Securities Act or the Exchange Act and related rules and to the extent required.

In addition, the related person transaction policy will provide that the committee or disinterested directors, as applicable, in connection with any approval or ratification of a related person transaction involving a non-employee director or director nominee, should consider whether such transaction would compromise the director or director nominee's status as an "independent" or "non-employee" director, as applicable, under the rules and regulations of the SEC.

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PRINCIPAL STOCKHOLDERS

The following table sets forth, as of May 31, 2025, information regarding the beneficial ownership of our common stock by:

- each person, or group of affiliated persons, who is known by us to be the beneficial owner of five percent or more of our outstanding common stock (on an as-converted to common stock basis);
- each of our directors;
- each of our named executive officers; and
- all of our current directors and executive officers as a group.

The information in the following table is calculated based on 111,165,696 shares of common stock deemed to be outstanding before this offering, as adjusted to give effect to the Preferred Stock Conversion. The number of shares outstanding after the offering is based on the number of shares of common stock outstanding as of May 31, 2025 as adjusted to give effect to:

- the Preferred Stock Conversion;
- the Reverse Stock Split; and
- the sale of shares of common stock in this offering (assuming no exercise of the underwriters' option to purchase additional shares).

Each individual or entity shown on the table has furnished information with respect to beneficial ownership. Except as otherwise indicated below, the address of each officer, director, and five percent stockholder listed below is c/o Carlsmed, Inc., 1800 Aston Ave, Suite 100, Carlsbad, CA 92008.

We have determined beneficial ownership in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities as well as any shares of common stock that the person has the right to acquire within 60 days of May 31, 2025 through the exercise of stock options or other rights. These shares are deemed to be outstanding and beneficially owned by the person holding those options for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any

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other person. Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them.

	Shares of Common Stock Beneficially Owned			
	Before This Offering		After this Offering	
Name of Beneficial Owner	Number	%	Number	%
5% or Greater Stockholder				
Entities affiliated with B Capital Group[1]	38,995,452	35.1%		
Entities affiliated with U.S. Venture Partners[2]	31,482,785	28.3%		
Michael Cordonnier[3]	8,915,469	7.9%		
Named Executive Officers and Directors				
Michael Cordonnier[3]	8,915,469	7.9%		
Leonard Greenstein[4]	1,023,722	*		
Scott Durall	—	—		
Niall Casey[5]	5,231,728	4.7%		
Jonathan Root	—	—		
Robert Mittendorff	—	—		
Philip Young[6]	161,264	*		
Kevin Sidow[7]	522,322	*		
Kevin O'Boyle	—	—		
All executive officers and directors as a group (9 persons)	15,854,505	15.4%		

* Less than one percent.

(1)Consists of (i) 8,063,215 shares of common stock issuable upon the conversion of Series B convertible preferred stock and 12,474,012 shares of common stock issuable upon the conversion of Series C convertible preferred stock held by B Capital Global Growth III; (ii) 8,063,215 shares of common stock issuable upon the conversion of Series B convertible preferred stock and 5,197,505 shares of common stock issuable upon the

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conversion of Series C convertible preferred stock held by B Capital Healthcare I; and (iii) 5,197,505 shares of common stock issuable upon conversion of Series C convertible preferred stock held by Hornet Co-Invest L.P. B Capital Group Management, LP is the manager of B Capital Global Growth III and B Capital Healthcare I. Hornet-Co-Invest Investors, Ltd. is the ultimate general partner of Hornet Co-Invest. Robert Mittendorff, M.D., one of our directors, is a general partner of B Capital Group Management, LP. Each of Robert Mittendorff, M.D., Eduardo Saverin, and Raj Ganguly disclaims beneficial ownership of such shares except to the extent of its or their pecuniary interest therein. The address of all entities affiliated with B Capital Group is c/o B Capital Group Management, LP, 1240 Rosecrans Avenue, Manhattan Beach, CA 90266.

(2)Consists of (i) 16,454,274 shares of common stock issuable upon conversion of Series A convertible preferred stock, 4,604,257 shares of common stock issuable upon conversion of Series B convertible preferred stock, and 2,967,879 shares of common stock issuable upon conversion of Series C convertible preferred stock held by U.S. Venture Partners XII; (ii) 835,075 shares of common stock issuable upon conversion of Series A convertible preferred stock, 233,671 shares of common stock issuable upon conversion of Series B convertible preferred stock, and 150,623 shares of common stock issuable upon conversion of Series C convertible preferred stock held by U.S. Venture Partners XII-A; and (iii) 6,237,006 shares of common stock issuable upon conversion of Series C convertible preferred stock held by U.S. Venture Partners Select Fund I on its own behalf and as nominee for U.S. Venture Partners Select Fund I-A. PMG XII is the general partner of U.S. Venture Partner XII and U.S. Venture Partner XII-A. PMG SFI is the general partner of U.S. Venture Partners Select Fund I and U.S. Venture Partners Select Fund I-A. Jon Root, M.D. and Phil Young, two of our directors, are each an affiliate of U.S Venture Partners. Each of Jon Root, M.D., Phil Young, Richard Lewis, Casey Tansey, Dafina Toncheva, and Steven Krausz disclaims beneficial ownership of such shares except to the extent of its or their pecuniary interest therein. The address of all entities affiliated with U.S. Venture Partners is c/o 1460 El Camino Real, Suite 100, Menlo Park, CA 94025.

(3)Consists of 6,895,311 shares of common stock, 20,158 shares of common stock issuable upon conversion of Series B convertible preferred stock, and 2,000,000 shares of common stock underlying options that vest within 60 days of May 31, 2025. Does not include 627,630 shares of common stock issuable upon the vesting of RSUs that are issuable upon satisfaction of certain “market-based” and “performance-based” vesting conditions.

(4)Consists of 800,000 shares of common stock which, within 60 days of May 31, 2025, will include 416,667 shares of unvested common stock as to which Mr. Greenstein has the right to vote, but not to dispose, and 383,333 shares of vested common stock.

(5)Consists of 5,211,570 shares of common stock and 20,158 shares of common stock issuable upon conversion of Series B convertible preferred stock.

(6)Consists of 161,264 shares of common stock issuable upon conversion of Series B convertible preferred stock held by PMY Partners L.P.

(7)Consists of 161,264 shares of common stock issuable upon conversion of Series B convertible preferred stock and 361,058 shares of common stock underlying options that vest within 60 days of May 31, 2025.

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DESCRIPTION OF CAPITAL STOCK

The following summary describes the material provisions of our capital stock and certain provisions of our amended and restated certificate of incorporation and amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering. You should also refer to the amended and restated certificate of incorporation and the amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, and the amended and restated investors' rights agreement, which are filed as exhibits to the registration statement of which this prospectus is a part. Certain provisions of our amended and restated certificate of incorporation and our amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, summarized below may be deemed to have an anti-takeover effect and may delay or prevent a tender offer or takeover attempt that a stockholder might consider in its best interest, including those attempts that might result in a premium over the market price for the shares of common stock.

General

Upon the completion of this offering and the filing of our amended and restated certificate of incorporation, our authorized capital stock will consist of 600,000,000 shares of common stock, par value $0.00001 per share, and 10,000,000 shares of preferred stock, par value $0.00001 per share.

Common Stock

Outstanding Shares

As of March 31, 2025, we had 110,575,132 shares of common stock outstanding, held of record by 107 stockholders, after giving effect to the Preferred Stock Conversion.

Voting Rights

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, including the election of directors. Our stockholders do not have cumulative voting rights in the election of directors. Accordingly, holders of a majority of the voting shares are able to elect all of the directors.

Dividends

Declaration and payment of any dividend will be subject to the discretion of our Board of Directors. The time and amount of dividends will be dependent upon our business prospects, results of operations, financial condition, cash requirements and availability, debt repayment obligations, capital expenditure needs, contractual restrictions, covenants in the agreements governing our future indebtedness, industry trends, the provisions of Delaware law affecting the payment of dividends and distributions to stockholders, and any other factors that our Board of Directors may consider relevant. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business, and therefore, do not anticipate declaring or paying any cash dividends on our common stock in the foreseeable future. See the sections titled "*Dividend Policy*" and "*Risk Factors—Risks Relating to Our Common Stock and this Offering—We do not intend to pay dividends in the foreseeable future. As a result, your ability to achieve a return on your investment will depend on appreciation in the market price of our common stock*."

Liquidation

In the event of our liquidation, dissolution, or winding up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any then outstanding shares of preferred stock.

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Rights and Preferences

Holders of our common stock have no preemptive, conversion, or subscription rights, and there are no redemption or sinking-fund provisions applicable to our common stock. The rights, preferences, and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Preferred Stock

Upon the completion of this offering, all of our currently outstanding shares of convertible preferred stock will convert into 85,071,388 shares of our common stock, and we will not have any preferred shares outstanding. Immediately prior to the completion of this offering, our certificate of incorporation will be amended and restated to delete all references to such shares of convertible preferred stock. Under the amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering, our Board of Directors will have the authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences, and privileges of the shares of each wholly unissued series and any qualifications, limitations, or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding.

Our Board of Directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, or preventing a change in control of our company that may otherwise benefit holders of our common stock and may adversely affect the market price of the common stock and the voting and other rights of the holders of common stock. We have no current plans to issue any shares of preferred stock.

Stock Options and Restricted Stock Units

As of March 31, 2025, 12,033,624 shares of common stock were issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of $0.43 per share, and 627,630 RSUs were outstanding. For additional information regarding terms of our equity incentive plans, see the section titled "*Executive and Director Compensation—Equity Compensation Plans*."

Warrants

Series B Warrant

In March 2024, in connection with the Third Amendment, we issued the Series B Warrant to Customers Bank. If we draw principal in excess of $15.6 million under the Customers Loan Agreement, then the Series B Warrant will be exercisable for up to an aggregate of 325,988 shares of Series B convertible preferred stock. The additional number of shares will be equal to (i) the aggregate principal amount drawn under the Customers Loan Agreement in excess of $15.6 million (up to $18.8 million), multiplied by (ii) 1.25%; divided by the exercise price. The Series B Warrant also includes a cashless exercise feature allowing Customers Bank to receive shares underlying the Series B Warrant in an amount reduced by the aggregate of the exercise price that would have been payable upon exercise of the Series B Warrant for such shares. Pursuant to the Preferred Stock Conversion in connection with the completion of this offering, based on the amount of indebtedness outstanding under the Customers Loan Agreement as of March 31, 2025, the Series B Warrant will be exercisable for an aggregate of 294,491 shares of our common stock at an exercise price of $1.2402 per share. If the maximum aggregate principal amount of $18.8 million of the term loan was funded under the Customers Loan Agreement, the Series B Warrant would be exercisable for an aggregate of 325,988 shares of our common stock. The Series B Warrant will expire on December 30, 2034.

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Series C Warrant

In December 2024, in connection with the Fourth Amendment, we issued the Series C Warrant with a per share exercise price of $1.9240 per share. If we draw principal in excess of $18.8 million, then the Series C Warrant will be exercisable for up to an aggregate of 113,695 shares of Series C convertible preferred stock. The additional number of shares will be equal to (i) the aggregate principal amount drawn in excess of $18.8 million (up to $27.5 million), multiplied by (ii) 1.25%; divided by the exercise price. Additionally, upon our ability to draw principal in excess of $27.5 million, the Series C Warrant will be exercisable for an additional 28,424 shares. The Series C Warrant also includes a cashless exercise feature allowing Customers Bank to receive shares underlying the Series C Warrant in an amount reduced by the aggregate of the exercise price that would have been payable upon exercise of the Series C Warrant for such shares. Pursuant to the Preferred Stock Conversion in connection with the completion of this offering, based on the amount of indebtedness outstanding under the Customers Loan Agreement as of March 31, 2025, the Series C Warrant will be exercisable for an aggregate of 28,424 shares of our common stock at an exercise price of $1.9240 per share. If the aggregate principal amount of $27.5 million of the term loan was funded under the Customers Loan Agreement, the Series C Warrant would be exercisable for an aggregate of 113,695 shares of our common stock. The Series C Warrant will expire on December 30, 2034.

Common Stock Warrant

In April 2021, in connection with its entry into a loan and security agreement (the "SVB Loan") with Silicon Valley Bank ("SVB"), we issued a warrant to purchase up to an aggregate of 57,686 shares of our common stock at an exercise price of $0.06 per share (the "Common Stock Warrant"). In July 2021, pursuant to the terms of the Common Stock Warrant, the Common Stock Warrant became exercisable for an additional 57,744 shares of our common stock at an exercise price of $0.06 per share in connection with a principal draw. In February 2022, we amended the SVB Loan to draw additional principal and the Common Stock Warrant became exercisable for an additional 28,887 shares of common stock at an exercise price of $0.07 per share. In December 2022, we terminated and repaid in full all amounts outstanding under the SVB Loan Agreement. The Common Stock Warrant will expire 10 years from the date of issuance. As of March 31, 2025, all shares of our common stock underlying the Common Stock Warrant remained unexercised.

Registration Rights

Upon the completion of this offering and subject to the lock-up agreements entered into in connection with this offering and federal securities laws, certain holders of shares of our common stock, including those shares of our common stock that will be issued upon the conversion of our convertible preferred stock in connection with this offering, will initially be entitled to certain rights with respect to registration of such shares under the Securities Act. These shares are referred to as registrable securities. The holders of these registrable securities possess registration rights pursuant to the terms of our amended and restated investors' rights agreement and are described in additional detail below. The registration of shares of our common stock pursuant to the exercise of the registration rights described below would enable the holders to trade these shares without restriction under the Securities Act when the applicable registration statement is declared effective. We will pay the registration expenses, other than underwriting discounts, selling commissions, stock transfer taxes, fees, and disbursements, not to exceed $30,000 per registration, of more than one special counsel for the holders, and the compensation of regular employees of the company, of the shares registered pursuant to the demand, piggyback, and Form S-3 registrations described below.

Generally, in an underwritten offering, the managing underwriter, if any, has the right, subject to specified conditions and limitations, to limit the number of shares the holders may include. The demand, piggyback, and Form S-3 registration rights described below will terminate upon the earlier to occur of (1) the date four years after the completion of this offering or (2) with respect to each stockholder holding less than 1% of our outstanding capital stock, such time after the completion of this offering at which Rule 144 of the Securities Act or another similar exemption under the Securities Act is available for the sale of all of such stockholder's shares without limitation, during a three-month period without registration.

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Demand Registration Rights

Upon the completion of this offering, holders of up to approximately 85.1 million shares of our common stock issuable upon conversion of our outstanding convertible preferred stock will be entitled to certain demand registration rights. Beginning on the earlier of (i) March 12, 2029, and (ii) six months following the effectiveness of the registration statement of which this prospectus is a part, investors holding, collectively, not less than 25% of registrable securities then outstanding may, with respect to not more than one such registration, request that we register all or a portion of their shares, subject to certain specified exceptions.

Piggyback Registration Rights

In connection with this offering, holders of up to approximately 85.1 million shares of our common stock issuable upon conversion of our outstanding convertible preferred stock are entitled to their rights to notice of this offering and to include their shares of registrable securities in this offering. The requisite percentage of these stockholders have waived all such stockholders' rights to notice of this offering and to include their shares of registrable securities in this offering. In the event that we propose to register any of our securities under the Securities Act in another offering, either for our own account or for the account of other security holders, the holders of registrable securities will be entitled to certain "piggyback" registration rights allowing them to include their shares in such registration, subject to specified conditions and limitations.

S-3 Registration Rights

Upon the completion of this offering, the holders of up to approximately 85.1 million shares of our common stock issuable upon conversion of our outstanding convertible preferred stock will initially be entitled to certain Form S-3 registration rights. Investors holding, collectively, not less than 30% of registrable securities then outstanding may, with respect to not more than two such registrations within any 12-month period, request that we register all or a portion of their shares on Form S-3 if we are qualified to file a registration statement on Form S-3, subject to specified exceptions. Such request for registration on Form S-3 must cover securities with aggregate proceeds, net of underwriting discounts, and expenses related to the issuance, which equal or exceed $2.0 million. The right to have such shares registered on Form S-3 is further subject to other specified conditions and limitations.

Anti-Takeover Provisions of Delaware Law and Our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Section 203 of the Delaware General Corporation Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, our Board of Directors approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those (i) shares owned by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the Board of Directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

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In general, Section 203 defines a "business combination" to include the following:

•any merger or consolidation involving us and the interested stockholder;

•any sale, transfer, pledge, or other disposition of 10% or more of our assets involving the interested stockholder;

•subject to certain exceptions, any transaction that results in the issuance or transfer by us of any of our stock to the interested stockholder;

•any transaction involving us that has the effect of increasing the proportionate share of our stock or any class or series of ours beneficially owned by the interested stockholder; and

•the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges, or other financial benefits by or through us.

In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of our outstanding voting stock.

The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire us even though such a transaction may offer our stockholders the opportunity to sell their stock at a price above the prevailing market price.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Among other things, our amended and restated certificate of incorporation and amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, will:

•permit our Board of Directors to issue up to 10,000,000 shares of preferred stock, with any rights, preferences, and privileges as they may designate;

•provide that the authorized number of directors may be changed only by resolution of our Board of Directors;

•provide that our Board of Directors will be classified into three classes of directors, divided as nearly as equal in number as possible;

•provide that, subject to the rights of any series of preferred stock to elect directors, directors may only be removed for cause, which removal may be effected, subject to any limitation imposed by law, by the holders of at least 66 2/3% of the voting power of all of our then-outstanding shares of the capital stock entitled to vote generally at an election of directors;

•provide that all vacancies, including newly created directorships, may, except as otherwise required by law, be filled by the affirmative vote of a majority of directors then in office, even if less than a quorum;

•require that any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent or electronic transmission;

•provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing and also specify requirements as to the form and content of a stockholder's notice;

•provide that special meetings of our stockholders may be called only by our Board of Directors pursuant to a resolution adopted by a majority of the total number of directors constituting the Board of Directors, and not by our stockholders; and

•not provide for cumulative voting rights, therefore allowing the holders of a majority of the shares of common stock entitled to vote in any election of directors to elect all of the directors standing for election, if they should so choose.

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The amendment of any of these provisions would require approval by the holders of at least 66 2/3% of the voting power of all of our then-outstanding common stock.

The combination of these provisions will make it more difficult for our existing stockholders to replace our Board of Directors as well as for another party to obtain control of us by replacing our Board of Directors. Because our Board of Directors has the power to retain and discharge our officers, these provisions could also make it more difficult for existing stockholders or another party to effect a change in management. In addition, the authorization of undesignated preferred stock makes it possible for our Board of Directors to issue preferred stock with voting or other rights or preferences that could impede the success of any attempt to effect a change in control of our company.

These provisions are intended to enhance the likelihood of continued stability in the composition of our Board of Directors and its policies and to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to reduce our vulnerability to hostile takeovers and to discourage certain tactics that may be used in proxy fights. However, such provisions could have the effect of discouraging others from making tender offers for our shares and may have the effect of delaying changes in control or management of our company. As a consequence, these provisions may also inhibit fluctuations in the market price of our stock that could result from actual or rumored takeover attempts. We believe that the benefits of these provisions, including increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure our company, outweigh the disadvantages of discouraging takeover proposals because negotiation of takeover proposals could result in an improvement of their terms.

Choice of Forum

Our amended and restated certificate of incorporation, that will be in effect immediately prior to the completion of this offering, will provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, in the event that the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware or other state courts of the State of Delaware) is the exclusive forum for any derivative action or proceeding brought on our behalf; any action asserting a claim of breach of fiduciary duty; any action asserting a claim against us arising pursuant to the DGCL, our amended and restated certificate of incorporation, or our amended and restated bylaws (both of which will be in effect immediately prior to the completion of this offering and as either may be amended from time to time); or any action asserting a claim against us that is governed by the internal affairs doctrine; provided that, the exclusive forum provision will not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction; and provided further that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will also provide that the federal district courts of the United States of America will be the exclusive forum for the resolution of any complaint asserting a cause of action against us or any of our directors, officers, employees, or agents and arising under the Securities Act. Nothing in our amended and restated certificate of incorporation or amended and restated bylaws, both of which will be in effect immediately prior to the completion of this offering, precludes stockholders that assert claims under the Exchange Act from bringing such claims in state or federal court, subject to applicable law.

If a Foreign Action is filed in the name of any stockholder, such stockholder shall be deemed to have consented to the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the applicable provisions of our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering and having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder. Although our amended and restated certificate of incorporation that will be in effect immediately prior to the completion of this offering will contain the choice of forum provision described above, it is possible that a court could find that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

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This choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, other employees, or stockholders, which may discourage lawsuits with respect to such claims, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. Furthermore, the enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that a court could find these types of provisions to be inapplicable or unenforceable. This provision also may result in increased costs for investors to bring a claim.

Limitations on Liability and Indemnification

For a discussion of liability and indemnification, see the section titled "*Management—Limitations on Liability and Indemnification Matters*."

Listing

We have applied to list our common stock on Nasdaq under the trading symbol "CARL" and this offering is contingent upon obtaining approval of such listing.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock immediately prior to the closing of this offering will be Computershare Trust Company, N.A. The transfer agent and registrar's address is 150 Royall Street, Canton, Massachusetts 02021.

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SHARES ELIGIBLE FOR FUTURE SALE

Prior to this offering, there has been no public market for our shares. Future sales of our common stock in the public market, or the availability of such shares for sale in the public market, could adversely affect market prices prevailing from time to time. As described below, only a limited number of shares will be available for sale shortly after this offering due to contractual and legal restrictions on resale. Nevertheless, sales of shares of our common stock in the public market after such restrictions lapse, or the perception that those sales may occur, could adversely affect the prevailing market price at such time and our ability to raise equity capital in the future.

Based on the number of shares outstanding as of March 31, 2025, upon the completion of this offering, an aggregate of shares of our common stock will be outstanding, assuming the Preferred Stock Conversion, the Reverse Stock Split, the issuance of shares offered by us in this offering, no exercise of the underwriters' option to purchase additional shares, and no exercise of outstanding warrants or options.

Of the outstanding shares, all of the shares sold in this offering will be freely tradable, except that any shares held by our affiliates, as that term is defined in Rule 144 under the Securities Act, may only be sold in compliance with the limitations described below, and restricted shares of common stock are subject to time-based vesting terms.

The remaining shares of common stock held by existing stockholders immediately prior to the completion of this offering will be "restricted securities" as such term is defined in Rule 144 under the Securities Act. These restricted securities were issued and sold by us in private transactions and are eligible for public sale only if registered under the Securities Act or if they qualify for an exemption from registration under the Securities Act, including the exemptions provided by Rule 144 or Rule 701, summarized below.

Rule 144

In general, a person who has beneficially owned restricted stock for at least six months would be entitled to sell their securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the 90 days preceding, a sale; and (ii) we are subject to the periodic reporting requirements of the Exchange Act for at least 90 days before the sale. Persons who have beneficially owned restricted shares for at least six months, but who are our affiliates at the time of, or any time during the 90 days preceding, a sale would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of either of the following:

- 1% of the number of shares then outstanding, which will equal approximately shares immediately after this offering, assuming no exercise of the underwriters' option to purchase additional shares, based on the number of shares outstanding as of March 31, 2025; or
- the average weekly trading volume of our common stock on Nasdaq during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale;

provided, in each case, that we are subject to the periodic reporting requirements of the Exchange Act for at least 90 days before the sale. Such sales, both by affiliates and by non-affiliates, must also comply with the manner of sale, current public information, and notice provisions of Rule 144.

Rule 701

Rule 701 under the Securities Act, as in effect on the date of this prospectus, permits resales of shares in reliance upon Rule 144 but without compliance with certain restrictions of Rule 144, including the holding period requirement. Most of our employees, executive officers or directors who purchased shares under a written compensatory plan or contract may be entitled to rely on the resale provisions of Rule 701, but all holders of Rule 701 shares are required to wait until 90 days after the date of this prospectus before selling their shares.

However, substantially all Rule 701 shares are subject to lock-up agreements as described below and under "Underwriting" included elsewhere in this prospectus and will become eligible for sale upon the expiration of the restrictions set forth in those agreements.

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Lock-Up Agreements

We, all of our directors and officers, and substantially all the holders of our outstanding shares of our equity securities have agreed with the underwriters that, subject to specified exceptions as detailed further in the section titled "*Underwriting*," we or they will not, except with the prior written consent of BofA Securities, Inc., Goldman Sachs & Co. LLC, and Piper Sandler & Co., sell or otherwise transfer or dispose of any of our securities for a period of 180 days from the date of this prospectus, subject to certain exceptions. The representatives of the underwriters in this offering may, in their sole discretion, permit early release of shares subject to the lock-up agreements. See the section titled "*Underwriting*" included elsewhere in this prospectus for more information.

In addition to the restrictions contained in the lock-up agreements described above, we have entered into agreements with certain security holders, including the amended and restated investors' rights agreement, our standard form of option agreement, and our standard form of restricted stock purchase agreement, that contain market stand-off provisions or incorporate market stand-off provisions from our equity incentive plan imposing restrictions on the ability of such security holders to offer, sell, or transfer our equity securities for a period of 180 days following the date of this prospectus.

Following the lock-up periods set forth in the agreements described above, and assuming that the representatives of the underwriters do not release any parties from these agreements, all of the shares of our common stock that are restricted securities or are held by our affiliates as of the date of this prospectus will be eligible for sale in the public market in compliance with Rule 144 under the Securities Act.

Registration Rights

Upon completion of this offering, certain holders of our securities will be entitled to various rights with respect to registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in these shares becoming fully tradable without restriction under the Securities Act immediately upon the effectiveness of the registration. See the section titled "*Description of Capital Stock—Registration Rights*" included elsewhere in this prospectus for more information.

Equity Incentive Plans

We intend to file one or more registration statements on Form S-8 under the Securities Act to register our shares issued or reserved for issuance under our equity incentive plans. The first such registration statement is expected to be filed on or soon after the date of this prospectus and will automatically become effective upon filing with the SEC. Accordingly, shares registered under such registration statement will be available for sale in the open market, unless such shares are subject to vesting restrictions with us, or the lock-up restrictions described above. As of the date of this prospectus, we estimate that such registration statement on Form S-8 will cover approximately shares.

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MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES TO NON-U.S. HOLDERS OF OUR COMMON STOCK

The following discussion is a summary of the material U.S. federal income tax consequences to Non-U.S. Holders (as defined below) of the purchase, ownership, and disposition of shares of our common stock issued pursuant to this offering. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local, or non-U.S. tax laws are not discussed. This discussion is based on the Code, applicable Treasury Regulations promulgated thereunder, published rulings and administrative interpretations of the U.S. Internal Revenue Service (the "IRS"), and court decisions in each case as in effect as of the date of this prospectus, all of which may change or be subject to differing interpretations, possibly with retroactive effect. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance the IRS or a court will not take a contrary position to that discussed below regarding the tax consequences of the purchase, ownership, and disposition of our common stock.

For purposes of this discussion, a "Non-U.S. Holder" is any beneficial owner of common stock that is neither a "U.S. person" nor an entity or arrangement treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that is, for U.S. federal income tax purposes:

- a citizen or resident of the United States;
- a corporation, or other entity taxable as a corporation for U.S. federal income tax purposes, created or organized in or under the laws of the United States, any state therein or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust that (1) is subject to the primary supervision of a U.S. court and the control of one or more "United States persons" (within the meaning of Section 7701(a)(30) of the Code) or (2) has a valid election in effect to be treated as a U.S. person for U.S. federal income tax purposes.

This discussion addresses only Non-U.S. Holders that hold our common stock as a "capital asset" within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all aspects of U.S. federal income taxation that may be important to a Non-U.S. Holder in light of that stockholder's particular circumstances, including the impact of the Medicare contribution tax on net investment income and the alternative minimum tax. In addition, this discussion does not address consequences relevant to a Non-U.S. Holder subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons holding shares of our common stock as part of a hedge, straddle, or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, insurance companies, and other financial institutions;
- brokers, dealers, or traders in securities;
- "controlled foreign corporations," "passive foreign investment companies," and corporations that accumulate earnings to avoid U.S. federal income tax;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and investors therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell shares of our common stock under the constructive sale provisions of the Code;
- persons who hold or receive shares of our common stock pursuant to the exercise of any employee stock option or otherwise as compensation;
- tax-qualified retirement plans; and
- "qualified foreign pension funds" as defined in Section 897(i)(2) of the Code and entities all of the interests of which are held by qualified foreign pension funds.

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If a partnership, or any entity or arrangement treated as a partnership for U.S. federal income tax purposes, holds our common stock, the tax treatment of a partner in such partnership generally will depend on the status of the partners and the activities of the partnership. A partner in a partnership holding our common stock should consult its tax advisor regarding the U.S. federal income tax consequences to it.

This discussion of material U.S. federal income tax consequences is not a complete analysis or description of all potential U.S. federal income tax consequences to Non-U.S. Holders of the purchase, ownership, and disposition of our shares of common stock. This discussion does not address tax consequences that may vary with, or are contingent on, individual circumstances. It does not address any tax consequences arising under the Medicare tax on net investment income. In addition, it does not address any U.S. federal, estate, gift, or other non-income tax or any non-U.S., state, or local tax consequences of owning or disposing of our common stock.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP, AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL, OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Distributions

If we make a distribution of cash or other property (other than certain distributions of our stock) in respect of shares of our common stock, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent that those distributions exceed our current and accumulated earnings and profits, they will constitute a return of capital, which will first reduce a Non-U.S. Holder's adjusted tax basis in its shares of our common stock, but not below zero, and then will be treated as gain from the sale of shares of our common stock, as described below under "Gain on Sale or Other Disposition of Shares of Our Common Stock."

Subject to the discussion below on effectively connected income, dividends paid to a Non-U.S. Holder generally will be subject to withholding tax at a 30% rate of the gross amount of the dividends or a reduced rate specified by an applicable income tax treaty. In order to obtain a reduced rate of withholding, a Non-U.S. Holder will be required to provide a properly executed applicable IRS Form W-8BEN or W-8BEN-E (or other applicable or successor form) certifying the Non-U.S. Holder's entitlement to benefits under an applicable income tax treaty. A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder's conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment or fixed base maintained by the Non-U.S. Holder in the United States), the Non-U.S. Holder will generally be taxed on the dividends on a net income basis at regular rates applicable to a U.S. person. In that case, the Non-U.S. Holder will be exempt from the withholding tax discussed in the preceding paragraph, although the Non-U.S. Holder will be required to provide to the applicable withholding agent a properly executed IRS Form W-8ECI certifying that the dividends are effectively connected with the Non-U.S. Holder's conduct of a trade or business in the United States. Non-U.S. Holders should consult their tax advisors with respect to other U.S. tax consequences of the purchase, ownership, and disposition of shares of our common stock, including the possible imposition of a branch profits tax at a rate of 30% (or a lower treaty rate) for corporations.

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Gain on Sale or Other Disposition of Shares of Our Common Stock

Subject to the discussions below under "*Informational Reporting and Backup Withholding*" and "*Additional Withholding Tax on Payments Made to Foreign Accounts*," a Non-U.S. Holder will not be subject to U.S. federal income or withholding tax on any gain realized upon the sale or other taxable disposition of shares of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment in the United States to which such gain is attributable);
- the Non-U.S. Holder is a non-resident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a U.S. real property interest ("USRPI") by reason of our status as a U.S. real property holding corporation ("USRPHC") for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular rates applicable to U.S. persons. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

A Non-U.S. Holder described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on gain realized upon the sale or other taxable disposition of our common stock, which may be offset by U.S. source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided that the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe that we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPIs relative to the fair market value of our non-USRPIs and our other business assets, there can be no assurance that we currently are not a USRPHC or will not become a USRPHC in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of shares of our common stock will not be subject to U.S. federal income tax if our common stock is "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually and constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Informational Reporting and Backup Withholding

Payments of dividends on shares of our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know that the holder is a U.S. person and the holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E, or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any distributions on shares of our common stock paid to the Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds of the sale or other taxable disposition of shares of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a U.S. person or the holder otherwise establishes an exemption. Proceeds of a disposition of shares of our common stock conducted through a non-U.S. office of a non-U.S. broker generally will not be subject to backup withholding or information reporting.

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Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

Additional Withholding Tax on Payments Made to Foreign Accounts

Provisions of the Code commonly referred to as the Foreign Account Tax Compliance Act ("FATCA") generally impose a 30% withholding tax on dividends on, and gross proceeds from the sale or other disposition of, our common stock if paid to a foreign entity unless (1) the foreign entity is a "foreign financial institution" (as defined in the Code) and undertakes certain due diligence, reporting, withholding, and certification obligations, (2) the foreign entity is a "non-financial foreign entity" (as defined in the Code) and identifies certain of its U.S. investors; or (3) the foreign entity is otherwise excepted under FATCA. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements.

Withholding under FATCA generally applies to payments of dividends on our common stock. While withholding under FATCA may apply to payments of gross proceeds from a sale or other disposition of our common stock, under proposed U.S. Treasury Regulations, withholding on payments of gross proceeds is not required. Although such regulations are not final, applicable withholding agents may rely on the proposed regulations until final regulations are issued.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in shares of our common stock.

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UNDERWRITING

BofA Securities, Inc., Goldman Sachs & Co. LLC, and Piper Sandler & Co. are acting as representatives of each of the underwriters named below. Subject to the terms and conditions set forth in an underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock set forth opposite its name below.

Underwriter	Number of Shares
BofA Securities, Inc.	
Goldman Sachs & Co. LLC	
Piper Sandler & Co.	
Truist Securities, Inc.	
BTIG, LLC	
Total	

Subject to the terms and conditions set forth in the underwriting agreement, the underwriters have agreed, severally and not jointly, to purchase all of the shares offered by us under the underwriting agreement if any of these shares are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased, or the underwriting agreement may be terminated.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the shares, subject to prior sale, when, as, and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officer's certificates and legal opinions. The underwriters reserve the right to withdraw, cancel, or modify offers to the public and to reject orders in whole or in part.

Commissions and Discounts

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus and to dealers at that price less a concession not in excess of $ per share. After the initial offering, the public offering price, concession, or any other term of the offering may be changed.

The following table shows the public offering price, underwriting discounts and commissions, and proceeds before expenses to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares from us.

	Per Share		Total	
			Without Option	With Option
Public offering price	$ —	$ —	$ —	
Underwriting discounts and commissions paid by us	$ —	$ —	$ —	
Proceeds, before expenses, to us	$ —	$ —	$ —	

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The expenses of the offering, not including the underwriting discounts and commissions, are estimated at $ and are payable by us. We have agreed to reimburse the underwriters for certain of their expenses, up to $40,000.

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Option to Purchase Additional Shares

The underwriters have an option to purchase up to additional shares of common stock, exercisable for 30 days after the date of this prospectus, at the public offering price, less the underwriting discounts and commissions. If the underwriters exercise this option, each will be obligated, subject to conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our executive officers and directors and our other existing security holders (each, a "Lock-Up Party") have agreed not to sell or transfer any common stock or securities convertible into, exchangeable for, exercisable for, or repayable with common stock, for 180 days after the date of this prospectus without first obtaining the written consent of BofA Securities, Inc., Goldman Sachs & Co. LLC, and Piper Sandler & Co. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

•offer, pledge, sell, or contract to sell any common stock;

•sell any option or contract to purchase any common stock;

•purchase any option or contract to sell any common stock;

•grant any option, right, or warrant for the sale of any common stock;

•lend or otherwise dispose of or transfer any common stock;

•request or demand that we file or make a confidential submission of a registration statement related to the common stock; or

•enter into any hedging, swap, loan, or other agreement or transaction that transfers, in whole or in part, the economic consequence of ownership of any common stock whether any such hedging, swap, loan or transaction is to be settled by delivery of shares or other securities, in cash or otherwise.

The lock-up provision applies to common stock and to securities convertible into, exchangeable or exercisable for, or repayable with common stock. It also applies to common stock owned now or acquired later by the person executing the agreement or for which the person executing the agreement later acquires the power of disposition (collectively, the "Lock-Up Securities").

Notwithstanding the foregoing, a Lock-Up Party may transfer shares of common stock: (i) as a bona fide gift or gifts or charitable contribution (including any commitment to donate Lock-Up Securities and/or proceeds from the sale of Lock-Up Securities pursuant to a charitable contribution), including, without limitation, to a trust, charitable organization or educational institution, or for bona fide estate planning purposes; (ii) upon death or by will, testamentary document, or intestate succession to the legal representative, heir, beneficiary, or a member of the immediate family of the Lock-up Party (for purposes of the lock-up agreements, "immediate family" of the Lock-up Party shall mean any relationship by blood, marriage, domestic partnership, or adoption, not more remote than first cousin of the Lock-up Party); (iii) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree, or separation agreement; (iv) pursuant to an order of a court or regulatory agency having jurisdiction over the Lock-up Party; (v) to any corporation, partnership, limited liability company, or other entity of which the Lock-up Party or the immediate family of the Lock-up Party is the legal and beneficial owner of all of the outstanding equity securities or similar interests; (vi) to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (v) above; (vii) to any immediate family member or any trust, partnership, limited liability company, or other entity for the direct or indirect benefit of the Lock-up Party or one or more immediate family members of the Lock-up Party, or if the Lock-up Party is a trust, to a trustor or beneficiary of the trust, or to the estate of a beneficiary of such trust; (viii) if the Lock-up Party is a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust, or other business entity that is an affiliate (as defined in Rule 405 promulgated under the Securities Act) of the Lock-up Party, or to any investment fund or other entity that is directly or indirectly controlling, controlled by, managing or managed by, or under common control with the Lock-up Party or affiliates of the Lock-up Party (including, for the avoidance of doubt, where the Lock-up Party is a partnership, to

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its general partner or a successor partnership or fund, or any other funds managed by such partnership), or (B) as part of a distribution, transfer, or disposition to current or former limited partners, limited liability company members, managers, equityholders or stockholders of the Lock-up Party, or holders of similar equity interests in the Lock-up Party, or to the estates of any such limited partners, limited liability company members, managers, equityholders, or stockholders; (ix) to us (A) upon the Lock-up Party's death, disability, or termination of employment or other service relationship with us, provided that such shares of common stock were issued to the Lock-up Party pursuant to an agreement or equity award granted pursuant to an employee benefit plan, option, warrant, or other right disclosed in the prospectus for the Public Offering, or (B) pursuant to agreements under which we have the option to repurchase shares; (x) to us pursuant to the vesting, settlement or exercise of restricted stock units, restricted stock, options, warrants, or other rights to purchase shares of common stock (including, in each case, by way of "net" or "cashless" exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, restricted stock, options, warrants, or rights, provided that (1) any such shares of common stock received upon such exercise, vesting, or settlement shall be subject to the terms of the lock-up agreements; (2) any filing under the Exchange Act required to be made during the Lock-Up Period shall indicate in the footnotes thereto that the filing relates to circumstances described in this clause; (3) the Lock-up Party does not otherwise voluntarily effect any public filing or report regarding such transfers; and (4) any such restricted stock units, restricted stock, options, warrants, or rights are held by the Lock-up Party pursuant to an agreement or equity award granted under a stock incentive plan or other equity award plan, each of which is disclosed in the prospectus for the Public Offering; or (xi) pursuant to a bona fide third-party tender offer, merger, consolidation, or other similar transaction, in one transaction or a series of related transactions, made to all holders of common stock that has been approved by our Board of Directors, which results in any person or group of persons becoming the beneficial owners (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of 50% of our outstanding voting securities (or the surviving entity); provided that in the event that the tender offer, merger, consolidation, or other such transaction is not completed, the Lock-Up Securities shall remain subject to the provisions of the lock-up agreements.

In addition, the foregoing restrictions shall not prevent or restrict (i) the conversion of the outstanding shares of our convertible preferred stock of into our common stock; provided that our common stock acquired upon such exercise shall be subject to the terms of the lock up agreements; and (ii) the Lock-up Party from establishing a trading plan that complies with Rule 10b5-1 under the Exchange Act (a "10b5-1 Trading Plan") for the transfer of Lock-Up Securities, so long as there are no sales of Lock-Up Securities under such plan during the Lock-Up Period; and provided that the establishment of a 10b5-1 Trading Plan providing for sales of Lock-Up Securities shall only be permitted if any public announcement or filing under the Exchange Act, if required or voluntarily made by or on behalf of the Lock-up Party or us regarding the establishment of such plan, shall include a statement to the effect that no transfer of Lock-Up Securities may be made under such plan during the Lock-Up Period.

Listing

We expect the shares to be approved for listing on Nasdaq under the symbol "CARL" and the closing of this offering is contingent upon such listing.

Before this offering, there has been no public market for our common stock. The initial public offering price will be determined through negotiations between us and the representatives. In addition to prevailing market conditions, the factors to be considered in determining the initial public offering price are:

- the valuation multiples of publicly traded companies that the representatives believe to be comparable to us;
- our financial information;
- the history of, and the prospects for, our company and the industry in which we compete;
- an assessment of our management, its past and present operations, and the prospects for, and timing of, our future revenues;
- the present state of our development; and
- the above factors in relation to market values and various valuation measures of other companies engaged in activities similar to ours.

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An active trading market for the shares may not develop. It is also possible that, after the offering, the shares will not trade in the public market at or above the initial public offering price.

The underwriters do not expect to sell more than 5% of the shares in the aggregate to accounts over which they exercise discretionary authority.

Price Stabilization, Short Positions, and Penalty Bids

Until the distribution of the shares is completed, SEC rules may limit underwriters from bidding for and purchasing our common stock. However, the representatives may engage in transactions that stabilize the price of the common stock, such as bids or purchases to peg, fix, or maintain that price.

In connection with the offering, the underwriters may purchase and sell our common stock in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales, and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares from us as described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option granted to them. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our common stock in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilizing transactions consist of various bids for or purchases of shares of common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discounts and commissions received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on Nasdaq, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Electronic Distribution

In connection with the offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as email.

Other Relationships

Some of the underwriters and their affiliates have engaged in, and may in the future engage in, investment banking and other commercial dealings in the ordinary course of business with us or our affiliates. They have received, or may in the future receive, customary fees and commissions for these transactions.

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In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

European Economic Area

In relation to each Member State of the European Economic Area (each a "Relevant State"), no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares that have been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that offers of shares may be made to the public in that Relevant State at any time under the following exemptions under the Prospectus Regulation:

(a)to any legal entity that is a qualified investor as defined under the Prospectus Regulation;

(b)to fewer than 150 natural or legal persons (other than qualified investors as defined under the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

(c)in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of shares shall require the Issuer or any Manager to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Relevant State who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged, and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged, and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances that may give rise to an offer to the public other than their offer or resale in a Relevant State to qualified investors, in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the representatives, and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgments, and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

The above selling restriction is in addition to any other selling restrictions set out below.

In connection with the offering, the Managers are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients nor for providing advice in relation to the offering.

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Notice to Prospective Investors in the United Kingdom

In relation to the United Kingdom ("UK"), no shares have been offered or will be offered pursuant to the offering to the public in the UK prior to the publication of a prospectus in relation to the shares which has been approved by the Financial Conduct Authority in the UK in accordance with the UK Prospectus Regulation and the Financial Services and Markets Act 2000 ("FSMA"), except that offers of shares may be made to the public in the UK at any time under the following exemptions under the UK Prospectus Regulation and the FSMA:

(a)to any legal entity that is a qualified investor as defined under the UK Prospectus Regulation;

(b)to fewer than 150 natural or legal persons (other than qualified investors as defined under the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

(c)at any time in other circumstances falling within section 86 of the FSMA,

provided that no such offer of shares shall require the Issuer or any Manager to publish a prospectus pursuant to Section 85 of the FSMA or Article 3 of the UK Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the UK who initially acquires any shares or to whom any offer is made will be deemed to have represented, acknowledged, and agreed to and with the Company and the Managers that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged, and agreed that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances that may give rise to an offer to the public other than their offer or resale in the UK to qualified investors, in circumstances in which the prior consent of the representatives has been obtained to each such proposed offer or resale.

The Company, the representatives, and their affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgments, and agreements.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in the UK means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

In connection with the offering, the Managers are not acting for anyone other than the issuer and will not be responsible to anyone other than the issuer for providing the protections afforded to their clients, nor for providing advice in relation to the offering.

This document is for distribution only to persons who (i) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the Financial Promotion Order), (ii) are persons falling within Article 49(2)(a) to (d) ("high net worth companies, unincorporated associations etc.") of the Financial Promotion Order, (iii) are outside the UK, or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA in connection with the issue or sale of any securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "relevant persons"). This document is directed only at relevant persons and must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this document relates is available only to relevant persons and will be engaged in only with relevant persons.

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Notice to Prospective Investors in Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the Company, or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA ("FINMA"), and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of shares.

Notice to Prospective Investors in the Dubai International Financial Centre

This prospectus relates to an Exempt Offer in accordance with the Offered Securities Rules of the Dubai Financial Services Authority ("DFSA"). This prospectus is intended for distribution only to persons of a type specified in the Offered Securities Rules of the DFSA. It must not be delivered to, or relied on by, any other person. The DFSA has no responsibility for reviewing or verifying any documents in connection with Exempt Offers. The DFSA has not approved this prospectus nor taken steps to verify the information set forth herein and has no responsibility for the prospectus. The shares to which this prospectus relates may be illiquid and/or subject to restrictions on their resale. Prospective purchasers of the shares offered should conduct their own due diligence on the shares. If you do not understand the contents of this prospectus, you should consult an authorized financial advisor.

Notice to Prospective Investors in Australia

No placement document, prospectus, product disclosure statement, or other disclosure document has been lodged with the Australian Securities and Investments Commission, in relation to the offering. This prospectus does not constitute a prospectus, product disclosure statement, or other disclosure document under the Corporations Act 2001 (the "Corporations Act"), and does not purport to include the information required for a prospectus, product disclosure statement, or other disclosure document under the Corporations Act.

Any offer in Australia of the shares may only be made to persons ("Exempt Investors") who are "sophisticated investors" (within the meaning of section 708(8) of the Corporations Act), "professional investors" (within the meaning of section 708(11) of the Corporations Act), or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the shares without disclosure to investors under Chapter 6D of the Corporations Act.

The shares applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document that complies with Chapter 6D of the Corporations Act. Any person acquiring shares must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation, or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives, and circumstances, and, if necessary, seek expert advice on those matters.

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Notice to Prospective Investors in Hong Kong

The shares have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (i) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (ii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation, or document relating to the shares has been or may be issued or has been or may be in the possession of any person for the purposes of issue, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

Notice to Prospective Investors in Japan

The shares have not been and will not be registered under the Financial Instruments and Exchange Law of Japan (Law No. 25 of 1948, as amended) and, accordingly, will not be offered or sold, directly or indirectly, in Japan, or for the benefit of any Japanese Person or to others for re-offering or resale, directly or indirectly, in Japan or to any Japanese Person, except in compliance with all applicable laws, regulations, and ministerial guidelines promulgated by relevant Japanese governmental or regulatory authorities in effect at the relevant time. For the purposes of this paragraph, "Japanese Person" shall mean any person resident in Japan, including any corporation or other entity organized under the laws of Japan.

Notice to Prospective Investors in Singapore

This prospectus has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the shares were not offered or sold or caused to be made the subject of an invitation for subscription or purchase and will not be offered or sold or caused to be made the subject of an invitation for subscription or purchase, and this prospectus or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the shares, has not been circulated or distributed, nor will it be circulated or distributed, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act (Chapter 289) of Singapore, as modified or amended from time to time ("SFA")) pursuant to Section 274 of the SFA; (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA; or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the shares are subscribed or purchased under Section 275 of the SFA by a relevant person that is:

(a)a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b)a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the shares pursuant to an offer made under Section 275 of the SFA except:

(a)to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;

(b)where no consideration is or will be given for the transfer;

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(c)where the transfer is by operation of law; or

(d)as specified in Section 276(7) of the SFA.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* ("NI 33-105"), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Brazil

The offer and sale of the securities have not been and will not be registered with the Brazilian Securities Commission (Comissão de Valores Mobiliários, or "CVM") and, therefore, will not be carried out by any means that would constitute a public offering in Brazil under CVM Resolution No. 160, dated 13 July 2022, as amended ("CVM resolution 160") or unauthorized distribution under Brazilian laws and regulations. The securities may only be offered to Brazilian professional investors (as defined by applicable CVM regulation), who may only acquire the securities through a non-Brazilian account, with settlement outside Brazil in non-Brazilian currency. The trading of these securities on regulated securities markets in Brazil is prohibited.

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LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus will be passed upon for us by Morrison & Foerster LLP, San Diego, California. Certain legal matters relating to this offering will be passed upon for the underwriters by Latham & Watkins LLP, Costa Mesa, California.

EXPERTS

Ernst & Young LLP, an independent registered public accounting firm, has audited our financial statements at December 31, 2024, and 2023, and for each of the two years in the period ended December 31, 2024, as set forth in their report. We've included our financial statements in the prospectus and elsewhere in the registration statement in reliance on Ernst & Young LLP's report, given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 (File Number 333-) under the Securities Act with respect to the common stock we are offering by this prospectus. This prospectus, which constitutes part of the registration statement, does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements, or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement, or other document.

Upon the completion of the offering, we will be subject to the informational requirements of the Exchange Act and will file annual, quarterly, and current reports, proxy statements, and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at www.sec.gov. We also maintain a website at https://www.carlsmed.com and upon completion of the offering, you may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The information contained in, or that can be accessed through, our website is not part of, and is not incorporated into, this prospectus.

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CARLSMED, INC.

Index to Financial Statements

	Audited Financial Statements	
	Report of Independent Registered Public Accounting Firm	F-2
	Balance Sheets as of December 31, 2024 and 2023	F-3
	Statements of Operations and Comprehensive Loss for the Years Ended December 31, 2024 and 2023	F-4
	Statements of Convertible Preferred Stock and Stockholders' Deficit for the Years Ended December 31, 2024 and 2023	F-5
	Statements of Cash Flows for the Years Ended December 31, 2024 and 2023	F-6
	Notes to the Financial Statements	F-8
	Unaudited Condensed Financial Statements	
	Unaudited Condensed Balance Sheets as of March 31, 2025 and December 31, 2024	F-27
	Unaudited Condensed Statements of Operations and Comprehensive Loss for the Three Months	F-28

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	Ended March 31, 2025 and 2024	
	Unaudited Condensed Statements of Convertible Preferred Stock and Stockholders' Deficit for the Three Months Ended March 31, 2025 and 2024	F-29
	Unaudited Condensed Statements of Cash Flows for the Three Months Ended March 31, 2025 and 2024	F-30
	Notes to the Unaudited Condensed Financial Statements	F-32

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Report of Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Carlsmed, Inc.

Opinion on the Financial Statements

We have audited the accompanying balance sheets of Carlsmed, Inc. (the Company) as of December 31, 2024 and 2023, the related statements of operations and comprehensive loss, convertible preferred stock and stockholders' deficit and cash flows for each of the two years in the period ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2024 and 2023, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2024, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2021.

San Diego, California
April 23, 2025

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CARLSMED, INC.

BALANCE SHEETS

(in thousands, except for share and par value amounts)

	December 31, 2024	December 31, 2023
Assets		
Current assets:		
Cash and cash equivalents	$ 40,125	$ 7,222
Restricted cash	100	150
Accounts receivable, net of allowances of $1,239 and $871, as of December 31, 2024 and 2023, respectively	6,766	3,165
Inventory	995	575
Prepaid expenses and other current assets	1,365	653
Total current assets	49,351	11,765
Property and equipment, net	260	225
Operating lease right-of-use assets	1,644	2,019
Other assets	569	15
Total assets	$ 51,824	$ 14,024
Liabilities, Convertible Preferred Stock, and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 2,412	$ 1,694
Accrued liabilities	2,687	1,542
Accrued compensation	3,270	2,056
Short-term portion of term loan, net	—	1,838
Short-term operating lease liabilities	449	310
Total current liabilities	8,818	7,440
Long-term portion of term loan, net	15,414	7,473
Long-term operating lease liabilities	1,317	1,766
Warrant liabilities	457	—
Other long-term liabilities	222	96
Total liabilities	26,228	16,775
Commitments and contingencies (*Note 9*)		
Series A convertible preferred stock, $0.00001 par value; 27,357,843 shares authorized, issued, and outstanding, and $13,767 liquidation preference as of December 31, 2024 and 2023	13,578	13,578
Series B convertible preferred stock, $0.00001 par value; 24,515,627 shares authorized, 24,189,639 shares issued and outstanding, and $30,000 liquidation preference as of December 31, 2024 and 2023	29,801	29,801
Series C convertible preferred stock, $0.00001 par value; 27,400,595 and zero shares authorized, 27,286,900 and zero shares issued and outstanding, and $52,500 and zero liquidation preference as of December 31, 2024 and 2023, respectively	52,847	—
Stockholders' deficit:		

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Common stock, $0.00001 par value; 121,843,775 and 90,144,317 shares authorized, 23,630,274 and 22,957,201 shares issued, and 23,096,940 and 22,157,201 shares outstanding as of December 31, 2024 and 2023, respectively	—	—
Additional paid-in capital	541	784
Accumulated deficit	(71,171)	(46,914)
Total stockholders' deficit	(70,630)	(46,130)
Total liabilities, convertible preferred stock, and stockholders' deficit	$ 51,824	$ 14,024

The accompanying notes are an integral part of these financial statements.

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CARLSMED, INC.

STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(in thousands, except share and per share amounts)

	Year Ended December 31, 2024	Year Ended December 31, 2023
Revenue	$ 27,165	$ 13,778
Cost of sales	7,117	3,875
Gross profit	20,048	9,903
Operating expenses:		
Research and development	14,304	7,395
Sales and marketing	21,472	15,101
General and administrative	8,394	5,998
Total operating expenses	44,170	28,494
Loss from operations	(24,122)	(18,591)
Other income (expense):		
Interest expense	(1,321)	(641)
Interest income	1,330	334
Change in fair value of warrant liabilities	(144)	—
Total other expense, net	(135)	(307)
Net loss and comprehensive loss	(24,257)	(18,898)
Deemed dividend to preferred stockholders	(592)	—
Net loss attributable to common stockholders	$ (24,849)	$ (18,898)
Net loss per share attributable to common stockholders, basic and diluted	$ (1.10)	$ (0.87)
Weighted-average number of common shares used to compute basic and diluted net loss per share	22,690,488	21,688,209

The accompanying notes are an integral part of these financial statements.

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CARLSMED, INC.

STATEMENT OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(in thousands, except for share amounts)

	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Series C Convertible Preferred Stock		
	Shares	Amount	Shares	Amount	Shares	Amount	Shares
Balance as of December 31, 2022	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**—**	**$ —**	**21,041,054**	**$ —**	**$**
Exercise of vested stock options	—	—	—	—	—	—	1,116,147	—	
Stock-based compensation expense	—	—	—	—	—	—	—	—	
Net loss	—	—	—	—	—	—	—	—	
Balance as of December 31, 2023	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**—**	**$ —**	**22,157,201**	**$ —**	**$**
Issuance of Series C convertible preferred stock, net of issuance costs of $245	—	—	—	—	27,286,900	52,847	—	—	
Deemed dividend related to issuance of Series C convertible preferred stock	—	—	—	—	—	—	—	—	
Issuance of common stock	—	—	—	—	—	—	162,500	—	
Vesting of early exercised stock options	—	—	—	—	—	—	266,666	—	
Exercise of vested stock options	—	—	—	—	—	—	510,573	—	
Stock-based compensation expense	—	—	—	—	—	—	—	—	
Net loss	—	—	—	—	—	—	—	—	
Balance as of December 31, 2024	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**27,286,900**	**$ 52,847**	**23,096,940**	**$ —**	**$**

The accompanying notes are an integral part of these financial statements.

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CARLSMED, INC.

STATEMENTS OF CASH FLOWS

(in thousands)

	Year Ended December 31, 2024	Year Ended December 31, 2023
Cash flows from operating activities		
Net loss	$ (24,257)	$ (18,898)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	145	136
Stock-based compensation	253	115
Non-cash interest	206	127
Loss on remeasurement of warrant liabilities	144	—
Non-cash lease expense	375	422
Provision for credit losses	368	871
Provision for excess and obsolete inventory	1,378	640
Changes in operating assets and liabilities:		
Accounts receivable, net	(3,969)	(2,431)
Inventory	(1,798)	(914)
Prepaid expenses and other assets	(720)	(128)
Accounts payable	297	943
Accrued liabilities	1,208	833
Accrued compensation	1,214	1,362
Lease liabilities	(310)	(558)
Net cash used in operating activities	**(25,466)**	**(17,480)**
Cash flows from investing activities:		
Purchase of property and equipment	(180)	(135)
Net cash used in investing activities	**(180)**	**(135)**
Cash flows from financing activities:		
Proceeds from issuance of Series C convertible preferred stock, net of issuance costs	52,255	—

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Proceeds from issuance of term loan, net of issuance costs	6,210	3,125
Proceeds from exercises of stock options	34	55
Net cash provided by financing activities	**58,499**	**3,180**
Increase (decrease) in cash, cash equivalents, and restricted cash	32,853	(14,435)
Cash, cash equivalents, and restricted cash at beginning of the year	7,372	21,807
Cash, cash equivalents, and restricted cash at end of the year	**$ 40,225**	**$ 7,372**

Supplemental Disclosure of Cash Flow Information:		
Cash paid for interest	$ 1,115	$ 515
Supplemental Disclosure of Noncash Investing and Financing Activities:		
Right-of-use lease asset recognized in connection with operating lease modification	$ —	$ 2,048
Vesting of early exercised common stock options	$ 56	$ —
Preferred stock warrants issued in connection with term loan modifications	$ 313	$ —
Deferred offering costs	$ 423	$ —

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CARLSMED, INC.

STATEMENTS OF CASH FLOWS - CONTINUED

(in thousands)

	Year Ended December 31, 2024	Year Ended December 31, 2023
Cash, Cash Equivalents, and Restricted Cash Information:		
Cash and cash equivalents, beginning of year	$ 7,222	$ 21,357
Restricted cash, beginning of year	150	450
Cash, cash equivalents, and restricted cash, beginning of year	7,372	21,807
Cash and cash equivalents, end of year	40,125	7,222
Restricted cash, end of year	100	150
Cash, cash equivalents, and restricted cash, end of year	$ 40,225	$ 7,372

The accompanying notes are an integral part of these financial statements.

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CARLSMED, INC.

NOTES TO FINANCIAL STATEMENTS

1. Organization

Description of Business

Carlsmed, Inc. (the "Company") is a commercial-stage company within the surgical device with enabling technology sector. The Company was incorporated in Delaware in June 2018 and is headquartered in Carlsbad, California. The Company designs, manufactures, and markets *aprevo*®, a comprehensive technology platform for spine fusion surgery procedures.

The aprevo platform includes proprietary surgical planning software, using outcomes-based algorithms that are aided with artificial intelligence, and resulting custom-built, anatomically designed vertebral interbody implants. These implants provide each patient with a personalized vertebral fit to address their pathology and anatomy.

The U.S. Food and Drug Administration ("FDA") cleared the aprevo interbody implants for the correction of adult lumbar spinal deformity through its 510(k) regulatory clearance pathway in December 2020. After FDA clearance, the Company commenced its limited clinical release, with its first U.S. patient implant in February 2021. In October 2021, the Company commenced its U.S. commercial launch of aprevo.

Liquidity and Capital Resources

The Company has raised aggregate gross equity proceeds of $92.9 million through December 31, 2024, from the issuance of common stock and convertible preferred stock. As of December 31, 2024, the Company had $40.1 million of cash and cash equivalents, $15.6 million debt outstanding under its loan and security agreement with Customers Bank (the "Customers Loan Agreement"), and an accumulated deficit of $71.2 million.

The Company expects to continue to generate operating losses for the foreseeable future as it continues to expand commercial operations and develop its product portfolio. The Company believes that its existing cash on hand will be sufficient to meet anticipated capital requirements for its operations for at least 12 months from the date of the issuance of the accompanying financial statements. The failure to obtain sufficient funds on acceptable terms and in a timely manner could require the Company to make significant spending reductions in its future operations and/or delay, reduce, or eliminate some or all of its research and development programs and product expansion or commercialization efforts. Any of these actions could materially harm the Company's business, results of operations, and future prospects.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared by management in accordance with accounting principles generally accepted in the United States ("GAAP"), and in the opinion of management, reflect normal and recurring adjustments for the fair presentation of its financial information.

Reclassification

The Company has made certain reclassifications in the accompanying financial statements as of and for the year ended December 31, 2023, to conform to the current year presentation. These reclassifications did not have any effect on the prior period net losses and were determined not to be material.

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Use of Estimates

The preparation of the financial statements in conformity with GAAP requires management to make informed estimates that require assumptions that affect the reported amounts in the accompanying financial statements. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that it believes to be reasonable under the circumstances. Actual results could differ materially under different assumptions and conditions.

Cash and Cash Equivalents

"Cash and cash equivalents" in the accompanying Balance Sheets consist of bank deposits and highly liquid investments, including money market fund accounts, that are readily convertible into cash without penalty, with original maturities of three months or less from the purchase date. The carrying amounts reported in the accompanying Balance Sheets for cash and cash equivalents are valued at cost, which approximate their fair value.

Restricted Cash

"Restricted cash" in the accompanying Balance Sheets as of December 31, 2024 and 2023 represents cash held as collateral for the Company's facility lease.

Accounts Receivable and Allowance for Credit Losses

"Accounts receivable, net of allowances" in the accompanying Balance Sheets are presented net of allowances for credit losses. The Company maintains an allowance for expected credit losses for accounts receivable, which is recorded as an offset to accounts receivable. Changes in this allowance are recorded as "general and administrative" expense in the Statements of Operations and Comprehensive Loss. Expected credit losses include losses expected based on known credit issues with certain customers as well as a general expected credit loss allowance based on relevant information, including historical loss rates, current conditions, and reasonable economic forecasts that affect collectability. The Company maintained an allowance for credit losses accounts of $1.2 million and $0.9 million as of December 31, 2024 and 2023, respectively. The Company recorded a provision for credit losses of $0.4 million and $0.9 million for the years ended December 31, 2024 and 2023, respectively.

Concentrations of Financial Instrument Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents in deposits at financial institutions that may exceed federally insured limits and certain accounts receivable balances. Risks associated with cash and cash equivalents are mitigated by banking with creditworthy institutions with platforms that administer deposits across multiple banks within federally insured limits. The Company mitigates potential losses from uncollectible accounts receivable through its credit approval and ongoing collection and customer monitoring activities. To date, the Company has not experienced any losses on its financial instruments and believes that it has adequately recorded allowances for uncollectible accounts receivable in each reported period.

As of December 31, 2024 and 2023, the Company did not have accounts receivable balances from any one customer exceeding 10% of total accounts receivable. However, there was one customer that accounted for 10% and 12% of the Company's revenue for the years ended December 31, 2024 and 2023, respectively.

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Fair Value of Financial Instruments

Assets and liabilities are recorded at fair value on a recurring basis in the accompanying Balance Sheets. These accounts are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The authoritative accounting guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

•*Level 1*: Quoted prices (unadjusted) in active markets for identical assets or liabilities that are publicly accessible at the measurement date.

•*Level 2*: Observable prices that are based on inputs not quoted on active markets, but that are corroborated by market data. These inputs may include quoted prices for similar assets or liabilities or quoted market prices in markets that are not active to the general public.

•*Level 3*: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying amounts of the Company's financial instruments consisting of cash, cash equivalents, accounts receivables, prepaid expenses, accounts payable, and accrued liabilities approximate fair value due to the short maturities for each.

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. The Company reviews the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain assets or liabilities within the fair value hierarchy. The Company did not have any transfers of assets and liabilities between the levels of the fair value hierarchy during the years presented.

(in thousands)		Total Fair Value	Quoted Market Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
As of December 31, 2024					
Money market funds [1]	$ 37,744	$ 37,744	$ —	$ —	
Total financial assets	$ 37,744	$ 37,744	$ —	$ —	
Warrant liabilities	$ 457	$ —	$ —	$ 457	
Total financial liabilities	$ 457	$ —	$ —	$ 457	
As of December 31, 2023					

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Money market funds [1]	$ 4,920	$ 4,920	$ —	$ —
Total financial assets	$ 4,920	$ 4,920	$ —	$ —

(1)Included as a component of “cash and cash equivalents” on the accompanying Balance Sheets.

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Inventory

The Company maintains minimal inventories because aprevo is made specific to each patient's anatomy to address their pathology and is not otherwise made-to-stock. Work-in-process inventory consists of titanium alloy implants and inserters for spine fusion surgical procedures, pending sterilization and packaging. Finished goods inventory is ready for shipment to the customer for use in a spine fusion surgical procedure.

Inventories are valued at the lower of cost or net realizable value, determined by the specific identification method. At each balance sheet date, the Company evaluates its inventories for obsolescence, based on notification of permanently canceled surgeries and ongoing estimates of permanent cancellations. The Company records the corresponding charge for obsolete inventory through "cost of sales."

The components of reported "inventory" are as follows:

	(in thousands)	As of December 31, 2024	As of December 31, 2023
Finished goods	$ 595	$ 276	
Work in process	400	299	
Total	$ 995	$ 575	

Property and Equipment and Long-Lived Assets

"Property and equipment, net," consist of office equipment, furniture and fixtures, and leasehold improvements; each is stated at cost, less accumulated depreciation and amortization. Property and equipment are depreciated using the straight-line method over the estimated useful life of the corresponding asset, which ranges from three to five years and recorded to the respective Company department associated with its use.

Long-lived assets to be held and used are tested for recoverability whenever events or changes in business circumstances indicate that the carrying amount of the assets may not be recoverable. If/when an asset is determined to be permanently impaired, the Company will record a charge in that period equal to the amount by which the carrying amount exceeds the fair market value of the asset. The Company has not recognized any impairment loss for any long-lived assets for the years ended December 31, 2024 and 2023.

Leases

The Company leases office and laboratory space to conduct business operations. Whether the contract is, or contains a lease, is assessed at contract inception and the classification and initial measurement are assessed at the lease commencement date in line with Financial Accounting Standards Board ("FASB") ASC Topic 842, *Leases* ("ASC 842"). The Company's leases only meet the requirements for operating lease classification in each year presented in the accompanying financial statements.

At the lease commencement date, the Company recognizes a "right-of-use asset" and a "lease liability" for all leases, except short-term leases with an original term of 12 months or less. The right-of-use asset represents the right to use the leased asset for the lease term including any renewal options reasonably certain to be exercised. The lease liability represents the present value of the lease payments under the lease. The right-of-use asset is initially measured at cost, which primarily comprises the initial amount of the lease liability, plus any prepayments to the lessor less any lease incentives received. All right-of-use assets are periodically reviewed for impairment in accordance with standards that apply to long-lived assets.

The lease liability is initially measured at the present value of the minimum lease payments, discounted using an estimate of the Company's incremental borrowing rate for a collateralized loan with the same term as the underlying lease. Since the Company's leases do not provide an implicit rate, it utilizes the appropriate incremental borrowing rate for accounting purposes and is determined as the rate of interest that a market participant would have to pay to borrow on a collateralized basis, over a similar term, and in a similar economic environment.

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Minimum lease payments included in the measurement of lease liabilities consist of (i) fixed lease payments for the non-cancelable lease term, (ii) fixed lease payments for optional renewal periods where it is reasonably certain the renewal option will be exercised and (iii) variable lease payments that depend on an underlying index or rate, based on the index or rate in effect at lease commencement. Certain leases require payments for non-lease costs such as utilities and common area maintenance. The Company elected an accounting policy to not account for payments of non-lease costs separately from the related lease payments. This policy election results in a higher initial measurement of lease liabilities when such non-lease payments are fixed amounts. Certain leases require variable lease payments that do not depend on an underlying index or rate, such as the Company's proportionate share of actual property taxes and utilities, which are recognized in operating expenses as incurred.

Lease expense reported in the accompanying Statements of Operations and Comprehensive Loss is recognized on a straight-line basis over the operating lease term.

Warrant Liabilities

The Company has issued warrants to purchase convertible preferred stock in conjunction with the Customers Loan Agreement (see *Note 4*). The Company accounts for its issued convertible preferred stock warrants as liabilities in accordance with *ASC 480*. The liability-classified warrants are initially measured at fair value, resulting in an implied discount on the related financing arrangement that is deferred as an asset as it relates to tranches of the Customers Loan Agreement that have not yet been drawn as of the date of the issuance of the respective warrants. The deferred asset is recorded within "other assets" on the accompanying Balance Sheets and is amortized into interest expense using the straight-line method over the period in which the Company can draw on the remaining tranches of the credit facility. Changes in fair value of the warrant liabilities are recognized in the Statements of Operations and Comprehensive Loss.

The fair value of the warrant liabilities was determined based on significant inputs not observable in the market, which represents a "Level 3" measurement within the fair value hierarchy. The fair values of the warrant liabilities are measured using the "hybrid method." The hybrid method is often used when a company is expecting a liquidity event in the near future and is a combination of the option-pricing and probability-weighted expected return methods. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying shares of convertible preferred stock, the remaining contractual term of the warrants, and probability of number of shares the warrants will become exercisable into. The most significant assumption in the model impacting the fair value of the warrants is the fair value of the Company's convertible preferred stock as of each remeasurement date.

A summary of the changes in the total fair value of the warrant liabilities for the year ended December 31, 2024, is as follows:

	(in thousands)	Warrant Liabilities
Fair value as of December 31, 2023	$	—
Issuance of Series B Warrant		203
Modification of Series B Warrant		29
Issuance of Series C Warrant		81
Change in fair value of warrant liabilities		144
Fair value as of December 31, 2024	$	457

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Convertible Preferred Stock

The Company records its convertible preferred stock at fair value on the dates of issuance, net of issuance costs. The convertible preferred stock is presented as mezzanine equity in the accompanying Balance Sheets due to the stock containing certain redemption features that are not solely within the Company's control. When it is probable that a convertible preferred stock will become redeemable, adjustments are recorded to adjust the carrying values to the redemption values. No adjustments have been recorded in the years ended December 31, 2024 and 2023, as the convertible preferred stock is not redeemable nor probable of being redeemable. Refer to *Note 7* for more information on the rights, preferences, privileges, and restrictions associated with the convertible preferred stock.

Common Stock Warrants

The Company has an outstanding Common Stock Warrant (as defined below) to purchase common stock with a lender – see *Note 5*. The Company classifies and accounts for the issued Common Stock Warrant as equity in accordance with *ASC 815*. The Company classifies these equity instruments within "additional paid-in capital" on the accompanying Balance Sheets.

Deferred Offering Costs

The Company capitalizes certain legal, professional, accounting, and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in "stockholders' equity (deficit)" as a reduction of proceeds generated as a result of the offering. Should the in-process equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the Statements of Operations and Comprehensive Loss. As of December 31, 2024 and 2023, there were $0.4 million and zero deferred offering costs, respectively, which are included in "other assets" in the accompanying Balance Sheets.

Revenue Recognition

The Company recognizes revenue from its aprevo sales in accordance with FASB ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606"). ASC 606 requires the amount and timing of revenue recognition to align with the completed transfer of promised goods or services to customers and the Company's entitled contractual consideration in return.

The following five steps are applied under *ASC 606* for the Company's revenue recognition: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations; and (v) recognize revenue when (or as) it satisfies a performance obligation.

The Company's contracts with customers typically include one performance obligation: the delivery of aprevo interbody implant with the accompanying inserter. Revenue from the sales of aprevo is recognized by the Company at the time of its use as part of the spine fusion surgical procedure, which represents the point in time when the performance obligation is satisfied in full. The consideration the Company is entitled to for sales of aprevo is fixed based on the stated contractual amount.The Company generally does not have obligations for returns, refunds, and other similar obligations.

The Company utilizes contracted sales agents that cover each surgery and has determined that it is the "principal" in these transactions as it is responsible for product fulfillment and hospital customer acceptability, carries the inventory risk, and has sole discretion in setting the price for the products. The Company therefore recognizes revenue at gross (i.e., reported revenue is not reduced for sales agents' fees that are reported in "sales and marketing" expense in the accompanying Statements of Operations and Comprehensive Loss). Payment terms are typically 30 to 60 days. Payment is not received in advance of surgery and therefore, the Company does not record contract liabilities or deferred revenue.

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Cost of Sales

"Cost of sales" includes the patient-specific design costs and manufacturing costs of the aprevo interbody implants and accompanying inserter that are capitalized within inventories. These include allocations for personnel costs, software license amortization, contract manufacturing, and other third-party services, packaging and shipping costs, and overhead cost allocations.

Research and Development

"Research and development" expenses include personnel costs (including salaries, bonuses, stock-based compensation expense, and benefits), allocated facility costs, product prototype materials, clinical studies that facilitate the development of new products, allocated software license amortization expenses, and consulting and other service fees. These costs are recognized in the accompanying Statements of Operations and Comprehensive Loss in the period incurred.

Sales and Marketing

"Sales and marketing" expenses consist of selling expenses related to employee related costs, including salaries, commissions, bonuses, stock-based compensation expense, benefits, and travel, as well as independent sales agent fees. Marketing expenses consist of various digital and print initiatives to increase market awareness of the Company's product and technology, conference and trade show fees, and consulting services. The Company may provide ancillary and generic surgical instruments for the convenience of its independent sales agents that cover each surgery. These costs are also recognized in the period incurred and included within "sales and marketing" expenses in the accompanying Statements of Operations and Comprehensive Loss.

General and Administrative

"General and administrative" expenses consist primarily of employee-related costs, including salaries, bonuses, stock-based compensation expense and benefits, for personnel in executive, legal, finance, and human resources. Other significant costs include legal fees relating to intellectual property and corporate matters, professional fees for accounting and consulting services, insurance and facility-related costs. These costs are recognized in the accompanying Statements of Operations and Comprehensive Loss in the period incurred.

Stock-Based Compensation

The Company recognizes stock-based compensation expense for equity awards granted to employees, consultants, and members of its Board of Directors. Stock option awards are at an exercise price of not less than 100% of the fair market value of common stock on the respective date of grant. The grant date is the date the terms of the award are formally approved by the Company's Board of Directors. The Company uses the Black-Scholes option pricing model to estimate the fair value of stock option awards as of the date of grant.

The measurement of the fair value of stock option awards, and recognition of stock-based compensation expense, requires assumptions by management that involve inherent uncertainties and the application of management's judgment, including (a) the estimated fair value of the Company's common stock on the date of the option grant, (b) the expected term of the stock option until its exercise by the recipient, (c) stock price volatility over the expected term, (d) the prevailing risk-free interest rate over the expected term, and (e) expected dividend payments over the expected term.

Management estimates the expected term of awarded stock options utilizing the "simplified method" for awards since the Company does not yet have sufficient exercise history since its corporate formation and lacks specific historical and implied stock volatility information. Management estimates stock price volatility for option grants by evaluating the average historical volatility of a peer group of companies for the period immediately preceding the option grant for a term that approximates the options' expected term. Estimates for the risk-free interest rate are based upon the U.S. Department of the Treasury yield curve in effect at award grant for the period that corresponds with the expected term of the awarded stock option. The expected dividend yield is zero because

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the Company has never paid cash dividends and does not expect to for the foreseeable future. The Company has elected to account for share-based award forfeitures as they occur.

Income Taxes

The Company accounts for income taxes using the asset and liability method whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates and laws expected to be in effect when the asset or liability is expected to be realized or settled. Valuation allowances are established, when necessary, to reduce deferred tax assets to the amount that is deemed more likely than not to be realized.

In the ordinary course of business, there may be transactions for which the ultimate tax outcome is uncertain. The Company assesses uncertain tax positions in each of the tax jurisdictions in which it has operations and accounts for the related financial statement implications. Unrecognized tax benefits are reported using the "two-step approach" under which tax effects of a position are recognized only if it is more likely than not to be sustained and the amount of the tax benefit recognized is equal to the largest tax benefit that is greater than 50% likely of being realized upon ultimate settlement of the tax position.

Determining the appropriate level of unrecognized tax benefits requires the Company to exercise judgment regarding the uncertain application of tax law. The amount of unrecognized tax benefits is adjusted when information becomes available or when an event occurs indicating a change is appropriate. The Company includes interest and penalties related to its uncertain tax positions as part of income tax expense, if any. The Company did not have any interest or penalties related to its uncertain tax positions for the years ended December 31, 2024 and 2023.

Comprehensive Loss

Comprehensive loss encompasses all changes in equity other than those arising from transactions with stockholders. For the years ended December 31, 2024 and 2023, the Company had no other comprehensive loss items and accordingly, net loss equaled comprehensive loss.

Earnings per Share

Basic earnings (loss) per share is calculated by dividing net income (loss) attributable to common stockholders by the weighted-average shares outstanding during the period, without consideration for common stock equivalents. Diluted earnings (loss) per share is calculated by adjusting weighted-average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock and if-converted methods. Since the Company had net loss in the years ended December 31, 2024 and 2023, basic and diluted net loss per common share are the same.

Recent Accounting Pronouncements

Recently Adopted Accounting Standards

Segment Reporting - In November 2023, the FASB issued ASU 2023-07 – *Segment Reporting (Topic 280)* ("ASU 2023-07"), which improves segment disclosure requirements, primarily through enhanced disclosure requirements for significant segment expenses. The improved disclosure requirements apply to all public entities that are required to report segment information, including those with only one reportable segment. This ASU is effective for all public business entities for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Entities must adopt the changes to the segment reporting guidance on a retrospective basis. The Company adopted the guidance in the fiscal year beginning January 1, 2024. There was no impact on the Company's reportable segments identified and additional required disclosures have been included in *Note 10*.

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Debt and Equity - In August 2020, the FASB issued ASU 2020-06, *Debt with Conversion and Other Options* (Subtopic 470-20) and *Derivatives and Hedging-Contracts in Entity's Own Equity* (Subtopic 815-40), which simplifies the accounting for convertible instruments. The guidance removes certain accounting models that separate the embedded conversion features from the host contract for convertible instruments. The Company adopted ASU 2020-06 effective January 1, 2024.The adoption of ASU 2020-06 did not have a material impact on the Company's financial statements.

Recently Issued Accounting Standards Not Yet Effective

Expense Disaggregation Disclosures - In November 2024, the FASB issued ASU 2024-03, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses* ("ASU 2024-03"). This ASU requires new financial statement disclosures disaggregating prescribed expense categories within relevant income statement expense captions. ASU 2024-03 will be effective for fiscal years beginning after December 15, 2026, and interim periods beginning after December 15, 2027. Early adoption is permitted. The Company is currently evaluating the impact of adopting the standard.

Income Taxes - In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Tax Disclosures (*"ASU 2023-09"). This ASU expands disclosures in an entity's income tax rate reconciliation table and regarding cash taxes paid both in the U.S. and foreign jurisdictions. The update will be effective for annual periods beginning after December 15, 2024. The Company is currently evaluating the impact of adopting the standard.

3. Balance Sheet Account Detail

The composition of selected captions within the accompanying Balance Sheets are summarized below:

Property and Equipment, Net

The components of "property and equipment, net" as of December 31, 2024 and 2023 are as follows:

(in thousands)	As of December 31, 2024	As of December 31, 2023
Office equipment	$ 488	$ 314
Furniture and fixtures	91	85
Leasehold improvements	80	80
Total	659	479
Less: accumulated depreciation	(399)	(254)
Property and equipment, net	$ 260	$ 225

Depreciation expense for the year ended December 31, 2024 and 2023 was $0.1 million.

Accrued Liabilities

The components of "accrued liabilities" as of December 31, 2024 and 2023 are as follows:

(in thousands)	As of December 31, 2024	As of December 31, 2023
Accrued sales agent commissions	$ 1,420	$ 551
Accrued clinical studies	529	485
Liability associated with stock option exercises prior to vesting	112	175
Accrued legal and patent fees	90	50
Other accrued expenses	536	281
Total accrued liabilities	$ 2,687	$ 1,542

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4. Debt

Signature Bank Credit Facility

In December 2022, the Company and Signature Bank entered into a loan and security agreement (the "Signature Loan Agreement") with an initial maturity to December 2026 that provided for $12.5 million of principal available through a $6.25 million draw at execution and an additional $6.25 million available in two equal tranches, subject to certain milestone achievement. The Signature Loan Agreement required the Company to pay a tiered cash-based "Success Fee" upon a defined Liquidity Event that was eliminated in March 2024 in connection with the Third Amendment, as discussed below.

The Signature Loan Agreement bore interest at the *greater of* (a) 1.0% below Prime Rate or (b) 5.25%. The applicable coupon interest rate was 7.50% as of December 31, 2023. The Signature Loan Agreement also included an end of term charge of 4.21% of the aggregate principal amount funded, and such end of term charge remains in effect through the Third Amendment and Fourth Amendment. The end of term charge is recorded within "other long-term liabilities" within the Balance Sheets and is accrued over the term of the loan through interest expense within the Statements of Operations and Comprehensive Loss using the "effective interest method." Debt issuance costs are accounted for as a debt discount and amortized as "interest expense" within the Statements of Operations and Comprehensive Loss over the term of the loan using the "effective interest method."

Customers Bank Credit Facility

In October 2023, the Company amended the Signature Loan Agreement to formally document the successor lender, Customers Bank, with no material changes to its terms (the "Customers Loan Agreement"). Subsequently in October 2023, the Company drew $3.1 million under the Customers Loan Agreement upon the achievement of a requisite revenue milestone.

On March 7, 2024, the Company amended the Customers Loan Agreement (the "Third Amendment") to increase the total principal available under the credit facility from $12.5 million to $18.8 million, subject to the achievement of certain revenue and other milestones, with extended maturity up to December 20, 2027, if certain conditions are met. The applicable per annum interest rate was adjusted to the greater of (a) WSJ Prime Rate + 0.25% or (b) 5.25%. The applicable coupon interest rate was 7.75% as of December 31, 2024.

As part of the Third Amendment, the Success Fee associated with the preceding Signature Loan Agreement was contractually eliminated and replaced with the issuance of a warrant exercisable for up to 325,988 shares of Series B convertible preferred stock at an exercise price of $1.2402 per share (the "Series B Warrant"). Upon issuance, the Series B Warrant was immediately exercisable for 150,000 shares with the remaining 175,988 additional shares becoming exercisable upon the required achievement of certain revenue milestones and/or draws of this expanded credit facility. The Series B Warrant was scheduled to expire 10 years from the issuance date of March 6, 2024, but was amended and restated in connection were amended with the subsequent Fourth Amendment (see below). The fair value of the Series B Warrant at issuance in conjunction with the Third Amendment was $0.2 million.

In May 2024, the Company drew $6.3 million under the Customers Loan Agreement upon the achievement of requisite revenue milestones.

On December 30, 2024, the Company further amended the Customers Loan Agreement (the "Fourth Amendment") to expand the credit facility from $18.8 million to $27.5 million, with the addition of two new debt draw tranches. Upon the Fourth Amendment, the Company had the ability to draw $7.5 million immediately and the remaining $4.4 million is contingent upon the achievement of a requisite revenue milestone which as of December 31, 2024, was not yet met. The maturity date was extended to October 31, 2029, with an interest-only period through July 31, 2026, followed by principal repayment over 39 months thereafter. Upon achievement of a certain revenue milestones, the interest-only period and repayment terms may be extended to an interest-only period

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through July 31, 2027, followed by principal repayment over 27 months thereafter. As of December 31, 2024, the requisite revenue milestones were not yet met.

As part of the Fourth Amendment, the Company partially modified the aggregate 325,988 Series B Warrant issued with the Third Amendment, reducing the number of shares exercisable subject to remaining future draws of the credit facility as of the date of the Fourth Amendment from 62,994 shares to 31,497, with the remaining 31,497 shares becoming exercisable ratably with debt draws that had not occurred as of December 31, 2024. Additionally, the expiration date for the Series B Warrant was extended to December 30, 2034. The modification of the Series B Warrant upon the Fourth Amendment resulted in an immaterial increase in the warrant liability. As of December 31, 2024, the Series B Warrant is exercisable for 294,491 shares of the Series B convertible preferred stock.

Additionally, as part of the Fourth Amendment, the Company issued a new warrant that is exercisable into the Company's Series C convertible preferred stock ("Series C Warrant"), subject to certain revenue and debt draw milestones. These Series C Warrant is exercisable for up to 113,695 shares at an exercise price of $1.9240 per share and expires on December 30, 2034. Upon issuance, the Series C Warrant was immediately exercisable into 28,424 shares with the remaining 85,271 additional shares becoming exercisable upon the required achievement of certain revenue milestones and/or draws of this expanded credit facility. As of December 31, 2024, the Series C Warrant is exercisable for 28,424 shares of Series C convertible preferred stock.

Each of the Third Amendment and Fourth Amendment were accounted for as debt modifications with no gain or loss recognized. The carrying value of amounts outstanding under the Customers Loan Agreement approximates its fair value as of December 31, 2024. The fair value of the term loan is classified as a Level 2 measurement because interest rates charged are similar to other financial instruments with similar terms and maturities.

As of December 31, 2024, $15.6 million of principal remains outstanding under the Customers Loan Agreement which is set to mature on October 31, 2029. As of December 31, 2024, an aggregate $7.5 million is currently available for future borrowings with an additional $4.4 million available upon the achievement of a requisite revenue milestone.

As of December 31, 2024, the Company was in compliance with all applicable Customers Loan Agreement covenants.

Interest expense on the Customers Loan Agreement for the years ended December 31, 2024 and 2023 was $1.3 million and $0.6 million, respectively. Of these amounts, $0.2 million and $0.1 million were related to amortization of the debt discount and issuance costs for the years ended December 31, 2024 and 2023, respectively. The effective interest rate was 8.08% and 9.25% as of December 31, 2024 and 2023, respectively.

The following table summarizes contractual principal payments as of December 31, 2024:

Year ending December 31,	***(in thousands)***
2025	$ —
2026	2,003
2027	4,808
2028	4,808
2029	4,006
Total future principal payments	15,625
Unamortized issuance costs	(211)
Total term loan, net	**$ 15,414**

5. Common Stock

In accordance with the Company's Amended and Restated Certificate of Incorporation dated December 31, 2024, the Company is authorized to issue two classes of stock—common stock and convertible preferred stock. The Company shall have authority to issue 121,843,775 shares of common stock with par value of $0.00001 per share and 79,274,065 shares of convertible preferred stock with par value of $0.00001 per share.

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Holders of common stock are entitled to one vote for each share held on applicable corporate matters. Holders of preferred stock (see *Note 7*) vote together with the holders of common stock as one single class, other than as provided in the Company's Amended and Restated Certificate of Incorporation. Common stock does not carry redemption rights and upon liquidation, its holders are entitled to receive a pro rata share of the Company's remaining assets available for distribution (pro rata with holders of preferred stock on an as-converted basis), after amounts are first paid to creditors and applicable liquidation preference proceeds are then distributed to holders of preferred stock.

Common stock reserved for future issuance as of December 31, 2024, consisted of the following:

	As of December 31, 2024
Preferred stock, convertible into common stock	78,834,382
Common stock options outstanding	9,964,095
Shares available for future issuance under the 2019 Plan	2,744,520
Series B Warrant	325,988
Series C Warrant	113,695
Common Stock Warrant	144,317
Total common stock reserved for future issuance	**92,126,997**

Common Stock Warrant

In April 2021, in connection with its entry into a loan and security agreement (the "SVB Loan") with Silicon Valley Bank ("SVB"), the Company issued a warrant to purchase up to an aggregate of 57,686 shares of common stock at an exercise price of $0.06 per share (the "Common Stock Warrant"). In July 2021, pursuant to the terms of the Common Stock Warrant, the Common Stock Warrant became exercisable for an additional 57,744 shares of common stock at an exercise price of $0.06 per share in connection with a principal draw. In February 2022, the Company amended the SVB Loan Agreement to draw additional principal and the Common Stock Warrant became exercisable for an additional 28,887 shares of common stock at an exercise price of $0.07 per share. In December 2022, the Company terminated and repaid in full all amounts outstanding under the SVB Loan Agreement. The Common Stock Warrant will expire 10 years from the date of issuance, and as of December 31, 2024, the collective 144,317 shares of common stock underlying the Common Stock Warrant remained unexercised.

6. Stock-Based Compensation

In September 2019, the Company adopted the Carlsmed, Inc. Stock Incentive Plan, which was amended in April 2020, amended in December 2020, and further amended in April 2022 (the "2019 Plan"). The 2019 Plan is administered by the Company's Board of Directors. As of December 31, 2024, the Board of Directors may grant awards under the 2019 Plan for up to an aggregate of 19,097,505 shares of common stock in the form of non-qualified stock options, incentive stock options, stock appreciation rights, dividend equivalent rights, restricted stock awards, and restricted unit awards.

The exercise price of a share subject to a stock option may not be less than the fair market value of a share of the Company's common stock at the grant date. Stock-based compensation awards to employees typically have four-year monthly vesting schedules (with 25% of the award cliff vesting on the first anniversary of the date of grant) and a contractual term of 10 years; related expense is recognized in the accompanying Statements of Operations and Comprehensive Loss on a straight-line basis over each award's vesting period.

The Company also grants stock option awards to non-employees, including members of its Scientific Advisory Board ("SAB") and members of the Company's Board of Directors. Options granted under the 2019 Plan may be subject to vesting acceleration in connection with a "Corporate Transaction," as defined in the 2019 Plan.

The 2019 Plan allows for the exercise of certain stock option grants prior to vesting ("early exercise"), with such grants approved by the Company's Board of Directors. For these awards, in the event of employee termination, the Company has the right, but not the obligation, to repurchase the portion of unvested stock at the *lower of* the

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exercise price or the then-current fair value. A liability is recorded within “accrued liabilities” on the accompanying Balance Sheets that is equal to the cash received for these early exercises, and this liability is reduced as vesting occurs. Unvested shares that have been early exercised are reflected in “common shares issued” but excluded from “common shares outstanding” on the accompanying financial statements. As of December 31, 2023, 800,000 shares of early exercised stock options were outstanding, representing an early exercise liability of $0.2 million. As of December 31, 2024, 533,334 shares of early exercised stock options were outstanding, representing an early exercise liability of $0.1 million.

The following summarizes stock option activity for the Company for the year ended December 31, 2024:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2023	7,605,551	$ 0.10	7.6	$ 869
Granted	2,990,660	0.39		
Exercised	(510,573)	0.07		
Forfeited	(121,543)	0.26		
Outstanding at December 31, 2024	9,964,095	$ 0.18	7.5	$ 5,938
Vested and Exercisable at December 31, 2024	6,041,315	$ 0.08	6.3	$ 4,211

The table above includes a summary of all option activity in the periods presented. As of December 31, 2024 and 2023, the fair market value of common shares was determined by the Board of Directors, taking into account the input from management and independent third-party valuation analyses to be $0.78 and $0.21 per share, respectively.

The weighted average grant date fair value of options granted during the years ended December 31, 2024 and 2023 were $0.46 per share and $0.13 per share, respectively. The total fair value of options that vested during the years ended December 31, 2024 and 2023 was $0.2 million and $0.1 million, respectively, based on the grant date fair value.

The aggregate intrinsic value in the above table is calculated as the difference between the fair value of the Company’s common stock price and the exercise price of the stock options. The aggregate intrinsic value of stock options exercised during the year ended December 31, 2024 and 2023 was $0.2 million and $0.2 million, respectively.

The grant date fair value of the options is determined using an option pricing model. The assumptions that were used in estimating the grant date fair value of stock options under the option pricing method for the years ended December 31, 2024 and 2023 were as follows:

	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
Expected stock price volatility [1]	45.4%	62.0%
Risk-free interest rate [2]	4.32%	3.97%
Expected annual dividend yield [3]	0.0%	0.0%
Expected term (years) [4]	5.97	6.04

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(1)Based on the median stock price volatility for peer public companies over a historic timeframe similar to the expected term, with adjustments for differences in size and capital structure.

(2)Based on the U.S. Treasury yield curve in effect as of the valuation date.

(3)The Company has not paid and does not currently anticipate paying a cash dividend on its common stock.

(4)The expected term of stock options granted to employees represents the weighted average period the stock options are expected to be outstanding. The Company uses the simplified method for estimating the expected term, which calculates the expected term as the average time-to-vesting and the contractual life of the options for stock options issued to employees and non-employees.

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The compensation cost that has been included in the Company's Statements of Operations and Comprehensive Loss for all stock-based compensation arrangements is detailed as follows:

(in thousands)	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
General and administrative	$ 126	$ 57
Research and development	68	12
Sales and marketing	59	46
Total	$ 253	$ 115

As of December 31, 2024, there was $1.4 million of unrecognized compensation for unvested stock options and the weighted-average period over which this remaining compensation cost will be recognized is 3.3 years.

7. Convertible Preferred Stock

In December 2020, the Company issued a total of 27,357,843 shares of Series A convertible preferred stock at a price of $0.5032 per share from the conversion of convertible notes and gross cash proceeds of $10.0 million.

In April 2022, the Company issued a total of 24,189,639 shares of Series B convertible preferred stock at a price of $1.2402 per share for gross cash proceeds of $30.0 million.

In March and September 2024, the Company issued a total of 27,286,900 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $52.5 million. The September 2024 issuance of Series C convertible preferred stock was completed below the fair value of the shares as of that date. The Company recorded the excess of fair value over the issuance price as a "deemed dividend" within additional paid-in-capital ("APIC") in the amount of $0.6 million. The deemed dividend reflects the distribution of value from common stockholders to preferred stockholders due to the implicit discount on these shares issued in September 2024. Since the Company remained in an accumulated deficit position at that date, this deemed dividend was recorded directly to APIC rather than retained earnings.

In January 2025, the Company issued a total of 6,237,006 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $12.0 million (see *Note 12*).

Dividends

Series A, Series B, and Series C preferred stock have the first right to receive any dividend, only when and if declared by the Company on each outstanding share of preferred stock in an amount equal to a dividend of 6% of the applicable original issue price per annum. Dividends for each series of preferred stock are to be payable pari passu and are non-cumulative. Series A, Series B, and Series C preferred stock have certain preferential dividend rights over common stock as set forth in the Company's Amended and Restated Certification of Incorporation. No dividends on preferred stock or common stock have been declared by the Company from its inception through December 31, 2024.

Conversion into Common Shares

Series A, B, and C convertible preferred stock can be converted into common shares at the holders' election. The number of common shares received upon conversion is determined by dividing the original issuance price by the conversion price, then multiplying by the number of preferred shares being converted. The initial conversion price per share for Series A, Series B, and Series C convertible preferred stock is equal to the respective original issuance prices per share and therefore is convertible into common stock on a 1:1 as-converted basis. The respective initial conversion prices per share for all series of convertible preferred stock are subject to adjustment in the event of share splits, combinations, mergers, dividends and distributions, and other capital reconstructions.

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Redemption

Series A, Series B, and Series C preferred stock are not redeemable for cash. However, Series A, Series B, and Series C preferred stock include terms such that there are Deemed Liquidation Events (as defined in the Company's Amended and Restated Certificate of Incorporation) that can trigger redemption, at the holders' option, that are outside the control of the Company. Accordingly, Series A, Series B, and Series C preferred stock are classified outside of permanent equity on the accompanying Balance Sheets.

Voting Rights

The holders of Series A, Series B, and Series C preferred stock are currently entitled to one vote per share held on any matter presented for a vote of the stockholders at any meeting of the stockholders of the Company, subject to the potential adjustments set forth in the Company's Amended and Restated Certificate of Incorporation.

Liquidation Preference

In the event of a liquidation, dissolution or winding up of the Company or a Deemed Liquidation Event, the Series A, Series B, and Series C preferred stockholders have a participating liquidation preference to the common stockholders in the amount per share equal to the original issue price plus any declared but unpaid dividends. As such, the payment of the liquidation preference will be $0.5032 per share for Series A preferred stock, $1.2402 per share for Series B preferred stock, and $1.9240 per share for Series C preferred stock plus any declared but unpaid dividends, after which the shares of Series A, Series B, and Series C preferred stock will participate in any remaining proceeds available for distribution to stockholders with holders of common stock pro rata on an as-converted basis. If upon a liquidation, dissolution or winding up of the Company or a Deemed Liquidation Event the assets of the Company are not sufficient to pay the holders of the Series A, Series B, and Series C preferred stock the amount to which they are entitled, the holders of the Series A, Series B, and Series C preferred stock shall share ratably in any distribution of the assets in proportion to the amounts to which they would otherwise be entitled in proportion to the respective amounts that would otherwise be payable in respect of such shares if all amounts payable on or with respect to such shares were paid in full.

8. Net Loss Per Share

Basic net loss per share is calculated by *dividing* net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding, net of the weighted-average unvested restricted stock subject to repurchase by the Company, if any, during the period. Diluted loss per share is calculated by *dividing* the net loss attributable to common stockholders by the weighted-average number of common shares outstanding, adjusted for the effects of potentially dilutive common stock, which are comprised of stock options and stock warrants, using the "treasury-stock method," and convertible preferred stock, using the "if-converted method."

Because the Company reported net losses for the period presented, all potentially dilutive common stock is antidilutive for this period. The convertible preferred stock are considered participating securities; however, they were excluded from the computation of basic loss per share in the periods of net loss as there is no contractual obligation for the holders to share in the losses of the Company.

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The following table presents the number of anti-dilutive shares excluded from the calculation of diluted net loss per share as of December 31, 2024 and 2023:

	As of December 31, 2024	As of December 31, 2023
Stock options outstanding [1]	9,964,095	7,605,551
Preferred Stock (common stock equivalent) [2]	78,834,382	51,547,482
Series B Warrant (common stock equivalent) [3]	325,988	—
Series C Warrant (common stock equivalent) [4]	113,695	—
Common Stock Warrant [5]	144,317	144,317
Total	89,382,477	59,297,350

(1)6,041,315 stock options vested and exercisable as of December 31, 2024.

(2)Preferred stock converts to common stock on a 1:1 basis upon the holder's election or upon a Deemed Liquidation Event (see *Note 7*).

(3)Series B Warrant exercisable into 294,491 shares of Series B preferred stock as of December 31, 2024.

(4)Series C Warrant exercisable into 28,424 shares of Series C preferred stock as of December 31, 2024.

(5)Common Stock Warrant exercisable into 144,317 shares of common stock as of December 31, 2024.

9. Commitment and Contingencies

Legal Matters

The Company from time to time is involved in legal matters incidental to the conduct of its business. In the opinion of management, there are no claims outstanding that would have a material adverse effect on the Company's financial position, results of operations, or cash flows.

Operating Lease

In the ordinary course of business, the Company enters into lease agreements with unaffiliated third parties for its facilities and office equipment. As of December 31, 2024, the Company had one active operating lease for 16,000 square feet of administrative, engineering, and research and development space in Carlsbad, California ("Carlsbad Lease"). The Carlsbad Lease commenced on May 1, 2021, and was originally set to expire on April 30, 2024. On December 4, 2023, the Company modified the Carlsbad Lease which resulted in the lease term extending to July 1, 2028.

The Company used its incremental borrowing rate at the lease modification date of 9.08% in determining the discount rate utilized to present value the future minimum lease payments since an implicit interest rate in the lease agreement was not determinable. Total lease expenses for the years ended December 31, 2024 and 2023 was $0.6 million and $0.5 million, respectively.

The Company's real estate taxes, insurance costs, and common area maintenance, are included in monthly rent and not separately itemized. Rent expense is allocated to cost of sales, research and development, sales and marketing, and general and administrative expenses in the accompanying Statements of Operations and Comprehensive Loss.

The weighted-average lease terms and discount rates are as follows:

	As of December 31, 2024	As of December 31, 2023
Weighted-average remaining lease term	3.50	4.50
Weighted-average discount rate	9.08%	9.08%

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The aggregate future minimum lease payments under this lease as of December 31, 2024, are as follows:

(in thousands) Year ending December 31,	Payments
2025	$ 595
2026	616
2027	638
2028	327
Total undiscounted lease payments	$ 2,176
Less: tenant improvement receivable	(100)
Less: imputed interest	(310)
Present value of future lease payments	$ 1,766
Short-term operating lease liabilities	449
Long-term operating lease liabilities	1,317
Total operating lease liabilities	$ 1,766

The operating cash outflows included in the measurement of the operating lease liabilities was $0.5 million and $0.6 million for the years ended December 31, 2024 and 2023, respectively.

10. Segment Reporting

The Company has one business activity and operates as a single operating and reportable segment: the designing, manufacturing, and marketing of aprevo, a comprehensive technology platform for spine fusion surgical procedures. The Company derives its current revenues solely from selling aprevo to its hospital customers.

The Company's "Chief Operating Decision Maker" (the "CODM") is its Chief Executive Officer. The CODM uses net loss reported on the Statements of Operations and Comprehensive Loss to assess performance and allocate resources for the reportable segment. This metric helps assess the effectiveness of the Company's product offering and monitor budget versus actual results.

The following table provides the operating financial results of the Company's single reportable segment. It includes the significant expense categories regularly provided to the CODM, computed under GAAP and reconciled to the Company's total "net loss" as presented in the Statement of Operations and Comprehensive Loss:

(in thousands)	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
Revenue	$ 27,165	$ 13,778
Less:		
Cost of sales	7,117	3,875
Selling expenses	15,550	8,565
Marketing expenses	4,649	2,773
Product and software development costs	6,640	4,639
Clinical, medical, and regulatory expenses	4,247	2,754
Other segment expenses*	13,084	9,763
Interest expense	1,321	641
Interest income	(1,330)	(334)
Change in fair value of warrant liabilities	144	—
Net loss	$ (24,257)	$ (18,898)

* Other segment expenses primarily include corporate, compliance, and research and development support expenses.

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Assets provided to the CODM are consistent with those reported on the accompanying Balance Sheets. All long-lived assets are held in the United States, and net losses are solely attributable to U.S. operations.

11. Income Taxes

The Company had no federal or state income tax expense for the years ended December 31, 2024 and 2023.

A reconciliation of income tax expense to the amount computed by applying the statutory federal income tax rate to the loss from operations for the years ended December 31, 2024 and 2023 are summarized as follows:

(in thousands)	For the Year Ended December 31, 2024	For the Year Ended December 31, 2023
Expected income tax benefit at federal statutory rate	$ (5,094)	$ (3,969)
State income tax benefit, net of federal benefit	(901)	(829)
Tax effect of:		
Change in valuation allowance	6,070	5,002
Permanent items	89	58
Tax credits	(516)	(339)
Uncertain tax positions	128	84
Other	224	(7)
Provision for income taxes	$ —	$ —

The Company's "net deferred tax assets" are comprised of the following as of December 31, 2024 and 2023:

(in thousands)	As of December 31, 2024	As of December 31, 2023
Deferred tax assets:		
Net operating loss carryforwards	$ 10,934	$ 7,834
Capitalized R&D expenses	5,143	2,861
Lease liability	434	533
Accrued expenses	406	440
R&D credits and other tax credits	1,020	606
Inventory	438	252
Stock-based compensation	46	25
Other	315	229
Gross deferred tax assets	$ 18,736	$ 12,780
Less: valuation allowance	(18,332)	(12,262)
Net deferred tax assets	$ 404	$ 518
Deferred tax liabilities:		
Right-of-use asset	(404)	(518)
Net deferred tax assets	$ —	$ —

Realization of deferred tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Management assesses the available positive and negative evidence to estimate if sufficient future taxable income will be generated to use existing deferred tax assets. Based on the weight of evidence, including a history of operating losses, management has determined that it is more likely than not that the Company's net deferred tax assets will not be realized. Accordingly, a valuation allowance has been established by the Company to

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fully offset these net deferred tax assets. The valuation allowance increased by $6.1 million and $5.0 million during the years ended December 31, 2024 and 2023, respectively.

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At December 31, 2024, the Company had federal and state net operating loss ("NOL") carryforwards of approximately $41.5 million and $39.4 million, respectively. The federal losses will carry forward indefinitely and can be used to offset up to 80% of future annual taxable income. State loss carryforwards of approximately $6.6 million will carry forward indefinitely. State loss carryforwards of approximately $32.8 million begin expiring in 2029, unless previously utilized. The Company also has federal and state research and development ("R&D") credit carryforwards totaling $0.8 million and $0.6 million, respectively. The federal credits begin to expire in 2039, unless previously utilized, and the state credits do not expire.

The Company's NOL and credit carryforwards may be subject to a substantial annual limitation pursuant to Internal Revenue Code ("IRC") Sections 382 and 383 in connection with future utilization and potential ownership changes of the Company. These ownership changes may limit the amount of NOL and credit carryforwards that can be utilized to offset future taxable income and tax, respectively. In general, an "ownership change" as defined by the IRC results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50 percent of the outstanding stock of a company by certain stockholders or public groups. As of December 31, 2024, the Company has not completed a study to assess whether an ownership change within the meaning of IRC Section 382 has occurred. If a change in ownership occurred which resulted in a limitation on the amount of NOLs and credits which may be available to offset future taxable income, the related deferred tax asset would be reduced or eliminated with a corresponding reduction in the valuation allowance.

As of December 31, 2024, and December 31, 2023, the Company had unrecognized tax benefits of $0.4 million and $0.2 million, respectively. Due to the existence of the valuation allowance, future changes in unrecognized tax benefits would not have any effect on the Company's effective tax rate. The Company does not foresee any material changes to its unrecognized tax benefits within the next 12 months.

The Company recognizes interest and penalties related to income tax matters in income tax expense. No such costs were recorded during the years ended December 31, 2024 and 2023, and the Company had no accrued interest or penalties recorded as of December 31, 2024 or 2023.

Generally, the Company's federal and state income tax returns since inception in 2018 are subject to examination by tax authorities. The Company is not under examination by any tax jurisdiction.

12. Subsequent Events

The Company has evaluated its financial statements for subsequent events through April 23, 2025, the date these financial statements were issued.

Series C Issuance and Amendment of Certificate of Incorporation

In January 2025, the Company amended its Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock and convertible preferred stock. As a result of the amendment, the Company shall have authority to issue 132,132,695 shares of common stock with par value of $0.00001 per share and 85,511,071 shares of convertible preferred stock, including 33,637,601 shares of Series C convertible preferred stock, with par value of $0.00001 per share.

In January 2025, the Company issued a total of 6,237,006 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $12.0 million. After this third tranche, total gross proceeds from the sale of Series C preferred stock were $64.5 million (see *Note 7*).

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CARLSMED, INC.

CONDENSED BALANCE SHEETS

(in thousands, except for share and par value amounts)

(unaudited)

	March 31, 2025	December 31, 2024
Assets		
Current assets:		
Cash and cash equivalents	$ 43,432	$ 40,125
Restricted cash	100	100
Accounts receivable, net of allowances of $1,291 and $1,239, as of March 31, 2025 and December 31, 2024, respectively	8,119	6,766
Inventory	1,261	995
Prepaid expenses and other current assets	1,269	1,365
Total current assets	54,181	49,351
Property and equipment, net	493	260
Operating lease right-of-use assets	1,545	1,644
Other assets	1,616	569
Total assets	$ 57,835	$ 51,824
Liabilities, Convertible Preferred Stock, and Stockholders' Deficit		
Current liabilities:		
Accounts payable	$ 2,579	$ 2,412
Accrued liabilities	3,152	2,687
Accrued compensation	2,167	3,270
Short-term operating lease liabilities	464	449
Total current liabilities	8,362	8,818
Long-term portion of term loan, net	15,422	15,414
Long-term operating lease liabilities	1,197	1,317
Warrant liabilities	490	457
Other long-term liabilities	244	222
Total liabilities	25,715	26,228
Commitments and contingencies (*Note 9*)		
Series A convertible preferred stock, $0.00001 par value; 27,357,843 shares authorized, issued, and outstanding, and $13,767 liquidation preference as of March 31, 2025 and December 31, 2024	13,578	13,578
Series B convertible preferred stock, $0.00001 par value; 24,515,627 shares authorized, 24,189,639 shares issued and outstanding, and $30,000 liquidation preference as of March 31, 2025 and December 31, 2024	29,801	29,801
Series C convertible preferred stock, $0.00001 par value; 33,637,601 and 27,400,595 shares authorized, 33,523,906 and 27,286,900 shares issued and outstanding, and $64,500 and $52,500 liquidation preference as of March 31, 2025 and December 31, 2024, respectively	65,350	52,847

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Stockholders' deficit:		
Common stock, $0.00001 par value; 132,132,695 and 121,843,775 shares authorized, 25,987,078 and 23,630,274 shares issued, and 25,503,744 and 23,096,940 shares outstanding as of March 31, 2025 and December 31, 2024, respectively	—	—
Additional paid-in capital	291	541
Accumulated deficit	(76,900)	(71,171)
Total stockholders' deficit	(76,609)	(70,630)
Total liabilities, convertible preferred stock, and stockholders' deficit	$ 57,835	$ 51,824

The accompanying notes are an integral part of these condensed financial statements.

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CARLSMED, INC.

CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(in thousands, except share and per share amounts)

(unaudited)

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Revenue	$ 10,189	$ 5,086
Cost of sales	2,553	1,422
Gross profit	7,636	3,664
Operating expenses:		
Research and development	3,150	3,256
Sales and marketing	6,739	3,597
General and administrative	3,466	2,140
Total operating expenses	13,355	8,993
Loss from operations	(5,719)	(5,329)
Other income (expense):		
Interest expense	(357)	(216)
Interest income	380	98
Change in fair value of warrant liabilities	(33)	—
Total other expense, net	(10)	(118)
Net loss and comprehensive loss	(5,729)	(5,447)
Deemed dividend to preferred stockholders	(584)	—
Net loss attributable to common stockholders	$ (6,313)	$ (5,447)
Net loss per share attributable to common stockholders, basic and diluted	$ (0.26)	$ (0.24)
Weighted-average number of common shares used to compute basic and diluted net loss per share	23,991,168	22,301,050

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CARLSMED, INC.

CONDENSED STATEMENT OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT

(in thousands, except for share amounts)

(unaudited)

	Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Series C Convertible Preferred Stock							
	Shares	Amount	Shares	Amount	Shares	Amount						
Balance as of December 31, 2023	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**—**	**$ —**			**22,157,201**	**$ —**		**$**
Issuance of Series C convertible preferred stock, net of issuance costs of $172	—	—	—	—	20,010,393	38,328			—	—		
Issuance of common stock	—	—	—	—	—	—			162,500	—		
Exercise of vested stock options	—	—	—	—	—	—			242,767	—		
Stock-based compensation expense	—	—	—	—	—	—			—	—		
Net loss	—	—	—	—	—	—			—	—		
Balance as of March 31, 2024	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**20,010,393**	**$ 38,328**			**22,562,468**	**$ —**		**$**
Balance as of December 31, 2024	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**27,286,900**	**$ 52,847**			**23,096,940**	**$ —**		**$**
Issuance of Series C convertible preferred stock, net of issuance costs of $80	—	—	—	—	6,237,006	12,503			—	—		
Deemed dividend related to issuance of Series C convertible preferred stock	—	—	—	—	—	—			—	—		
Vesting of early exercised stock options	—	—	—	—	—	—			50,000	—		
Exercise of vested stock options	—	—	—	—	—	—			2,356,804	—		
Stock-based compensation expense	—	—	—	—	—	—			—	—		
Net loss	—	—	—	—	—	—			—	—		
Balance as of March 31, 2025	**27,357,843**	**$ 13,578**	**24,189,639**	**$ 29,801**	**33,523,906**	**$ 65,350**			**25,503,744**	**$ —**		**$**

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CARLSMED, INC.

CONDENSED STATEMENTS OF CASH FLOWS

(in thousands)

(unaudited)

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Cash flows from operating activities		
Net loss	$ (5,729)	$ (5,447)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	40	40
Stock-based compensation	175	35
Non-cash interest	54	46
Loss on remeasurement of warrant liabilities	33	—
Non-cash lease expense	99	91
Provision for credit losses	52	142
Provision for excess and obsolete inventory	311	285
Changes in operating assets and liabilities:		
Accounts receivable, net	(1,405)	(1,362)
Inventory	(577)	(430)
Prepaid expenses and other assets	96	(106)
Accounts payable	(570)	88
Accrued liabilities	474	281
Accrued compensation	(1,103)	(1,022)
Lease liabilities	(105)	(54)
Net cash used in operating activities	**(8,155)**	**(7,413)**
Cash flows from investing activities:		
Purchase of property and equipment	(83)	(50)
Capitalized internal use software costs	(155)	—
Net cash used in investing activities	**(238)**	**(50)**
Cash flows from financing activities:		

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Proceeds from issuance of Series C convertible preferred stock, net of issuance costs	11,919	38,500
Payment of term loan issuance costs	—	(15)
Proceeds from exercises of stock options	149	12
Payments for deferred offering costs	(368)	—
Net cash provided by financing activities	**11,700**	**38,497**
Increase (decrease) in cash, cash equivalents, and restricted cash	3,307	31,034
Cash, cash equivalents, and restricted cash at beginning of the period	40,225	7,372
Cash, cash equivalents, and restricted cash at end of the period	**$ 43,532**	**$ 38,406**

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CARLSMED, INC.

CONDENSED STATEMENTS OF CASH FLOWS - CONTINUED

(in thousands)

(unaudited)

Supplemental Disclosure of Noncash Investing and Financing Activities:		
Vesting of early exercised common stock options	$ 10	$ —
Preferred stock warrants issued in connection with term loan modifications	$ —	$ 203
Unpaid deferred offering and issuance costs	$ 1,124	$ 172
Capitalized internal use software included in accounts payable and accrued liabilities	$ 35	$ —

	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Cash, Cash Equivalents, and Restricted Cash Information:		
Cash and cash equivalents, beginning of period	$ 40,125	$ 7,222
Restricted cash, beginning of period	100	150
Cash, cash equivalents, and restricted cash, beginning of period	40,225	7,372
Cash and cash equivalents, end of period	43,432	38,256
Restricted cash, end of period	100	150
Cash, cash equivalents, and restricted cash, end of period	$ 43,532	$ 38,406

The accompanying notes are an integral part of these condensed financial statements.

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CARLSMED, INC.

NOTES TO CONDENSED FINANCIAL STATEMENTS

(unaudited)

1. Organization

Description of Business

Carlsmed, Inc. (the "Company") is a commercial-stage company within the surgical device with enabling technology sector. The Company was incorporated in Delaware in June 2018 and is headquartered in Carlsbad, California. The Company designs, manufactures, and markets *aprevo*®, a comprehensive technology platform for spine fusion surgery procedures.

The aprevo platform includes proprietary surgical planning software, using outcomes-based algorithms that are aided with artificial intelligence, and resulting custom-built, anatomically designed vertebral interbody implants. These implants provide each patient with a personalized vertebral fit to address their pathology and anatomy.

The U.S. Food and Drug Administration ("FDA") cleared the aprevo interbody implants for the correction of adult lumbar spinal deformity through its 510(k) regulatory clearance pathway in December 2020. After FDA clearance, the Company commenced its limited clinical release, with its first U.S. patient implant in February 2021. In October 2021, the Company commenced its U.S. commercial launch of aprevo.

Liquidity and Capital Resources

The Company has raised aggregate gross equity proceeds of $105.1 million through March 31, 2025, from the issuance of common stock and convertible preferred stock. As of March 31, 2025, the Company had $43.4 million of cash and cash equivalents, $15.6 million debt outstanding under its loan and security agreement with Customers Bank (the "Customers Loan Agreement"), and an accumulated deficit of $76.9 million.

The Company expects to continue to generate operating losses for the foreseeable future as it continues to expand commercial operations and develop its product portfolio. The Company believes that its existing cash on hand will be sufficient to meet anticipated capital requirements for its operations for at least 12 months from the date of the issuance of the accompanying condensed financial statements. The failure to obtain sufficient funds on acceptable terms and in a timely manner could require the Company to make significant spending reductions in its future operations and/or delay, reduce, or eliminate some or all of its research and development programs and product expansion or commercialization efforts. Any of these actions could materially harm the Company's business, results of operations, and future prospects.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed financial statements have been prepared by management in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial reporting and as required by S-X, Rule 10-1. Accordingly, they do not include all of the information and disclosures required by U.S. GAAP for a complete set of financial statements. In the opinion of the Company's management, the accompanying unaudited condensed financial statements and notes have been prepared on the same basis as the audited financial statements for the year ended December 31, 2024, and include all adjustments (consisting of normal recurring adjustments) necessary for a fair statement of the interim periods presented.

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The accompanying condensed financial statements should be read in conjunction with the Company's audited annual financial statements and notes thereto. The Company's results of operations for the three months ended March 31, 2025 are not necessarily indicative of the results to be expected for the year ending December 31, 2025 or for any other interim period.

Use of Estimates

The preparation of the condensed financial statements in conformity with GAAP requires management to make informed estimates that require assumptions that affect the reported amounts in the accompanying condensed financial statements. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that it believes to be reasonable under the circumstances. Actual results could differ materially under different assumptions and conditions.

Cash and Cash Equivalents

"Cash and cash equivalents" in the accompanying condensed Balance Sheets consist of bank deposits and highly liquid investments, including money market fund accounts, that are readily convertible into cash without penalty, with original maturities of three months or less from the purchase date. The carrying amounts reported in the accompanying condensed Balance Sheets for cash and cash equivalents are valued at cost, which approximate their fair value.

Restricted Cash

"Restricted cash" in the accompanying condensed Balance Sheets as of March 31, 2025 and December 31, 2024 represents cash held as collateral for the Company's facility lease.

Accounts Receivable and Allowance for Credit Losses

"Accounts receivable, net of allowances" in the accompanying condensed Balance Sheets are presented net of allowances for credit losses. The Company maintains an allowance for expected credit losses for accounts receivable, which is recorded as an offset to accounts receivable. Changes in this allowance are recorded as "general and administrative" expense in the condensed Statements of Operations and Comprehensive Loss. Expected credit losses include losses expected based on known credit issues with certain customers as well as a general expected credit loss allowance based on relevant information, including historical loss rates, current conditions, and reasonable economic forecasts that affect collectability. The Company maintained an allowance for credit losses accounts of $1.3 million and $1.2 million as of March 31, 2025 and December 31, 2024, respectively. The Company recorded a provision for credit losses of $0.1 million for the three months ended March 31, 2025 and 2024.

Concentrations of Financial Instrument Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents in deposits at financial institutions that may exceed federally insured limits and certain accounts receivable balances. Risks associated with cash and cash equivalents are mitigated by banking with creditworthy institutions with platforms that administer deposits across multiple banks within federally insured limits. The Company mitigates potential losses from uncollectible accounts receivable through its credit approval and ongoing collection and customer monitoring activities. To date, the Company has not experienced any losses on its financial instruments and believes that it has adequately recorded allowances for uncollectible accounts receivable in each reported period.

As of March 31, 2025, the Company had one customer that accounted for 10% of the Company's total accounts receivable balance. As of December 31, 2024, the Company did not have accounts receivable balances from any one customer exceeding 10% of total accounts receivable. There was one customer that accounted for 10% and 11% of the Company's revenue for the three months ended March 31, 2025 and 2024, respectively.

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Fair Value of Financial Instruments

Assets and liabilities are recorded at fair value on a recurring basis in the accompanying condensed Balance Sheets. These accounts are categorized based upon the level of judgment associated with the inputs used to measure their fair values. Fair value is defined as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. The authoritative accounting guidance on fair value measurements establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

•*Level 1*: Quoted prices (unadjusted) in active markets for identical assets or liabilities that are publicly accessible at the measurement date.

•*Level 2*: Observable prices that are based on inputs not quoted on active markets, but that are corroborated by market data. These inputs may include quoted prices for similar assets or liabilities or quoted market prices in markets that are not active to the general public.

•*Level 3*: Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

The carrying amounts of the Company's condensed financial instruments consisting of cash, cash equivalents, accounts receivables, prepaid expenses, accounts payable, and accrued liabilities approximate fair value due to the short maturities for each.

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. The Company reviews the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels for certain assets or liabilities within the fair value hierarchy. The Company did not have any transfers of assets and liabilities between the levels of the fair value hierarchy during the periods presented.

(in thousands)		Total Fair Value	Quoted Market Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
As of March 31, 2025					
Money market funds [1]	$ 41,644	$ 41,644	$ —	$ —	
Total financial assets	$ 41,644	$ 41,644	$ —	$ —	
Warrant liabilities	$ 490	$ —	$ —	$ 490	
Total financial liabilities	$ 490	$ —	$ —	$ 490	
As of December 31, 2024					

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Money market funds [1]	$ 37,744	$ 37,744	$ —	$ —
Total financial assets	$ 37,744	$ 37,744	$ —	$ —
Warrant liabilities	$ 457	$ —	$ —	$ 457
Total financial liabilities	$ 457	$ —	$ —	$ 457

(1)Included as a component of “cash and cash equivalents” on the accompanying condensed Balance Sheets.

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Inventory

The Company maintains minimal inventories because aprevo is made specific to each patient's anatomy to address their pathology and is not otherwise made-to-stock. Work-in-process inventory consists of titanium alloy implants for spine fusion surgical procedures, pending sterilization and packaging. Finished goods inventory is ready for shipment to the customer for use in a spine fusion surgical procedure.

Inventories are valued at the lower of cost or net realizable value, determined by the specific identification method. At each balance sheet date, the Company evaluates its inventories for obsolescence, based on notification of permanently canceled surgeries and ongoing estimates of permanent cancellations. The Company records the corresponding charge for obsolete inventory through "cost of sales."

The components of reported "inventory" are as follows:

(in thousands)	As of March 31, 2025	As of December 31, 2024
Finished goods	$ 1,224	$ 595
Work in process	37	400
Total	$ 1,261	$ 995

Warrant Liabilities

The Company has issued warrants to purchase convertible preferred stock in conjunction with the Customers Loan Agreement (see *Note 4*). The Company accounts for its issued convertible preferred stock warrants as liabilities in accordance with *ASC 480*. The liability-classified warrants are initially measured at fair value, resulting in an implied discount on the related financing arrangement that is deferred as an asset as it relates to tranches of the Customers Loan Agreement that have not yet been drawn as of the date of the issuance of the respective warrants. The deferred asset is recorded within "other assets" on the accompanying condensed Balance Sheets and is amortized into interest expense using the straight-line method over the period in which the Company can draw on the remaining tranches of the credit facility. Changes in fair value of the warrant liabilities are recognized in the condensed Statements of Operations and Comprehensive Loss.

The fair value of the warrant liabilities was determined based on significant inputs not observable in the market, which represents a "Level 3" measurement within the fair value hierarchy. The fair values of the warrant liabilities are measured using the "hybrid method." The hybrid method is often used when a company is expecting a liquidity event in the near future and is a combination of the option-pricing and probability-weighted expected return methods. Estimates and assumptions impacting the fair value measurement include the fair value per share of the underlying shares of convertible preferred stock, the remaining contractual term of the warrants, and probability of number of shares the warrants will become exercisable into. The most significant assumption in the model impacting the fair value of the warrants is the fair value of the Company's convertible preferred stock as of each remeasurement date.

A summary of the changes in the total fair value of the warrant liabilities for the three months ended March 31, 2025 and 2024, is as follows:

(in thousands)	Warrant Liabilities
Fair value as of December 31, 2024	$ 457
Change in fair value of warrant liabilities	33
Fair value as of March 31, 2025	$ 490
Fair value as of December 31, 2023	$ —
Issuance of Series B preferred stock warrants	203
Fair value as of March 31, 2024	$ 203

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Deferred Offering Costs

The Company capitalizes certain legal, professional, accounting, and other third-party fees that are directly associated with in-process equity financings as deferred offering costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in "stockholders' equity (deficit)" or the applicable series of convertible preferred stock as a reduction of proceeds generated as a result of the offering. Should the in-process equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the condensed Statements of Operations and Comprehensive Loss. As of March 31, 2025 and December 31, 2024, there were $1.5 million and $0.4 million deferred offering costs, respectively, which are included in "other assets" in the accompanying condensed Balance Sheets.

Comprehensive Loss

Comprehensive loss encompasses all changes in equity other than those arising from transactions with stockholders. For the three months ended March 31, 2025 and 2024, the Company had no other comprehensive loss items and accordingly, net loss equaled comprehensive loss.

Recent Accounting Pronouncements

Recently Issued Accounting Standards Not Yet Effective

Expense Disaggregation Disclosures - In November 2024, the FASB issued ASU 2024-03, *Income Statement - Reporting Comprehensive Income - Expense Disaggregation Disclosures (Subtopic 220-40): Disaggregation of Income Statement Expenses* ("ASU 2024-03"). This ASU requires new financial statement disclosures disaggregating prescribed expense categories within relevant income statement expense captions. ASU 2024-03 will be effective for fiscal years beginning after December 15, 2026, and interim periods beginning after December 15, 2027. Early adoption is permitted. The Company is currently evaluating the impact of adopting the standard.

Income Taxes - In December 2023, the FASB issued ASU 2023-09, *Income Taxes (Topic 740): Improvements to Tax Disclosures (*"ASU 2023-09"). This ASU expands disclosures in an entity's income tax rate reconciliation table and regarding cash taxes paid both in the U.S. and foreign jurisdictions. The update will be effective for fiscal years beginning after December 15, 2024. The Company is currently evaluating the impact of adopting the standard.

3. Balance Sheet Account Detail

The composition of selected captions within the accompanying condensed Balance Sheets are summarized below:

Property and Equipment, Net

The components of "property and equipment, net" as of March 31, 2025 and December 31, 2024 are as follows:

(in thousands)	As of March 31, 2025	As of December 31, 2024
Office equipment	$ 556	$ 488
Furniture and fixtures	91	91
Leasehold improvements	80	80
Construction in progress	204	—
Total	931	659
Less: accumulated depreciation	(438)	(399)
Property and equipment, net	$ 493	$ 260

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Depreciation expense for the three months ended March 31, 2025 and 2024 was less than $0.1 million. The Company has not recognized any impairment loss for any long-lived assets for the three months ended March 31, 2025 and 2024.

Accrued Liabilities

The components of "accrued liabilities" as of March 31, 2025 and December 31, 2024 are as follows:

(in thousands)	As of March 31, 2025	As of December 31, 2024
Accrued sales agent commissions	$ 1,388	$ 1,420
Accrued clinical studies	355	529
Liability associated with stock option exercises prior to vesting	102	112
Accrued legal and patent fees	957	90
Other accrued expenses	350	536
Total accrued liabilities	$ 3,152	$ 2,687

4. Debt

Customers Bank Credit Facility

In December 2022, the Company and Signature Bank, subsequently succeeded by Customers Bank, entered into a loan and security agreement (the "Customers Loan Agreement") with an initial maturity to December 2026 that provided for $12.5 million of principal available. The Customers Loan Agreement required the Company to pay a tiered cash-based "Success Fee" upon a defined Liquidity Event that was eliminated in March 2024 in connection with the Third Amendment, as discussed below.

The Customers Loan Agreement bore interest at the *greater of* (a) 1.0% below Prime Rate or (b) 5.25%. The Customers Loan Agreement also included an end of term charge of 4.21% of the aggregate principal amount funded, and such end of term charge remains in effect through the Third Amendment and Fourth Amendment. The end of term charge is recorded within "other long-term liabilities" within the condensed Balance Sheets and is accrued over the term of the loan through interest expense within the condensed Statements of Operations and Comprehensive Loss using the "effective interest method." Debt issuance costs are accounted for as a debt discount and amortized as "interest expense" within the condensed Statements of Operations and Comprehensive Loss over the term of the loan using the "effective interest method."

On March 7, 2024, the Company amended the Customers Loan Agreement (the "Third Amendment") to increase the total principal available under the credit facility from $12.5 million to $18.8 million, subject to the achievement of certain revenue and other milestones, with extended maturity up to December 20, 2027, if certain conditions are met. The applicable per annum interest rate was adjusted to the greater of (a) WSJ Prime Rate + 0.25% or (b) 5.25%. The applicable coupon interest rate was 7.75% as of March 31, 2025.

As part of the Third Amendment, the Success Fee was contractually eliminated and replaced with the issuance of a warrant exercisable for up to 325,988 shares of Series B convertible preferred stock at an exercise price of $1.2402 per share (the "Series B Warrant"). Upon issuance, the Series B Warrant was immediately exercisable for 150,000 shares with the remaining 175,988 additional shares becoming exercisable upon the required achievement of certain revenue milestones and/or draws of this expanded credit facility. The Series B Warrant was scheduled to expire 10 years from the issuance date of March 6, 2024, but was amended and restated in connection with the subsequent Fourth Amendment (see below). The fair value of the Series B Warrant at issuance in conjunction with the Third Amendment was $0.2 million.

In May 2024, the Company drew $6.3 million under the Customers Loan Agreement upon the achievement of requisite revenue milestones.

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On December 30, 2024, the Company further amended the Customers Loan Agreement (the "Fourth Amendment") to expand the credit facility from $18.8 million to $27.5 million, with the addition of two new debt draw tranches. Upon the Fourth Amendment, the Company had the ability to draw $7.5 million immediately and the remaining $4.4 million is contingent upon the achievement of a requisite revenue milestone which as of March 31, 2025, was not yet met. The maturity date was extended to October 31, 2029, with an interest-only period through July 31, 2026, followed by principal repayment over 39 months thereafter. Upon achievement of certain revenue milestones, the interest-only period and repayment terms may be extended to an interest-only period through July 31, 2027, followed by principal repayment over 27 months thereafter. As of March 31, 2025, the requisite revenue milestones were not yet met.

As part of the Fourth Amendment, the Company partially modified the aggregate 325,988 Series B Warrant issued with the Third Amendment, reducing the number of shares exercisable subject to remaining future draws of the credit facility as of the date of the Fourth Amendment from 62,994 shares to 31,497, with the remaining 31,497 shares becoming exercisable ratably with debt draws that had not occurred as of March 31, 2025. Additionally, the expiration date for the Series B Warrant was extended to December 30, 2034. The modification of the Series B Warrant upon the Fourth Amendment resulted in an immaterial increase in the warrant liability. As of March 31, 2025, the Series B Warrant is exercisable for 294,491 shares of the Series B convertible preferred stock.

Additionally, as part of the Fourth Amendment, the Company issued a new warrant that is exercisable into the Company's Series C convertible preferred stock ("Series C Warrant"), subject to certain revenue and debt draw milestones. These Series C Warrant is exercisable for up to 113,695 shares at an exercise price of $1.9240 per share and expires on December 30, 2034. Upon issuance, the Series C Warrant was immediately exercisable into 28,424 shares with the remaining 85,271 additional shares becoming exercisable upon the required achievement of certain revenue milestones and/or draws of this expanded credit facility. As of March 31, 2025, the Series C Warrant is exercisable for 28,424 shares of Series C convertible preferred stock.

Each of the Third Amendment and Fourth Amendment were accounted for as debt modifications with no gain or loss recognized. The carrying value of amounts outstanding under the Customers Loan Agreement approximates its fair value as of March 31, 2025. The fair value of the term loan is classified as a Level 2 measurement because interest rates charged are similar to other financial instruments with similar terms and maturities.

As of March 31, 2025, $15.6 million of principal remains outstanding under the Customers Loan Agreement which is set to mature on October 31, 2029. As of March 31, 2025, an aggregate $7.5 million is currently available for future borrowings with an additional $4.4 million available upon the achievement of a requisite revenue milestone.

As of March 31, 2025, the Company was in compliance with all applicable Customers Loan Agreement covenants.

Interest expense on the Customers Loan Agreement for the three months ended March 31, 2025 and 2024 was $0.4 million and $0.2 million, respectively. Of these amounts, $0.1 million and less than $0.1 million were related to amortization of the debt discount and issuance costs for the three months ended March 31, 2025 and 2024, respectively. The effective interest rate was 8.08% as of March 31, 2025.

The following table summarizes contractual principal payments as of March 31, 2025:

Year ending December 31,	***(in thousands)***
Remainder of 2025	$ —
2026	2,003
2027	4,808
2028	4,808
2029	4,006
Total future principal payments	15,625
Unamortized issuance costs	(203)
Total term loan, net	**$ 15,422**

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5. Common Stock

In accordance with the Company's Amended and Restated Certificate of Incorporation dated January 30, 2025, the Company is authorized to issue two classes of stock—common stock and convertible preferred stock. The Company shall have authority to issue 132,132,695 shares of common stock with par value of $0.00001 per share and 85,511,071 shares of convertible preferred stock with par value of $0.00001 per share.

Holders of common stock are entitled to one vote for each share held on applicable corporate matters. Holders of preferred stock vote together with the holders of common stock as one single class, other than as provided in the Company's Amended and Restated Certificate of Incorporation. Common stock does not carry redemption rights and upon liquidation, its holders are entitled to receive a pro rata share of the Company's remaining assets available for distribution (pro rata with holders of preferred stock on an as-converted basis), after amounts are first paid to creditors and applicable liquidation preference proceeds are then distributed to holders of preferred stock.

Common stock reserved for future issuance as of March 31, 2025, consisted of the following:

	As of March 31, 2025
Preferred stock, convertible into common stock	85,071,388
Common stock options outstanding	12,033,624
Restricted stock units outstanding	627,630
Shares available for future issuance under the 2019 Plan	1,222,340
Series B Warrant	325,988
Series C Warrant	113,695
Common Stock Warrant	144,317
Total common stock reserved for future issuance	**99,538,982**

6. Stock-Based Compensation

In September 2019, the Company adopted the Carlsmed, Inc. Stock Incentive Plan, which was subsequently amended, most recently in January 2025 (the "2019 Plan"). The 2019 Plan is administered by the Company's Board of Directors. As of March 31, 2025, the Board of Directors may grant awards under the 2019 Plan for up to an aggregate of 22,629,288 shares of common stock in the form of non-qualified stock options, incentive stock options, stock appreciation rights, dividend equivalent rights, restricted stock awards, and restricted unit awards.

The exercise price of a share subject to a stock option may not be less than the fair market value of a share of the Company's common stock at the grant date. Stock options granted to employees typically have four-year monthly vesting schedules (with 25% of the award cliff vesting on the first anniversary of the date of grant) and a contractual term of 10 years; related expense is recognized in the accompanying Statements of Operations and Comprehensive Loss on a straight-line basis over each award's vesting period.

The Company also grants stock option awards to non-employees, including members of its Scientific Advisory Board ("SAB") and members of the Company's Board of Directors. Options granted under the 2019 Plan may be subject to vesting acceleration in connection with a "Corporate Transaction," as defined in the 2019 Plan.

The 2019 Plan allows for the exercise of certain stock option grants prior to vesting ("early exercise"), with such grants approved by the Company's Board of Directors. For these awards, in the event of employee termination, the Company has the right, but not the obligation, to repurchase the portion of unvested stock at the *lower of* the exercise price or the then-current fair value. A liability is recorded within "accrued liabilities" on the accompanying condensed Balance Sheets that is equal to the cash received for these early exercises, and this liability is reduced as vesting occurs. Unvested shares that have been early exercised are reflected in "common shares issued" but excluded from "common shares outstanding" on the accompanying condensed financial statements. As of March 31, 2025, 483,334 shares of early exercised stock options were outstanding, representing an early exercise liability of $0.1 million. As of December 31, 2024, 533,334 shares of early exercised stock options were outstanding, representing an early exercise liability of $0.1 million.

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Stock Options

The following summarizes stock option activity for the Company for the three months ended March 31, 2025:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in Years)	Aggregate Intrinsic Value (in thousands)
Outstanding at December 31, 2024	9,964,095	$ 0.18	7.5	$ 5,938
Granted	4,447,833	0.78		
Exercised	(2,356,804)	0.06		
Forfeited	(21,500)	0.35		
Outstanding at March 31, 2025	12,033,624	$ 0.43	8.5	$ 7,609
Vested and Exercisable at March 31, 2025	3,907,147	$ 0.10	6.4	$ 3,732

The weighted average grant date fair value of options granted during the three months ended March 31, 2025 was $0.38 per share. There were no options granted during the three months ended March 31, 2024. The total fair value of options that vested during the three months ended March 31, 2025 and 2024 was $0.1 million and less than $0.1 million, respectively, based on the grant date fair value.

The aggregate intrinsic value in the above table is calculated as the difference between the fair value of the Company's common stock price and the exercise price of the stock options. The aggregate intrinsic value of stock options exercised during the three months ended March 31, 2025 and 2024 was $1.7 million and $0.1 million, respectively.

The grant date fair value of the options is determined using an option pricing model. There were no stock options granted during the three months ended March 31, 2024. The assumptions that were used in estimating the grant date fair value of stock options under the option pricing method for the three months ended March 31, 2025 were as follows:

	Three Months Ended March 31, 2025
Expected stock price volatility [1]	43.7%
Risk-free interest rate [2]	4.41%
Expected annual dividend yield [3]	0.0%
Expected term (years) [4]	5.99

(1)Based on the median stock price volatility for peer public companies over a historic timeframe similar to the expected term, with adjustments for differences in size and capital structure.

(2)Based on the U.S. Treasury yield curve in effect as of the valuation date.

(3)The Company has not paid and does not currently anticipate paying a cash dividend on its common stock.

(4)The expected term of stock options granted to employees represents the weighted average period the stock options are expected to be outstanding. The Company uses the simplified method for estimating the expected term, which calculates the expected term as the average time-to-vesting and the contractual life of the options for stock options issued to employees and non-employees.

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Restricted Stock Units

During the three months ended March 31, 2025, the Company issued 627,630 restricted stock units (“RSUs”) that have a contractual term of four years and vest upon the satisfaction of performance, market, and service conditions. The performance conditions require either (1) the completion of an initial public offering (“IPO”) where the Company's stock is listed on an established stock exchange or (2) the occurrence of a corporate transaction, such as a merger, acquisition, or similar liquidity event. The market condition is based on the achievement of share price targets following the completion of the IPO or on the date of a corporate transaction. The service condition requires the employee to provide continued service through the achievement of both the performance and market conditions.

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The grant date fair value of the RSUs is determined using a Monte Carlo simulation methodology, which takes into consideration the probability of achievement of the market conditions.

Expense for the RSUs begins on the grant date and is recognized over the derived requisite service period of the award. However, no compensation expense will be recognized until the performance-based vesting condition is probable of being achieved. If the performance condition is met through an IPO, compensation expense will be recognized on the IPO date proportionally for the completed portion of the requisite service period up to the IPO date. The remaining unrecognized expense will be amortized over the remaining derived requisite service period associated with the market condition, regardless of whether the market condition is ultimately satisfied. If the performance condition is met through a corporate transaction, compensation expense for the fair value of the award will be recognized in full on the corporate transaction date, as the market condition must also be achieved at the time of the corporate transaction for vesting to occur and therefore there is no remaining derived service period.

As of March 31, 2025, the performance-based vesting conditions are not probable of being achieved and therefore none of the RSUs are vested and no stock-based compensation expense has been recognized.

Stock-based Compensation Cost

The compensation cost that has been included in the Company's condensed Statements of Operations and Comprehensive Loss for all stock-based compensation arrangements is detailed as follows:

(in thousands)	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
General and administrative	$ 72	$ 20
Research and development	57	6
Sales and marketing	46	9
Total	$ 175	$ 35

As of March 31, 2025, there was $2.9 million of unrecognized compensation for unvested stock options and the weighted-average period over which this remaining compensation cost will be recognized is 3.4 years.

7. Convertible Preferred Stock

In March 2024, the Company issued a total of 20,010,393 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $38.5 million.

In September 2024, the Company issued a total of 7,276,507 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $14.0 million. In January 2025, the Company issued a total of 6,237,006 shares of Series C convertible preferred stock at a price of $1.9240 per share for gross cash proceeds of $12.0 million. The September 2024 and January 2025 issuances of Series C convertible preferred stock were completed below the fair value of the shares as of each respective issuance date. The Company recorded the excess of fair value over the issuance price as a "deemed dividend" within additional paid-in-capital ("APIC") in the amount of $0.6 million as of both issuance dates. The deemed dividends reflect the distribution of value from common stockholders to preferred stockholders due to the implicit discount on these shares issued in September 2024 and January 2025. Since the Company remained in an accumulated deficit position at each respective issuance date, this deemed dividends were recorded directly to APIC rather than retained earnings.

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8. Net Loss Per Share

Basic net loss per share is calculated by *dividing* net loss attributable to common stockholders by the weighted-average number of shares of common stock outstanding, net of the weighted-average unvested restricted stock subject to repurchase by the Company, if any, during the period. Diluted loss per share is calculated by *dividing* the net loss attributable to common stockholders by the weighted-average number of common shares outstanding, adjusted for the effects of potentially dilutive common stock, which are comprised of stock options and stock warrants, using the "treasury-stock method," and convertible preferred stock, using the "if-converted method."

Because the Company reported net losses for the period presented, all potentially dilutive common stock is antidilutive for this period and therefore basic and diluted net loss per common share are the same. The convertible preferred stock are considered participating securities; however, they were excluded from the computation of basic loss per share in the periods of net loss as there is no contractual obligation for the holders to share in the losses of the Company.

The following table presents the number of anti-dilutive shares excluded from the calculation of diluted net loss per share as of March 31, 2025 and 2024:

	As of March 31, 2025	As of March 31, 2024
Stock options outstanding [1]	12,033,624	7,302,575
Preferred stock (common stock equivalent) [2]	85,071,388	71,557,875
Restricted stock units outstanding [3]	627,630	—
Series B Warrant (common stock equivalent) [4]	325,988	325,988
Series C Warrant (common stock equivalent) [5]	113,695	—
Common Stock Warrant [6]	144,317	144,317
Total	98,316,642	79,330,755

(1)3,907,147 stock options vested and exercisable as of March 31, 2025.

(2)Preferred stock converts to common stock on a 1:1 basis upon the holder's election or upon a Deemed Liquidation Event.

(3)No restricted stock units are vested as of March 31, 2025.

(4)Series B Warrant exercisable into 294,491 shares of Series B preferred stock as of March 31, 2025.

(5)Series C Warrant exercisable into 28,424 shares of Series C preferred stock as of March 31, 2025.

(6)Common Stock Warrant exercisable into 144,317 shares of common stock as of March 31, 2025.

9. Commitment and Contingencies

Legal Matters

The Company from time to time is involved in legal matters incidental to the conduct of its business. In the opinion of management, there are no claims outstanding that would have a material adverse effect on the Company's financial position, results of operations, or cash flows.

Operating Lease

In the ordinary course of business, the Company enters into lease agreements with unaffiliated third parties for its facilities and office equipment. As of March 31, 2025, the Company had one active operating lease for 16,000 square feet of administrative, engineering, and research and development space in Carlsbad, California ("Carlsbad Lease"). The Carlsbad Lease commenced on May 1, 2021, and was originally set to expire on April 30,

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2024. On December 4, 2023, the Company modified the Carlsbad Lease which resulted in the lease term extending to July 1, 2028.

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The Company used its incremental borrowing rate at the lease modification date of 9.08% in determining the discount rate utilized to present value the future minimum lease payments since an implicit interest rate in the lease agreement was not determinable. Total lease expenses for the three months ended March 31, 2025 and 2024 was $0.1 million.

The Company's real estate taxes, insurance costs, and common area maintenance, are included in monthly rent and not separately itemized. Rent expense is allocated to cost of sales, research and development, sales and marketing, and general and administrative expenses in the accompanying condensed Statements of Operations and Comprehensive Loss.

The weighted-average lease terms and discount rates are as follows:

	As of March 31, 2025	As of December 31, 2024
Weighted-average remaining lease term	3.25	3.50
Weighted-average discount rate	9.08%	9.08%

The aggregate future minimum lease payments under this lease as of March 31, 2025, are as follows:

(in thousands) Year ending December 31,	Payments
Remainder of 2025	$ 449
2026	616
2027	638
2028	327
Total undiscounted lease payments	$ 2,030
Less: tenant improvement receivable	(100)
Less: imputed interest	(269)
Present value of future lease payments	$ 1,661
Short-term operating lease liabilities	464
Long-term operating lease liabilities	1,197
Total operating lease liabilities	$ 1,661

The operating cash outflows included in the measurement of the operating lease liabilities was $0.1 million and $0.2 million for the three months ended March 31, 2025 and 2024, respectively.

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10. Segment Reporting

The following table provides the operating financial results of the Company's single reportable segment. It includes the significant expense categories regularly provided to the Company's Chief Operating Decision Maker, its Chief Executive Officer, computed under GAAP and reconciled to the Company's total "net loss" as presented in the condensed Statement of Operations and Comprehensive Loss:

(in thousands)	Three Months Ended March 31, 2025	Three Months Ended March 31, 2024
Revenue	$ 10,189	$ 5,086
Less:		
Cost of sales	2,553	1,422
Selling expenses	5,014	2,763
Marketing expenses	932	604
Product and software development costs	1,480	1,451
Clinical, medical, and regulatory expenses	1,021	1,158
Other segment expenses*	4,908	3,017
Interest expense	357	216
Interest income	(380)	(98)
Change in fair value of warrant liabilities	33	—
Net loss	$ (5,729)	$ (5,447)

* Other segment expenses primarily include corporate, compliance, and research and development support expenses.

11. Income Taxes

In determining quarterly provisions for income taxes, the Company uses the annual estimated effective tax rate applied to the actual year-to-date income (loss), adjusted for discrete items, if any, that are taken into account in the relevant period. The Company's annual estimated effective tax rate differs from the statutory rate primarily as a result of state taxes and changes in the Company's valuation allowance.

The Company did not record income tax expense for the three months ended March 31, 2025 and 2024. The Company continues to maintain a full valuation allowance as it is more likely than not that the Company's net deferred tax assets will not be realized.

There were no material changes to the Company's unrecognized tax benefits in the three months ended March 31, 2025, and the Company does not expect to have significant changes to unrecognized tax benefits through the end of the fiscal year. The Company did not have any interest or penalties related to its uncertain tax positions for the three months ended March 31, 2025 and 2024.

12. Subsequent Events

The Company has evaluated its condensed financial statements for subsequent events through May 30, 2025, the date these financial statements were issued. The Company has further evaluated its condensed financial statements for subsequent events through June 26, 2025 and has concluded that no subsequent event has occurred that requires disclosure.

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Shares



Common Stock

BofA Securities **Goldman Sachs & Co. LLC** **Piper Sandler**

Truist Securities **BTIG**

, 2025

Through and including, , 2025 (25 days after the date of this prospectus), all dealers that buy, sell, or trade our common stock, whether or not participating in this offering, may be required to deliver a prospectus. This delivery requirement is in addition to the obligation of dealers to deliver a prospectus when acting as underwriters and with respect to their unsold allotments or subscriptions.

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Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the SEC registration fee, the Financial Industry Regulatory Authority, Inc. ("FINRA") filing fee and the Nasdaq listing fee.

		Amount Paid or to be Paid
SEC registration fee	$ 15,310	
FINRA filing fee	15,500	
Nasdaq listing fee	*	
Accountants' fees and expenses	*	
Legal fees and expenses	*	
Transfer agent and registrar fees and expenses	*	
Printing and engraving expenses	*	
Miscellaneous expenses	*	
Total	$ *	

* To be filed by amendment.

Item 14. Indemnification of Directors and Officers.

Section 145 of the DGCL provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending, or completed actions, suits, or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee, or agent to the registrant. The DGCL provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors, or otherwise. Article 9 of the registrant's amended and restated certificate of incorporation provides for indemnification by the registrant of its directors, officers, and employees to the fullest extent permitted by the DGCL. The registrant has entered into indemnification agreements with each of its current directors, executive officers, and certain other officers to provide these directors and officers additional contractual assurances regarding the scope of the indemnification set forth in the registrant's amended and restated certificate of incorporation and amended and restated bylaws and to provide additional procedural protections. There is no pending litigation or proceeding involving a director or executive officer of the registrant for which indemnification is sought.

Section 102(b)(7) of the DGCL permits a corporation to provide in its certificate of incorporation that a director or officer of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or officer, except for liability (i) for any breach of the director's or officer's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) in the case of directors, for unlawful payments of dividends or unlawful stock repurchases, redemptions, or other distributions, or (iv) for any transaction from which the director or officer derived an improper personal benefit, provided that officers may not be indemnified for actions by or in the right of the corporation. The registrant's amended and restated certificate of incorporation provides for such limitation of liability.

The registrant maintains standard policies of insurance under which coverage is provided (a) to its directors and officers against loss rising from claims made by reason of breach of duty or other wrongful act and (b) to the registrant with respect to payments that may be made by the registrant to such officers and directors pursuant to the above indemnification provision or otherwise as a matter of law.

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The proposed form of underwriting agreement to be filed as Exhibit 1.1 to this registration statement provides for indemnification of directors and officers of the registrant by the underwriters against certain liabilities.

Item 15. Recent Sales of Unregistered Securities.

Since January 1, 2022, we have issued the following securities that were not registered under the Securities Act:

Equity Plan-Related Issuances

(1)Since January 1, 2022, we have granted stock options to our directors, employees, and other service providers to purchase an aggregate of 11,841,181 shares of our common stock under our 2019 Plan, at exercise prices ranging from $0.07 to $1.17 per share.

(2)Since January 1, 2022, we issued and sold to our employees an aggregate of 6,049,095 shares of our common stock upon the exercise of stock options under our 2019 Plan, at exercise prices ranging from $0.03 to $0.38 per share.

Sales of Preferred Stock

(3)In March 2024, September 2024, and January 2025, we completed the initial and subsequent closings of the sale of an aggregate of 33,523,906 shares of our Series C convertible preferred stock at a purchase price of $1.924 per share for aggregate gross proceeds of $64.5 million. Each share of our Series C convertible preferred stock will convert into shares of our common stock immediately prior to the closing of this offering in accordance with our existing amended and restated certificate of incorporation.

(4)In April 2022, we completed the sale of an aggregate of 24,189,639 shares of our Series B convertible preferred stock at a purchase price of $1.2402 per share for aggregate gross proceeds of $30.0 million. Each share of our Series B convertible preferred stock will convert into shares of our common stock immediately prior to the closing of this offering in accordance with our existing amended and restated certificate of incorporation.

Warrants

(5)In December 2024, we issued a warrant to purchase up to 113,695 shares of our Series C convertible preferred stock at a purchase price of $1.9240 per share. The warrant will convert into a warrant to purchase shares of our common stock immediately prior to the closing of this offering.

(6)In March 2024, we issued a warrant to purchase up to 325,988 shares of our Series B convertible preferred stock at a purchase price of $1.2402 per share. The warrant was amended in December 2024. The warrant will convert into a warrant to purchase shares of our common stock immediately prior to the closing of this offering.

No underwriters were involved in these transactions. The offers, sales, and issuances of the securities described in paragraphs (1) through (2) were deemed to be exempt from registration under Rule 701 promulgated under the Securities Act as transactions under compensatory benefit plans and contracts relating to compensation, or under Section 4(a)(2) of the Securities Act as a transaction by an issuer not involving a public offering. The recipients of such securities were our directors, employees, or bona fide consultants and received the securities under our equity incentive plans. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business, or other relationships, to information about us.

The offers, sales, and issuances of the securities described in paragraphs (3) through (6) were deemed to be exempt under Section 4(a)(2) of the Securities Act or Rule 506 of Regulation D under the Securities Act as a transaction by an issuer not involving a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution

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thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor within the meaning of Rule 501 of Regulation D under the Securities Act and had adequate access to information about us.

Item 16. Exhibits and Financial Statement Schedules.

(a)Exhibits.

Exhibit Number	Description
1.1	Form of Underwriting Agreement.
3.1	Amended and Restated Certificate of Incorporation of the Registrant, as currently in effect.
3.1a	Certificate of Amendment of the Amended and Restated Certificate of Incorporation, as currently in effect, dated December 31, 2024.
3.1b	Certificate of Amendment of the Amended and Restated Certificate of Incorporation, as currently in effect, dated January 30, 2025.
3.2	Form of Amended and Restated Certificate of Incorporation of the Registrant, to be in effect upon the completion of this offering.
3.3	Amended and Restated Bylaws of the Registrant, as currently in effect.

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3.4	Amended and Restated Bylaws of the Registrant, to be in effect upon the completion of this offering.
4.1	Specimen common stock certificate of the Registrant.
4.2+	Warrant to Purchase Common Stock by and between Silicon Valley Bank and the Registrant, dated as of April 30, 2021.
4.3+	Second Warrant to Purchase Stock by and between Customers Bank and the Registrant, dated as of March 7, 2024.
4.4+	Amended and Restated Warrant to Purchase Stock by and between Customers Bank and the Registrant, dated as of December 30, 2024.
4.5+	Amended and Restated Investor Rights Agreement by and among the Registrant and certain of its stockholders, dated March 12, 2024.
5.1*	Opinion of Morrison & Foerster LLP.
10.1#	Form of Indemnification Agreement between the Registrant and each of its directors and executive officers.
10.2#	2019 Stock Incentive Plan.

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10.3#		Form of Stock Option Agreement and Exercise Notice under the 2019 Stock Incentive Plan (early exercise).
10.4#		Form of Stock Option Agreement and Exercise Notice under the 2019 Stock Incentive Plan.
10.5#		Restricted Stock Unit Agreement, by and between Michael Cordonnier and the Registrant, dated as of March 5, 2025, under the 2019 Stock Incentive Plan.
10.6#*		2025 Equity Incentive Plan to be in effect upon the completion of this offering.
10.7#*		2025 Employee Stock Purchase Plan to be in effect upon the completion of this offering.
10.8#*		Form of Option Award Agreement under the 2025 Equity Incentive Plan to be in effect upon the completion of this offering.
10.9#*		Form of RSU Award Agreement under the 2025 Equity Incentive Plan to be in effect upon the completion of this offering.
10.10#+		Employment Agreement, by and between the Registrant and Michael Cordonnier,

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	dated as of June 24, 2025.
10.11#+	Employment Agreement, by and between the Registrant and Leonard Greenstein, dated as of June 24, 2025.
10.12#+	Employment Agreement, by and between the Registrant and William Durall, dated as of June 24, 2025.
10.13#+	Employment Agreement, by and between the Registrant and Niall Casey, dated as of June 24, 2025.
10.14#	Non-Employee Director Compensation Policy.
10.15+	Loan and Security Agreement, dated as of December 20, 2022, by and between Signature Bank and the Registrant.
10.16	First Amendment to the Loan and Security Agreement, dated as of March 21, 2023, by and between Signature Bridge Bank, N.A. and the Registrant.

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10.17	Second Amendment to the Loan and Security Agreement, dated as of October 2, 2023, by and between Customers Bank and the Registrant.
10.18	Third Amendment to the Loan and Security Agreement, dated as of March 7, 2024, by and between Customers Bank and the Registrant.
10.19	Fourth Amendment to the Loan and Security Agreement, dated as of December 30, 2024, by and between Customers Bank and the Registrant.
23.1	Consent of Ernst & Young LLP, independent registered public accounting firm.
23.2*	Consent of Morrison & Foerster LLP (included in Exhibit 5.1)

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24.1	Power of Attorney (included on the signature page).
107.1	Filing Fee Table

* To be filed by amendment.

Indicates management contract or compensatory plan.

+ Certain of the schedules and attachments to this exhibit have been omitted pursuant to Regulation S-K, Item 601(a)(5). The Registrant hereby undertakes to provide further information regarding such omitted materials to the SEC upon request.

(b)Financial Statement Schedules.

None.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the Underwriting Agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers, and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer, or controlling person of the Registrant in the successful defense of any action, suit, or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act, and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(i)For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(ii)For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, Carlsmed, Inc. has duly caused this registration statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Carlsbad, State of California, on the 26th day of June, 2025.

CARLSMED, INC.

By: /s/ Michael Cordonnier
Michael Cordonnier
Chief Executive Officer, President, and Co-Founder
Chairman of the Board of Directors

Signatures and Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael Cordonnier and Leonard Greenstein, and each of them, either of whom may act without the joinder of the other, as his true and lawful attorneys-in-fact and agents with full power of substitution and re-substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and to sign any registration statement for the same offering covered by the registration statement that is to be effective upon filing pursuant to Rule 462(b) promulgated under the Securities Act, and all post-effective amendments thereto, and to file the same, with all exhibits thereto and all documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or his or her or their substitute or substitutes, may lawfully do or cause to be done or by virtue hereof.

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons in the capacities indicated and on the dates indicated.

Signature	Title	Date
/s/ Michael Cordonnier Michael Cordonnier	Chairman, Chief Executive Officer, President, and Co-Founder (*Principal Executive Officer*)	June 26, 2025
/s/ Leonard Greenstein Leonard Greenstein	Chief Financial Officer (*Principal Financial*	June 26, 2025

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	Officer and Principal Accounting Officer)	
/s/ Kevin O'Boyle Kevin O'Boyle	Director	June 26, 2025
/s/ Niall Casey Niall Casey	Director	June 26, 2025
/s/ Robert Mittendorff Robert Mittendorff	Director	June 26, 2025
/s/ Jonathan Root Jonathan Root	Director	June 26, 2025
/s/ Kevin Sidow Kevin Sidow	Director	June 26, 2025
/s/ Philip Young Philip Young	Director	June 26, 2025

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Exhibit 1.1

CARLSMED, INC.

(a Delaware corporation)

[•] Shares of Common Stock

UNDERWRITING AGREEMENT

Dated: [•], 2025

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CARLSMED, INC.

(a Delaware corporation)

[ ] Shares of Common Stock

UNDERWRITING AGREEMENT

[ ], 2025

BofA Securities, Inc.
Goldman Sachs & Co. LLC
Piper Sandler & Co.
as Representatives of the several Underwriters

c/o BofA Securities, Inc.
One Bryant Park
New York, New York 10036

c/o Goldman Sachs & Co. LLC
200 West Street
New York, New York 10282

c/o Piper Sandler & Co.
1251 Avenue of the Americas
39th Floor
New York,

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New York
10020

Ladies and Gentlemen:

Carlsmed, Inc., a Delaware corporation (the "Company"), confirms its agreement with BofA Securities, Inc. ("BofA"), Goldman Sachs & Co. LLC, ("Goldman Sachs") and Piper Sandler & Co. ("Piper Sandler"), and each of the other Underwriters named in Schedule A hereto (collectively, the "Underwriters," which term shall also include any underwriter substituted as hereinafter provided in Section 10 hereof), for whom BofA, Goldman Sachs and Piper Sandler, are acting as representatives (in such capacity, the "Representatives"), with respect to (i) the sale by the Company and the purchase by the Underwriters, acting severally and not jointly, of the respective numbers of shares of common stock, par value $0.00001 per share, of the Company ("Common Stock") set forth in Schedule A hereto and (ii) the grant by the Company to the Underwriters, acting severally and not jointly, of the option described in Section 2(b) hereof to purchase all or any part of [ ] additional shares of Common Stock. The aforesaid [ ] shares of Common Stock (the "Initial Securities") to be purchased by the Underwriters and all or any part of the [ ] shares of Common Stock subject to the option described in Section 2(b) hereof (the "Option Securities") are herein called, collectively, the "Securities."

The Company understands that the Underwriters propose to make a public offering of the Securities as soon as the Representatives deem advisable after this Underwriting Agreement (this "Agreement") has been executed and delivered.

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The Company has filed with the Securities and Exchange Commission (the "Commission") a registration statement on Form S-1 (No. 333-[ ]), including the related preliminary prospectus or prospectuses, covering the registration of the sale of the Securities under the Securities Act of 1933, as amended (the "1933 Act"). Promptly after execution and delivery of this Agreement, the Company will prepare and file a prospectus in accordance with the provisions of Rule 430A ("Rule 430A") of the rules and regulations of the Commission under the 1933 Act (the "1933 Act Regulations") and Rule 424(b) ("Rule 424(b)") of the 1933 Act Regulations. The information included in such prospectus that was omitted from such registration statement at the time it became effective but that is deemed to be part of such registration statement at the time it became effective pursuant to Rule 430A(b) is herein called the "Rule 430A Information." Such registration statement, including the amendments thereto, the exhibits thereto and any schedules thereto, at the time it became effective, and including the Rule 430A Information, is herein called the "Registration Statement." Any registration statement filed pursuant to Rule 462(b) of the 1933 Act Regulations is herein called the "Rule 462(b) Registration Statement" and, after such filing, the term "Registration Statement" shall include the Rule 462(b) Registration Statement. Each prospectus used prior to the effectiveness of the Registration Statement, and each prospectus that omitted the Rule 430A Information that was used after such effectiveness and prior to the execution and delivery of this Agreement, is herein called a "preliminary prospectus." The final prospectus, in the form first furnished to the Underwriters for use in connection with the offering of the Securities, is herein called the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system or any successor system ("EDGAR").

As used in this Agreement:

"Applicable Time" means [__:00 P./A.M.], New York City time, on [ ], 2025 or such other time as agreed by the Company and the Representatives.

"General Disclosure Package" means any Issuer General Use Free Writing Prospectuses issued at or prior to the Applicable Time, the most recent preliminary prospectus that is distributed to investors prior to the Applicable Time and the information included on Schedule B-1 hereto, all considered together.

"Issuer Free Writing Prospectus" means any "issuer free writing prospectus," as defined in Rule 433 of the 1933 Act Regulations ("Rule 433"), including without limitation any "free writing prospectus" (as defined in Rule 405 of the 1933 Act Regulations ("Rule 405")) relating to the Securities that is (i) required to be filed with the Commission by the Company, (ii) a "road show that is a written communication" within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Securities or of the offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g).

"Issuer General Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a "*bona fide* electronic road show," as defined in Rule 433 (the "Bona Fide Electronic Road Show")), as evidenced by its being specified in Schedule B-2 hereto.

"Issuer Limited Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

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"Testing-the-Waters Communication" means any oral or written communication with potential investors undertaken in reliance on Section 5(d) or Rule 163B of the 1933 Act.

"Written Testing-the-Waters Communication" means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the 1933 Act.

SECTION 1.Representations and Warranties.

(a)*Representations and Warranties by the Company*. The Company represents and warrants to each Underwriter as of the date hereof, the Applicable Time, the Closing Time (as defined below) and any Date of Delivery (as defined below), and agrees with each Underwriter, as follows:

(i)Registration Statement and Prospectuses. Each of the Registration Statement and any amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the applicable requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus, the Prospectus and any amendment or supplement thereto, at the time each was filed with the Commission, and, in each case, at the Applicable Time, the Closing Time and any Date of Delivery complied and will comply in all material respects with the applicable requirements of the 1933 Act and the 1933 Act Regulations. Each preliminary prospectus delivered to the Underwriters for use in connection with this offering of the Securities and the Prospectus was or will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(ii)Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time, on the date hereof, at the Closing Time or at any Date of Delivery, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. At the Applicable Time and any Date of Delivery, none of (A) the General Disclosure Package, (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package and (C) any individual Written Testing-the-Waters Communication, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto, as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b), at the Closing Time or at any Date of Delivery, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

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The representations and warranties in this subsection shall not apply to statements in or omissions from the Registration Statement (or any amendment thereto), the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) made in reliance upon and in conformity with written information furnished to the Company by or on behalf of any Underwriter through the Representatives expressly for use therein. For purposes of this Agreement, the only information so furnished shall be the information in the first paragraph under the heading "Underwriting–Commissions and Discounts," the information in the second, third and fourth paragraphs under the heading "Underwriting–Price Stabilization, Short Positions and Penalty Bids" and the information under the heading "Underwriting–Electronic Distribution" in each case contained in the Prospectus (collectively, the "Underwriter Information").

(iii)Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, and any preliminary or other prospectus deemed to be a part thereof that has not been superseded or modified. The representations and warranties in this subsection shall not apply to statements in or omissions for any Issuer Free Writing Prospectus made in reliance upon and in conformity with the Underwriter Information. The Company has made available a Bona Fide Electronic Road Show in compliance with Rule 433(d)(8)(ii) such that no filing of any "road show" (as defined in Rule 433(h)) is required in connection with the offering of the Securities.

(iv)Testing-the-Waters Materials. The Company (A) has not engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of the Representatives with entities that are reasonably believed to be qualified institutional buyers within the meaning of Rule 144A under the 1933 Act or institutions that are accredited investors within the meaning of Rule 501 under the 1933 Act and (B) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications specifically authorized by the Company. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule B-3 hereto.

(v)Company Not Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Securities and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

(vi)Emerging Growth Company Status. From the time of the initial confidential submission of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any Person (as defined below) authorized to act on its behalf in any Testing-the-Waters Communication) through the date hereof, the Company has been and is an "emerging growth company," as defined in Section 2(a) of the 1933 Act (an "Emerging Growth Company").

(vii)Independent Accountants. The accountants who certified the financial statements and supporting schedules included in the Registration Statement, the General Disclosure Package and the Prospectus are independent public accountants with respect to the Company as required by the 1933 Act, the 1933 Act Regulations and the Public Company Accounting Oversight Board.

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(viii)Financial Statements; Non-GAAP Financial Measures. The financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company at the dates indicated and the statement of operations, stockholders' equity and cash flows of the Company for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the periods involved, except, in the case of unaudited interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes as permitted by the applicable rules of the Commission. The supporting schedules, if any, present fairly, in all material respects, in accordance with GAAP the information required to be stated therein. The summary financial information included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly, in all material respects, the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included in the Registration Statement, the General Disclosure Package or the Prospectus under the 1933 Act or the 1933 Act Regulations. All disclosures contained in the Registration Statement, the General Disclosure Package or the Prospectus regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply in all material respects with Regulation G of the Securities Exchange Act of 1934, as amended (the "1934 Act") and Item 10 of Regulation S-K of the 1933 Act, to the extent applicable.

(ix)No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company, whether or not arising in the ordinary course of business (a "Material Adverse Effect"), (B) there have been no transactions entered into by the Company, other than those in the ordinary course of business, which are material with respect to the Company, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(x)Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction (or such equivalent concept to the extent it exists under the laws of such jurisdiction) in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or to be in good standing would not reasonably be expected to result in a Material Adverse Effect.

(xi)No Subsidiaries. The Company has no subsidiaries.

(xii)Capitalization. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement, the General Disclosure Package and the Prospectus in the column entitled "Actual" under the caption "Capitalization" (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or employee benefit plans referred to in the Registration Statement, the General Disclosure Package and the Prospectus or pursuant to the exercise of convertible securities or options referred to in the

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Registration Statement, the General Disclosure Package and the Prospectus). The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company, except as have been duly and validly waived.

(xiii)Authorization of Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xiv)Authorization and Description of Securities. The Securities to be purchased by the Underwriters from the Company have been duly authorized by the Company for issuance and sale to the Underwriters pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration set forth herein, will be validly issued and fully paid and non-assessable; and the issuance of the Securities is not subject to the preemptive or other similar rights of any securityholder of the Company, except as have been duly and validly waived. The Common Stock conforms in all material respects to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus and such description conforms, in all material respects, to the rights set forth in the instruments defining the same. No holder of Securities will be subject to personal liability solely by reason of being such a holder.

(xv)Registration Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and have been waived.

(xvi)Absence of Violations, Defaults and Conflicts. The Company is not (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject (collectively, "Agreements and Instruments"), except for such defaults that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of the Company's properties, assets or operations (each, a "Governmental Entity"), except for such violations that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement, the General Disclosure Package and the Prospectus (including the issuance and sale of the Securities and the use of the proceeds from the sale of the Securities as described therein under the caption "Use of Proceeds") and compliance by the Company with its obligations hereunder have been duly authorized by all necessary corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect), nor will such action result in any violation of (i) the

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provisions of the charter, by-laws or similar organizational document of the Company or (ii) any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity except, in the case of clause (ii) above, for such violation that would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. As used herein, a "Repayment Event" means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company.

(xvii)Absence of Labor Dispute. No labor dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers, customers or contractors, which, in either case, would, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

(xviii)Compliance with Labor Laws. The Company is not in violation of and has not received notice of any violation with respect to any federal, state or local law relating to discrimination in the hiring, promotion or pay of employees, nor any applicable federal or state wage and hour laws, the violation of any of which could reasonably be expected to have a Material Adverse Effect.

(xix)Compliance with ERISA. (A) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b),(c),(m) or (o) of the Internal Revenue Code of 1986, as amended (the "Code")) would have any liability (each, a "Plan") has been maintained in compliance in all material respects with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (B) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (C) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no such Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 of the Code) applicable to such Plan; (D) no Plan is, or is reasonably expected to be, in "at risk status" (within the meaning of Section 303(i) of ERISA) and no Plan that is a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA is in "endangered status" or "critical status" (within the meaning of Sections 304 and 305 of ERISA); (E) the fair market value of the assets of each Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan; (F) no "reportable event" (within the meaning of Section 4043(c) of ERISA and the regulations promulgated thereunder) has occurred or is reasonably expected to occur; (G) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification; and (H) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guarantee Corporation, in the ordinary course and without default) in respect of a Plan (including a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA), except in each case with respect to the events or conditions set forth in (A) through (H) hereof, as would not, individually or in the aggregate, have a Material Adverse Effect.

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(xx)Absence of Proceedings. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company, which would reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect the Company's properties or assets or the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company is a party or of which any of the Company's properties or assets is the subject which are not described in the Registration Statement, the General Disclosure Package and the Prospectus, including ordinary routine litigation incidental to the business, would not reasonably be expected to result in a Material Adverse Effect.

(xxi)Accuracy of Exhibits. There are no contracts or documents which are required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described and filed as required.

(xxii)Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Securities hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of the Nasdaq Global Select Market, state securities laws or the rules of FINRA.

(xxiii)Possession of Licenses and Permits. The Company possesses such permits, or qualifies for an exemption from any applicable requirement to obtain, licenses, approvals, clearances consents, exemptions, certificates, registrations and other authorizations (collectively, "Governmental Licenses") issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, except where the failure so to possess would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company is in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company has no knowledge of any event that has occurred, which allows, or after notice or lapse of time would reasonably be expected to allow, revocation, termination or impairment of the rights of the holder of any such Governmental License, except for such revocations, terminations or impairments as would not, whether individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Effect.

(xxiv)Title to Property. The Company does not own any real property and has good title to all other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the Registration Statement, the General Disclosure Package and the Prospectus or (B) do not, singly or in the aggregate, materially and adversely affect the value of such property and do not

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materially interfere with the use made and proposed to be made of such property by the Company; and all of the leases and subleases material to the business of the Company, and under which the Company holds properties described in the Registration Statement, the General Disclosure Package or the Prospectus, are in full force and effect, and the Company has not received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxv)Title to Intellectual Property. The Company owns, has a license to, possesses, or has valid and enforceable rights to all trademarks, trade names, service marks, patent rights, copyrights, domain names, know-how (including trade secrets and other unpatented inventions and/or unpatentable proprietary or confidential information, systems or procedures), and other intellectual property (collectively, "Intellectual Property Rights") used in or reasonably necessary for the conduct of its businesses as now conducted or proposed to be conducted in the Registration Statement, the General Disclosure Package and the Prospectus ("Company Intellectual Property Rights"). Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, (A) the Company is the sole owner of the Intellectual Property Rights owned by it, other than any co-owner of any patent or patent application constituting such Intellectual Property Rights who is listed on the records of the U.S. Patent and Trademark Office (the "USPTO") (or foreign equivalent), and without obligation to obtain consent to sublicense and without a duty of accounting to co-owners, as applicable; (B) to the knowledge of the Company, no third party is infringing, misappropriating or otherwise violating, or has infringed, misappropriated or otherwise violated, any issued claims of Company Intellectual Property Rights owned by or exclusively licensed to the Company; (C) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by any third party challenging the Company's rights in or to any of Company Intellectual Property Rights; (D) there is no pending or, to the knowledge of the Company, threatened, action, suit, proceeding or claim by any third party challenging the validity, enforceability or scope of any Company Intellectual Property Rights of the Company; (E) with respect to Intellectual Property Rights other than patent rights, to the knowledge of the Company, the Company does not infringe, misappropriate or otherwise violate, or has not infringed, misappropriated or otherwise violated, any Intellectual Property Rights of any third party; (F) with respect to patent rights, to the knowledge of the Company, the Company has not and will not, upon commercialization of any of the Company's product candidates as described in the Registration Statement, the General Disclosure Package and the Prospectus, infringe any valid and enforceable claims of any issued patents of any third party; (G) to the knowledge of the Company, none of the Intellectual Property Rights used or held for use by the Company in its businesses has been obtained or is being used or held for use by the Company in violation of any contractual obligation binding on the Company or in violation of any rights of any third party; (H) the Company is not obligated to pay a material royalty, grant a license or option, or provide other material consideration to any third party in connection with the Company Intellectual Property Rights; (I) the Company has taken commercially reasonable steps to maintain the confidentiality of material trade secrets, information and other Company Intellectual Property Rights, the value of which to the Company is contingent upon maintaining the confidentiality thereof, except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; (J) to the knowledge of the Company, all employees or contractors engaged in the development of Intellectual Property Rights on behalf of the Company have executed an agreement with an invention assignment whereby such employees or contractors presently assign all of their right, title and interest in and to such Intellectual Property Rights to the Company, and to the knowledge of the Company, no such agreement has been breached or violated; (K) to the knowledge of the Company, no employee of the Company is in or has been in violation of any material term of any employment contract, patent

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disclosure agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company, except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; and (L) no government funding, facilities or resources of a university, college, other educational institution or research center was used in the development of any Intellectual Property Rights that are owned or purported to be owned by, or to the knowledge of the Company, exclusively licensed to, the Company that would confer any governmental agency or body, university, college, other educational institution or research center any claim or right of ownership to any such Company Intellectual Property Rights. The Company expects that the product candidates described in the Registration Statement, the General Disclosure Package and the Prospectus as under development by the Company upon commercialization of such product candidates will fall within the scope of the claims of one or more patents or patent applications owned or purported to be owned by, or exclusively licensed to, the Company.

(xxvi)Patents and Patent Applications. (A) All patents and patent applications within the Company Intellectual Property Rights that are owned or purported to be owned by or, to the knowledge of the Company, exclusively licensed to the Company have been duly and properly filed and maintained; (B) the Company is unaware of any facts that would reasonably preclude the issuance of a valid and enforceable patent from any pending patent applications included in the Company Intellectual Property Rights that are owned or purported to be owned by or exclusively licensed to the Company, except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; (C) to the knowledge of the Company, the parties prosecuting such patent applications have complied with their duty of candor and disclosure to the USPTO in connection with such applications and all such requirements in the relevant foreign patent authorities having similar requirements; and (D) to the knowledge of the Company, there is no third party patent or patent application that contains valid and enforceable claims that dominate or may reasonably dominate (as described in 35 U.S.C. §135 and 37 C.F.R. 41.100 to 41.208) the claims of any patents or patent applications within the Company Intellectual Property Rights that are owned or purported to be owned by or exclusively licensed to the Company or from which the issued claims of any of such patents or patent applications are derived (as such term is described in 35 U.S.C. §135 and 37 C.F.R. 42.400 to 42.412), except in each case, as would not, individually or in the aggregate, be reasonably expected to result in a Material Adverse Effect.

(xxvii)Environmental Laws. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus or would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect, (A) the Company is not in violation of any applicable federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, "Hazardous Materials") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "Environmental Laws"), (B) the Company has all permits, authorizations and approvals required under any applicable Environmental Laws and is in compliance with the Company's requirements thereunder, (C) there are no pending or, to the Company's knowledge, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law

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against the Company and (D) to the Company's knowledge, there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company relating to Hazardous Materials or any Environmental Laws.

(xxviii)Accounting Controls. The Company maintains effective internal control over financial reporting (as defined under Rule 13-a15 and 15d-15 under the rules and regulations of the Commission under the 1934 Act (such rules and regulations, the "1934 Act Regulations")) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, since the end of the Company's most recent audited fiscal year, there has been (1) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (2) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(xxix)Compliance with the Sarbanes-Oxley Act. The Company has taken all necessary actions to ensure that, upon the effectiveness of the Registration Statement, it will be in compliance with all provisions of the Sarbanes-Oxley Act of 2002 and all rules and regulations promulgated thereunder or implementing the provisions thereof (the "Sarbanes-Oxley Act") that are then in effect and with which the Company is required to comply as of the effectiveness of the Registration Statement, and is actively taking steps to ensure that it will be in compliance with other provisions of the Sarbanes-Oxley Act not currently in effect, upon the effectiveness of such provisions, or which will become applicable to the Company at all times after the effectiveness of the Registration Statement.

(xxx)Payment of Taxes. All United States federal income tax returns of the Company required by law to be filed have been timely filed (taking into account validly obtained extensions), such returns are accurate and complete in all material respects and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided in accordance with GAAP. The Company has timely filed (taking into account validly obtained extensions) all other tax returns that are required to have been filed by them pursuant to applicable foreign, state, local or other law (which returns are accurate and complete in all material respects) except insofar as the failure to file such returns would not result in a Material Adverse Effect, and the Company has paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company in accordance with GAAP. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not result in a Material Adverse Effect.

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(xxxi)Insurance. The Company carries or is entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as, in the Company's reasonable judgment, is generally maintained by companies of established repute and comparable size engaged in the same or similar business, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as presently conducted and at a cost that would not reasonably be expected to result in a Material Adverse Effect. The Company has not been denied any insurance coverage which it has sought or for which it has applied.

(xxxii)Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities as herein contemplated and the application of the net proceeds therefrom as described in the Registration Statement, the General Disclosure Package and the Prospectus will not be required, to register as an "investment company" under the Investment Company Act of 1940, as amended (the "1940 Act").

(xxxiii)Absence of Manipulation. Neither the Company nor, to the Company's knowledge, any affiliate of the Company has taken, directly or indirectly, any action which is designed, or would reasonably be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities or to result in a violation of Regulation M under the 1934 Act.

(xxxiv)Foreign Corrupt Practices Act. Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the "FCPA"), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any "foreign official" (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(xxxv)Money Laundering Laws. The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions in which the Company conducts business, the rules and regulations thereunder and any related or similar applicable rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the "Money Laundering Laws"); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

(xxxvi)OFAC. Neither the Company nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company is an individual or entity ("Person") currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury's Office of

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Foreign Assets Control ,the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authority (collectively, "Sanctions"), nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(xxxvii)Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any bank or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the sale of the Securities to repay any outstanding debt owed to any affiliate of any Underwriter.

(xxxviii)Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement, the General Disclosure Package or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxxix)Data Privacy & Cybersecurity. Except as would not reasonably be expected, singly or in the aggregate, to result in a Material Adverse Effect, there has been no security breach, accidental, unlawful, or unauthorized access, use, loss, exfiltration, alteration, destruction, encryption, or disclosure, or other compromise (collectively, a "Security Incident") of or relating to the Company information technology and computer systems, networks, hardware, software, data and databases (including personal information, and protected health information (as such term is defined at 45 CFR 160.103) maintained, processed or stored by the Company, and any such data processed, shared, or stored by all affiliates and/or third parties on behalf of the Company, collectively "Data Partners"), equipment or technology (collectively, "IT Systems and Data"). Neither the Company nor, to the knowledge of the Company, any Data Partners have been notified of any event or condition that could result in, any Security Incident to their IT Systems and Data. The Company and, to the Company's knowledge, its Data Partners have implemented, maintained, and complied with technical, physical, and organizational measures, including appropriate controls, policies, procedures, and technological safeguards designed to maintain and protect the integrity, continuous operation, redundancy and security of their IT Systems and Data and are reasonably consistent with industry standards and practices, or as required by applicable law. The Company and, to the Company's knowledge, its Data Partners are presently, and have been, in material compliance with all applicable laws or statutes, including, to the extent applicable, the Health Insurance Portability and Accountability Act of 1996, Public Law 104-191, the Health Information Technology for Economic and Clinical Health Act, Public Law 111-005, and all regulations promulgated thereunder, and all applicable guidance, guidelines or standards, judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, public-facing policies, and contractual obligations relating to the privacy and the security of IT Systems and Data and to the protection of such IT Systems and Data from any Security Incident.

(xl)Compliance with Health Care Laws. The Company is and, during the past three (3) years, has been in compliance with all applicable Health Care Laws, except where noncompliance would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. For purposes of this Agreement, "Health Care Laws" means: (i) the

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Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.) (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal false statements law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286, 287, 1035, 1347 and 1349, the health care fraud criminal provisions under the Health Insurance Portability and Accountability Act (42 U.S.C. Section 1320d et seq.) ("HIPAA"), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusion law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), and applicable laws governing government funded or sponsored healthcare programs; (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.); (iv) all other similar local, state, federal, national, supranational and foreign laws; and (v) the regulations promulgated pursuant to such laws set forth in subparts (i) through (iv). During the past three (3) years, the Company has not received any material FDA Form-483, written notice of adverse finding, warning letter, untitled letter, or other written notice alleging or asserting material noncompliance with any applicable Health Care Laws or any Governmental Licenses required pursuant to any applicable Health Care Laws, nor has the Company received notice of any material claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental authority or any other third party alleging that any product, operation, or activity is in material noncompliance with any applicable Health Care Laws or Government Licenses, nor, to the Company's knowledge, is any such written notice, claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. Except in each case as would not be expected, individually or in the aggregate, to have a Material Adverse Effect, (i) the Company has filed, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments ("Submissions") as required by any applicable Health Care Laws, and (ii) all such Submissions were accurate on the date filed (or were corrected or supplemented by a subsequent submission). The Company is not a party to any corporate integrity agreements, deferred or non-prosecution agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any Governmental Entity. Additionally, during the past three (3) years, neither the Company nor any of its employees, officers, directors, or, to the Company's knowledge, agents has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research.

(xli)Clinical Studies. The preclinical and clinical studies, tests and trials conducted or sponsored by or on behalf of the Company, or in which the Company has participated with respect to their products or product candidates, including without limitation, any such studies, tests and trials that are described in, or the results of which are referred to in, the Registration Statement, the General Disclosure Package, and the Prospectus (collectively "Studies") were and, if still pending, are being conducted in all material respects in accordance with all applicable Health Care Laws, Government Licenses, and any protocols to which such studies, tests, or trials are or were subject; each description of such Studies, and the results thereof, contained in the Registration Statement, the General Disclosure Package and the Prospectus is accurate in all material respects, and the Company has no knowledge of any other studies or tests, the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the General Disclosure Package and the Prospectus; the Company has not received any written notices or other written correspondence from the FDA or any other federal, state, local or foreign governmental or regulatory authority, or any institutional review board having authority over the conduct of such Studies, requiring or threatening the termination, suspension or material modification of any Studies currently being conducted or proposed to be conducted by or on behalf of the Company, other than ordinary course communications with respect to modifications in

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connection with the design and implementation of such Studies, and, to the Company's knowledge, there are no reasonable grounds for the same.

(xlii)Safety Notices. The manufacture of the Company's products by or, to the knowledge of the Company, on behalf of the Company, is being and during the past three (3) years has been, conducted in compliance in all material respects with all applicable Health Care Laws, including, without limitation, the FDA's current good manufacturing practice regulations codified at 21 C.F.R. Part 820, and, to the extent applicable, the respective counterparts thereof promulgated by governmental authorities in countries outside the United States. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there have been no material recalls, field notifications, field corrections, market withdrawals or replacements, warnings, "dear doctor" letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company's products (collectively, "Safety Notices"); and (ii) to the Company's knowledge, there are no facts that would be reasonably likely to result in (x) a material Safety Notice with respect to the Company's products, (y) a material and adverse change in labeling of any the Company's products due to safety or efficacy concerns, or (z) a termination or suspension of marketing or testing of any the Company's products.

(xliii)Outbound Investment Security Program. The Company is not a "covered foreign person," as that term is defined in 31 C.F.R. § 850.209. The Company is not currently engaged, or has plans to engage, directly or indirectly, in a "covered activity," as that term is defined in in 31 C.F.R. § 850.208 ("Covered Activity"). The Company does not have any joint ventures that engages in or plans to engage in any Covered Activity. The Company also does not, directly or indirectly, hold a board seat on, have a voting or equity interest in, or have any contractual power to direct or cause the direction of the management or policies of any person or persons that engages or plans to engage in any Covered Activity.

(b)*Officer's Certificates*. Any certificate signed by any officer of the Company delivered to the Representatives or to counsel for the Underwriters shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

SECTION 2.Sale and Delivery to Underwriters; Closing.

(a)*Initial Securities*. On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company agrees to sell to each Underwriter, severally and not jointly, and each Underwriter, severally and not jointly, agrees to purchase from the Company, at the price per share set forth in Schedule A, that number of Initial Securities set forth in Schedule A opposite the name of such Underwriter, plus any additional number of Initial Securities which such Underwriter may become obligated to purchase pursuant to the provisions of Section 10 hereof, subject, in each case, to such adjustments among the Underwriters as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(b)*Option Securities*. In addition, on the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company hereby grants an option to the Underwriters, severally and not jointly, to purchase up to an additional [ ] shares of Common Stock, at the price per share set forth in Schedule A, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised within the 30-day period after the date hereof and may be exercised in whole or in part at any time from time to time upon notice by the Representatives to the Company setting forth the number of Option Securities as to which the several Underwriters are then

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exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a "Date of Delivery") shall be determined by the Representatives, but shall not be later than seven full business days after the exercise of said option, nor in any event prior to the Closing Time. If the option is exercised as to all or any portion of the Option Securities, each of the Underwriters, acting severally and not jointly, will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as the Representatives in their sole discretion shall make to eliminate any sales or purchases of fractional shares.

(c)*Payment*. Payment of the purchase price for, and delivery of certificates or security entitlements for, the Initial Securities shall be made at the offices of Latham & Watkins LLP, 650 Town Center Drive, 20th Floor, Costa Mesa, CA 92626, or at such other place as shall be agreed upon by the Representatives and the Company, at 9:00 A.M. (New York City time) on the first (second, if the pricing occurs after 4:30 P.M. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 10), or such other time not later than ten business days after such date as shall be agreed upon by the Representatives and the Company (such time and date of payment and delivery being herein called "Closing Time").

In addition, in the event that any or all of the Option Securities are purchased by the Underwriters, payment of the purchase price for, and delivery of certificates or security entitlements for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Representatives and the Company, on each Date of Delivery as specified in the notice from the Representatives to the Company.

Payment shall be made to the Company by wire transfer of immediately available funds to a bank account designated by the Company against delivery to the Representatives for the respective accounts of the Underwriters of certificates or security entitlements for the Securities to be purchased by them. It is understood that each Underwriter has authorized the Representatives, for its account, to accept delivery of, receipt for, and make payment of the purchase price for, the Initial Securities and the Option Securities, if any, which it has agreed to purchase. BofA, Goldman and Piper individually and not as representatives of the Underwriters, may (but shall not be obligated to) make payment of the purchase price for the Initial Securities or the Option Securities, if any, to be purchased by any Underwriter whose funds have not been received by the Closing Time or the relevant Date of Delivery, as the case may be, but such payment shall not relieve such Underwriter from its obligations hereunder.

SECTION 3.Covenants of the Company. The Company covenants with each Underwriter as follows:

(a)*Compliance with Securities Regulations and Commission Requests*. The Company, subject to Section 3(b), will comply with the requirements of Rule 430A, and will promptly notify the Representatives and confirm the notice in writing (which may be by electronic mail), (i) when any post-effective amendment to the Registration Statement shall become effective or any amendment or supplement to the Prospectus shall have been filed, (ii) of the receipt of any comments from the Commission, (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment or of any order preventing or suspending the use of any preliminary prospectus or the Prospectus, or of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (v) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with the offering of the Securities. The

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Company will effect all filings required under Rule 424(b), in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop order, prevention or suspension and, if any such order is issued, to obtain the lifting thereof as soon as reasonably practicable.

(b)*Continued Compliance with Securities Laws*. The Company will comply with the 1933 Act and the 1933 Act Regulations so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If at any time when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations ("Rule 172"), would be) required by the 1933 Act to be delivered in connection with sales of the Securities, any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Underwriters or for the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, in order to comply with the requirements of the 1933 Act or the 1933 Act Regulations, the Company will promptly (A) give the Representatives notice of such event, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to make the Registration Statement, the General Disclosure Package or the Prospectus comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Representatives with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement; provided that the Company shall not file or use any such amendment or supplement to which the Representatives or counsel for the Underwriters shall reasonably object. The Company will furnish to the Underwriters such number of copies of such amendment or supplement as the Underwriters may reasonably request.

(c)*Delivery of Registration Statements*. If requested, the Company has furnished or will deliver to the Representatives and counsel for the Underwriters, without charge, conformed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith) and signed copies of all consents and certificates of experts. The copies of the Registration Statement and each amendment thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(d)*Delivery of Prospectuses*. The Company has delivered to each Underwriter, without charge, as many copies of each preliminary prospectus as such Underwriter reasonably requested in writing, and the Company hereby consents to the use of such copies for purposes permitted by the 1933 Act. The Company will furnish to each Underwriter, without charge, during the period when a prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, such number of copies of the Prospectus (as amended or supplemented) as such Underwriter may reasonably request in writing. The Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

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(e)*Blue Sky Qualifications*. The Company will use its reasonable best efforts, in cooperation with the Underwriters, to qualify the Securities for offering and sale under the applicable securities laws of such states and other jurisdictions (domestic or foreign) as the Representatives may reasonably designate and to maintain such qualifications in effect so long as required to complete the distribution of the Securities; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(f)*Rule 158*. The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available (which may be satisfied by filing with the Commission pursuant to EDGAR) to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Underwriters the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(g)*Use of Proceeds*. The Company will use the net proceeds received by it from the sale of the Securities in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under "Use of Proceeds."

(h)*Listing*. The Company will use its reasonable best efforts to effect and maintain the listing of the Common Stock (including the Securities) on the Nasdaq Global Select Market.

(i)*Restriction on Sale of Securities*. During a period of 180 days from the date of the Prospectus, the Company will not, without the prior written consent of the Representatives, (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or file or confidentially submit any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or any transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Securities to be sold hereunder, (B) any shares of Common Stock issued by the Company upon the exercise of an option or warrant, settlement of other equity awards or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued, options to purchase Common Stock or other equity awards granted pursuant to existing employee benefit or equity incentive plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (D) any shares of Common Stock issued pursuant to any non-employee director compensation plan or program or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (E) the filing of a registration statement on Form S-8 or any successor form thereto with respect to the registration of securities to be offered under any employee benefit or equity incentive plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, or (F) the issuance of shares of Common Stock, restricted stock awards or securities convertible into or exercisable or exchangeable for shares of Common Stock in connection with (i) the acquisition of the securities, business, property or other assets of another Person or pursuant to any employee benefit plan assumed in connection with any such acquisition, (ii) joint ventures, (iii) collaboration, licensing, or commercial relationships or (iv) other strategic transactions with a bona fide business purpose, provided that the aggregate number of shares of Common Stock, restricted stock awards and shares of Common Stock issuable upon the conversion, exercise or exchange of securities (on an as converted or as exercised basis, as the case may be) issued pursuant to this clause (F) shall not exceed 5.0% of the total number of

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shares of Common Stock issued and outstanding immediately following the issuance and sale of the Securities at the Closing Time pursuant hereto; and provided, further, that each recipient of shares of Common Stock, restricted stock awards or securities convertible into or exercisable or exchangeable for shares of Common Stock pursuant to this clause agrees to be bound by the terms of the lock-up or shall execute a lock-up agreement substantially in the form of Exhibit A hereto.

(j)*Lock-up Release*. If the Representatives, in their sole discretion, agree to release or waive the restrictions set forth in a lock-up agreement described in Section 5(k) hereof for an officer or director of the Company and provide the Company with notice of the impending release or waiver at least three business days before the effective date of the release or waiver, the Company agrees to announce the impending release or waiver by a press release substantially in the form of Exhibit B hereto through a major news service or by other means reasonably satisfactory to the Representatives at least two business days before the effective date of the release or waiver.

(k)*Reporting Requirements*. The Company, during the period when a Prospectus relating to the Securities is (or, but for the exception afforded by Rule 172, would be) required to be delivered under the 1933 Act, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods required by the 1934 Act and 1934 Act Regulations. Additionally, the Company shall report the use of proceeds from the issuance of the Securities as may be required under Rule 463 under the 1933 Act.

(l)*Issuer Free Writing Prospectuses*. The Company agrees that, unless it obtains the prior written consent of the Representatives, it will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a "free writing prospectus," or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Representatives will be deemed to have consented to the Issuer Free Writing Prospectuses listed on Schedule B-2 hereto and any "road show that is a written communication" within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representatives. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Representatives as an "issuer free writing prospectus," as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement which has not been superseded or modified, any preliminary prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(m)*Certification Regarding Beneficial Owners*. The Company will deliver to the Representatives, on or prior to the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as the Representatives may reasonably request in connection with the verification of the foregoing certification.

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(n)*Testing-the-Waters Materials*. If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication prepared or authorized by the Company included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to *make* the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will, promptly following notice or discovery of the error or omission, notify the Representatives and will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(o)*Emerging Growth Company Status*. The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Securities within the meaning of the 1933 Act and (ii) completion of the 180-day restricted period referred to in Section 3(i) hereof.

SECTION 4.Payment of Expenses.

(a)*Expenses*. The Company will pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Underwriters of copies of each preliminary prospectus, each Issuer Free Writing Prospectus and the Prospectus and any amendments or supplements thereto and any reasonable costs associated with electronic delivery of any of the foregoing by the Underwriters to investors, (iii) the preparation, issuance and delivery of the certificates or security entitlements for the Securities to the Underwriters, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Securities to the Underwriters, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors engaged by the Company, (v) the qualification of the Securities under securities laws in accordance with the provisions of Section 3(e) hereof, including filing fees and the reasonable and documented fees and disbursements of counsel for the Underwriters in connection therewith and in connection with the preparation of the Blue Sky Survey and any supplement thereto, (vi) the fees and expenses of any transfer agent or registrar for the Securities, (vii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the Securities, including without limitation, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged by the Company or with the Company's prior written consent in connection with the road show presentations, travel and lodging expenses of the representatives and officers of the Company and any such consultants customarily paid by the Company (provided that the travel and lodging expenses of the Underwriters shall be paid by the Underwriters), and 50% of the cost of aircraft and other transportation chartered in connection with the road show (the remaining 50% of the cost of such aircraft and other chartered transportation to be paid by the Underwriters), (viii) the filing fees incident to, and the reasonable and documented fees and disbursements of counsel to the Underwriters (in an amount not to exceed $40,000) in connection with, the review by FINRA of the terms of the sale of the Securities, (ix) the fees and expenses incurred in connection with the listing of the Securities on the Nasdaq Global Select Market and (x) the reasonable and documented costs and expenses (including, without limitation, any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation contained in the third sentence of Section 1(a)(ii).

(b)*Termination of Agreement*. If this Agreement is terminated by the Representatives in accordance with the provisions of Section 5, Section 9(a)(i) or (iii) or Section 10 hereof, the Company shall reimburse the non-defaulting Underwriters for all of their reasonably incurred and documented out-of-pocket expenses, including the reasonable and documented fees and disbursements of counsel for

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the Underwriters. For the avoidance of doubt, in the case of termination by the Underwriters in accordance with the provisions of Section 10 hereof, the Company shall have no obligation to reimburse any defaulting Underwriters pursuant to this Section 4(b).

SECTION 5.Conditions of Underwriters' Obligations. The obligations of the several Underwriters hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company delivered pursuant to the provisions hereof, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a)*Effectiveness of Registration Statement; Rule 430A Information*. The Registration Statement, including any Rule 462(b) Registration Statement, has become effective and, at the Closing Time, no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated; and the Company has complied with each request (if any) from the Commission for additional information. A prospectus containing the Rule 430A Information shall have been filed with the Commission in the manner and within the time frame required by Rule 424(b) without reliance on Rule 424(b)(8) or a post-effective amendment providing such information shall have been filed with, and declared effective by, the Commission in accordance with the requirements of Rule 430A.

(b)*Opinion and Negative Assurance Letter of Counsel for Company*. At the Closing Time, the Representatives shall have received the opinion and negative assurance letter, each dated the Closing Time, of Morrison & Foerster LLP, counsel for the Company, in form and substance reasonably satisfactory to counsel for Underwriters as previously agreed upon by the Representatives and such counsel.

(c)*Opinion of Intellectual Property Counsel for Company*. At the Closing Time, the Representatives shall have received the favorable opinion, dated the Closing Time, of Perkins Coie LLC, patent counsel for the Company with respect to patent matters, in form and substance reasonably satisfactory to counsel for Underwriters as previously agreed upon by the Representatives and such counsel.

(d)*Opinion and Negative Assurance Letter of Counsel for Underwriters*. At the Closing Time, the Representatives shall have received the favorable opinion and negative assurance letter, dated the Closing Time, of Latham & Watkins LLP, counsel for the Underwriters, in form and substance satisfactory to the Representatives.

(e)*Officers' Certificate*. At the Closing Time, there shall not have been, since the date hereof or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any Material Adverse Effect, and the Representatives shall have received a certificate of the Chief Executive Officer and President or Chief Financial Officer of the Company, dated the Closing Time, to the effect that (i) there has been no such Material Adverse Effect, (ii) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made at and as of the Closing Time, (iii) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied at or prior to the Closing Time, and (iv) no stop order suspending the effectiveness of the Registration Statement under the 1933 Act has been issued, no order preventing or suspending the use of any preliminary prospectus or the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to their knowledge, contemplated by the Commission.

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(f)*CFO Certificate*. At the Closing Time, the Representatives shall have received a certificate of the Chief Financial Officer of the Company with respect to certain financial data contained in the General Disclosure Package and the preliminary prospectus providing "management comfort" with respect to such information, in form and substance reasonably satisfactory to the Representatives.

(g)*Accountant's Comfort Letter*. At the time of the execution of this Agreement, the Representatives shall have received from Ernst & Young LLP a letter, dated such date, in form and substance reasonably satisfactory to the Representatives, together with signed or reproduced copies of such letter for each of the other Underwriters containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(h)*Bring-down Comfort Letter*. At the Closing Time, the Representatives shall have received from Ernst & Young LLP a letter, dated as of the Closing Time, to the effect that they reaffirm the statements made in the letter furnished pursuant to subsection (g) of this Section, except that the specified date referred to shall be a date not more than three business days prior to the Closing Time.

(i)*Approval of Listing*. At the Closing Time, the Securities shall have been approved for listing on the Nasdaq Global Select Market, subject only to official notice of issuance.

(j)*No Objection*. FINRA has confirmed that it has not raised any objection with respect to the fairness and reasonableness of the underwriting terms and arrangements relating to the offering of the Securities.

(k)*Lock-up Agreements*. At the date of this Agreement, the Representatives shall have received an agreement substantially in the form of Exhibit A hereto signed by the persons holding substantially all outstanding securities of the Company.

(l)*Rating*. The Company does not have any debt securities or preferred stock that are rated by any "nationally recognized statistical rating organization" (as defined in Section 3(a)(62) of the 1934 Act).

(m)*Conditions to Purchase of Option Securities*. In the event that the Underwriters exercise their option provided in Section 2(b) hereof to purchase all or any portion of the Option Securities, the representations and warranties of the Company contained herein and the statements in any certificates furnished by the Company hereunder shall be true and correct as of each Date of Delivery and, at the relevant Date of Delivery, the Representatives shall have received:

(i) Officers' Certificate. A certificate, dated such Date of Delivery, of the Chief Executive Officer and President or Chief Financial Officer of the Company confirming that the certificate delivered at the Closing Time pursuant to Section 5(g) hereof remains true and correct as of such Date of Delivery.

(ii) CFO Certificate. A certificate, dated such Date of Delivery, of the Chief Financial Officer of the Company with respect to certain financial data contained in the General Disclosure Package and the preliminary prospectus providing "management comfort" with respect to such information, in form and substance reasonably satisfactory to the Representatives.

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(iii) Opinion and Negative Assurance Letter of Counsel for Company. If requested by the Representatives, the opinion and negative assurance letter of Morrison & Foerster LLP, counsel for the Company, in form and substance reasonably satisfactory to counsel for the Representatives, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinions and/or negative assurance letter of such firm required by Section 5(b) hereof.

(iv) Opinion of Intellectual Property Counsel for Company. If requested by the Representatives, the opinion of Perkins Coie LLC, patent counsel for the Company with respect to patent matters, in form and substance reasonably satisfactory to counsel for the Representatives, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(c) hereof.

(v) Opinion and Negative Assurance Letter of Counsel for Underwriters. If requested by the Representatives, the favorable opinion and negative assurance letter of Latham & Watkins LLP, counsel for the Underwriters, dated such Date of Delivery, relating to the Option Securities to be purchased on such Date of Delivery and otherwise to the same effect as the opinion required by Section 5(d) hereof.

(vi) Bring-down Comfort Letter. If requested by the Representatives, a letter from Ernst & Young LLP, in form and substance reasonably satisfactory to the Representatives and dated such Date of Delivery, substantially in the same form and substance as the letter furnished to the Representatives pursuant to Section 5(g) hereof, except that the "specified date" in the letter furnished pursuant to this paragraph shall be a date not more than three business days prior to such Date of Delivery.

(n)*Additional Documents*. At the Closing Time and at each Date of Delivery (if any) counsel for the Underwriters shall have been furnished with such documents and opinions as they may require for the purpose of enabling them to pass upon the issuance and sale of the Securities as herein contemplated, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the conditions, herein contained.

(o)*Termination of Agreement*. If any condition specified in this Section shall not have been fulfilled when and as required to be fulfilled, this Agreement, or, in the case of any condition to the purchase of Option Securities on a Date of Delivery which is after the Closing Time, the obligations of the several Underwriters to purchase the relevant Option Securities, may be terminated by the Representatives by notice to the Company at any time at or prior to Closing Time or such Date of Delivery, as the case may be, and such termination shall be without liability of any party to any other party except as provided in Section 4 and except that Sections 1, 6, 7, 8, 14, 15, 16 and 17 shall survive any such termination and remain in full force and effect.

SECTION 6.Indemnification.

(a)*Indemnification of Underwriters*. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates (as such term is defined in Rule 501(b) under the 1933 Act (each, an "Affiliate")), its selling agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

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(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including the Rule 430A Information, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto), or (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Securities ("Marketing Materials"), including any roadshow or investor presentations made to investors by the Company (whether in person or electronically), or the omission or alleged omission in any preliminary prospectus, Issuer Free Writing Prospectus, any Written Testing-the-Waters Communication, Prospectus or in any Marketing Materials of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

(iii) against any and all reasonable and documented expense whatsoever, as reasonably incurred (including the reasonable and documented fees and disbursements of counsel chosen by the Representatives); provided, however, that the Company shall not be liable for more than one separate counsel (in addition to any local counsel) for all Underwriters, reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of or based on any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

(b) *Indemnification of Company, Directors and Officers*. Each Underwriter severally agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act, against any and all loss, liability, claim, damage and expense described in the indemnity contained in subsection (a) of this Section, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including the Rule 430A Information, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the Underwriter Information.

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(c) *Actions against Parties; Notification*. Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) above, counsel to the indemnified parties shall be selected by the Representatives, and, in the case of parties indemnified pursuant to Section 6(b) above, counsel to the indemnified parties shall be selected by the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for fees and expenses of more than one counsel (in addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse*. If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a)(ii)effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

SECTION 7.Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses reasonably incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Securities pursuant to this Agreement or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and of the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Securities pursuant to this Agreement shall be deemed to be in the same respective proportions as the total net proceeds from the offering of the Securities pursuant to this Agreement (after deducting underwriting discounts and commissions and before deducting expenses) received by the Company, on the one hand, and the total underwriting discount received by the Underwriters, on the other hand, in each case as set forth on the

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cover of the Prospectus, bear to the aggregate initial public offering price of the Securities as set forth on the cover of the Prospectus.

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The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses reasonably incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, no Underwriter shall be required to contribute any amount in excess of the underwriting commissions received by such Underwriter in connection with the Securities underwritten by it and distributed to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls an Underwriter within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and each Underwriter's Affiliates and selling agents shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company. The Underwriters' respective obligations to contribute pursuant to this Section 7 are several in proportion to the number of Initial Securities set forth opposite their respective names in Schedule A hereto and not joint.

SECTION 8.Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of any Underwriter or its Affiliates or selling agents, any person controlling any Underwriter, its officers or directors or any person controlling the Company and (ii) delivery of and payment for the Securities.

SECTION 9.Termination of Agreement.

(a)*Termination*. The Representatives may terminate this Agreement, by notice to the Company, at any time at or prior to the Closing Time (i) if there has been, in the judgment of the Representatives, since the time of execution of this Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any Material Adverse Effect, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the Representatives, impracticable or inadvisable to proceed with the completion of

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the offering or to enforce contracts for the sale of the Securities, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or the Nasdaq Global Select Market, or (iv) if trading generally on the New York Stock Exchange or in the Nasdaq Global Select Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other governmental authority, or (v) a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to Clearstream or Euroclear systems in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(b)*Liabilities*. If this Agreement is terminated pursuant to this Section, such termination shall be without liability of any party to any other party except as provided in Section 4 hereof, and provided further that Sections 1, 6, 7, 8, 14, 15, 16 and 17 hereof shall survive such termination and remain in full force and effect.

SECTION 10.Default by One or More of the Underwriters. If one or more of the Underwriters shall fail at the Closing Time or a Date of Delivery to purchase the Securities which it or they are obligated to purchase under this Agreement (the "Defaulted Securities"), the Representatives shall have the right, within 24 hours thereafter, to make arrangements for one or more of the non-defaulting Underwriters, or any other underwriters, to purchase all, but not less than all, of the Defaulted Securities in such amounts as may be agreed upon and upon the terms herein set forth; if, however, the Representatives shall not have completed such arrangements within such 24-hour period, then:

(i)if the number of Defaulted Securities does not exceed 10% of the number of Securities to be purchased on such date, each of the non-defaulting Underwriters shall be obligated, severally and not jointly, to purchase the full amount thereof in the proportions that their respective underwriting obligations hereunder bear to the underwriting obligations of all non-defaulting Underwriters, or

(ii)if the number of Defaulted Securities exceeds 10% of the number of Securities to be purchased on such date, this Agreement or, with respect to any Date of Delivery which occurs after the Closing Time, the obligation of the Underwriters to purchase, and the Company to sell, the Option Securities to be purchased and sold on such Date of Delivery shall terminate without liability on the part of any non-defaulting Underwriter.

No action taken pursuant to this Section shall relieve any defaulting Underwriter from liability in respect of its default.

In the event of any such default which does not result in a termination of this Agreement or, in the case of a Date of Delivery which is after the Closing Time, which does not result in a termination of the obligation of the Underwriters to purchase and the Company to sell the relevant Option Securities, as the case may be, either the (i) Representatives or (ii) the Company shall have the right to postpone Closing Time or the relevant Date of Delivery, as the case may be, for a period not exceeding seven days in order to effect any required changes in the Registration Statement, the General Disclosure Package or the Prospectus or in any other documents or arrangements. As used herein, the term "Underwriter" includes any person substituted for an Underwriter under this Section 10.

SECTION 11.Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Underwriters shall be directed to BofA at One Bryant Park, New York, New York 10036, attention of Syndicate Department (email: dg.ecm_execution_services@bofa.com), with

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a copy to ECM Legal (email: dg.ecm_legal@bofa.com), to Goldman Sachs at 200 West Street, New York, New York 10282, Attention: Registration Department, (email: registration-syndops@ny.email.gs.com), to Piper Sandler at U.S. Bancorp Center, 800 Nicollet Mall, Suite 1000, Minneapolis, MN 55402; and notices to the Company shall be directed to it at 1800 Aston Avenue, Suite 100, Carlsbad, CA 92008, attention of Michael Cordonnier (email: [***]).

SECTION 12.No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the initial public offering price of the Securities and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering of the Securities and the process leading thereto, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company or the Company's stockholders, creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and no Underwriter has any obligation to the Company with respect to the offering of the Securities except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering of the Securities and the Company has consulted its own respective legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

SECTION 13.Recognition of the U.S. Special Resolution Regimes.

(a)In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b)In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

For purposes of this Section 13, a "BHC Act Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). "Covered Entity" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). "Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. "U.S. Special Resolution Regime" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

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SECTION 14. Parties. This Agreement shall each inure to the benefit of and be binding upon the Underwriters and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Underwriters and the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 hereof, as applicable, and their heirs and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Underwriters and the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Securities from any Underwriter shall be deemed to be a successor by reason merely of such purchase.

SECTION 15.Trial by Jury. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

SECTION 16.GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK WITHOUT REGARD TO ITS CHOICE OF LAW PROVISIONS.

SECTION 17.Consent to Jurisdiction. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the "Specified Courts"), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court, as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

SECTION 18.TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

SECTION 19.Counterparts and Electronic Signatures. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement. Electronic signatures complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law will be deemed original signatures for purposes of this Agreement. Transmission by telecopy, electronic mail or other transmission method of an executed counterpart of this Agreement will constitute due and sufficient delivery of such counterpart.

SECTION 20.Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction hereof.

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If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement among the Underwriters and the Company in accordance with its terms.

Very truly yours,

CARLSMED, INC.

By _____
Name:
Title:

CONFIRMED AND ACCEPTED,
as of the date first above written:

BOFA SECURITIES, INC.

By _____
Authorized Signatory

GOLDMAN SACHS & CO.

By _____
Authorized Signatory

PIPER SANDLER & CO.

By _____
Authorized Signatory

For themselves and as Representatives of the other Underwriters named in Schedule A hereto.

[*Signature Page to Underwriting Agreement*]

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SCHEDULE A

The initial public offering price per share for the Securities shall be $[ ].

The purchase price per share for the Securities to be paid by the several Underwriters shall be $[ ], being an amount equal to the initial public offering price set forth above less $[ ] per share, subject to adjustment in accordance with Section 2(b) for dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities.

Name of Underwriter	Number of Initial Securities
BofA Securities, Inc.	
Goldman Sachs & Co. LLC	
Piper Sandler & Co.	
Truist Securities, Inc.	
BTIG, LLC	
Total	[ ]

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SCHEDULE B-1

Pricing Terms

1.The Company is selling [ ] shares of Common Stock.

2.The Company has granted an option to the Underwriters, severally and not jointly, to purchase up to an additional [ ] shares of Common Stock.

3.The initial public offering price per share for the Securities shall be $[ ].

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SCHEDULE B-2

Free Writing Prospectuses

[SPECIFY EACH ISSUER GENERAL USE FREE WRITING PROSPECTUS]

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SCHEDULE B-3

Written Testing-the-Waters Communications

Investor Meetings Presentations, dated [ ], 2025 – [ ], 2025.

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Exhibit A

FORM OF LOCK-UP AGREEMENT

Form of lock-up from directors, officers or other stockholders pursuant to Section 5(k)

_____, 2025

BofA Securities, Inc.
Goldman Sachs & Co. LLC
Piper Sandler & Co.
as Representatives of the several Underwriters

c/o BofA Securities, Inc.
One Bryant Park
New York, New York 10036

c/o Goldman Sachs & Co. LLC
200 West Street
New York, New York 10282

c/o Piper Sandler & Co.
1251 Avenue of the Americas
39th Floor
New York, New York 10020

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Re: Proposed Initial Public Offering of Common Stock by Carlsmed, Inc.

Dear Ladies and Gentlemen:

The undersigned, a securityholder and/or an officer and/or a director, as applicable, of Carlsmed, Inc., a Delaware corporation (the "Company"), understands that BofA Securities, Inc. ("BofA"), Goldman Sachs & Co. LLC, ("Goldman Sachs") and Piper Sandler & Co. ("Piper Sandler" and, together with BofA and Goldman Sachs, the "Representatives") propose to enter into an Underwriting Agreement (the "Underwriting Agreement") with the Company providing for the initial public offering (the "Public Offering") of shares of the Company's common stock, par value $0.0001 per share (the "Common Stock"). In recognition of the benefit that the Public Offering will confer upon the undersigned as a securityholder and/or an officer and/or a director, as applicable, of the Company, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each underwriter to be named in the Underwriting Agreement that, during the period beginning on the date hereof and ending on the date that is 180 days from the date of the Underwriting Agreement (the "Lock-Up Period"), the undersigned will not, without the prior written consent of the Representatives (i) directly or indirectly, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of any shares of the Company's Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition (including, without limitation, Common Stock or such other securities which may be deemed to be beneficially owned by the

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undersigned in accordance with the rules and regulations of the U.S. Securities and Exchange Commission (the "Commission") and securities which may be issued upon exercise of a stock option or warrant) (collectively, the "Lock-Up Securities"), or exercise any right with respect to the registration of any of the Lock-Up Securities, or file, cause to be filed or cause to be confidentially submitted any registration statement in connection therewith, under the Securities Act of 1933, as amended (the "Securities Act"), (ii) enter into any hedging, swap, loan or any other agreement or any transaction (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward or any other derivative transaction or instrument, however described or defined) that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Lock-Up Securities, whether any such hedging, swap, loan or transaction is to be settled by delivery of Common Stock or other securities, in cash or otherwise, or (iii) publicly disclose the intention to do any of the foregoing described in clauses (i) and (ii) above. If the undersigned is an officer or director of the Company (whether as of the date hereof or at the time of receiving any shares of the Common Stock), the undersigned further agrees that the foregoing provisions shall be equally applicable to any Company-directed shares of Common Stock the undersigned may purchase in the Public Offering.

If the undersigned is an officer or director of the Company (whether as of the date hereof or at the time of receiving any shares of Common Stock), (1) the Representatives agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of the Common Stock, the Representatives will notify the Company of the impending release or waiver, and (2) the Company has agreed, or will agree, in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the effective date of the release or waiver. Any release or waiver granted by the Representatives hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (i) the release or waiver is effected solely to permit a transfer not for consideration and (ii) the transferee has agreed in writing to be bound by the same terms described in this lock-up agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Lock-Up Securities without the prior written consent of the Representatives, (i) to the underwriters pursuant to the Underwriting Agreement and (ii) as described below, provided that (1) in the case of clauses (i), (ii), (iii), (iv), (v), (vi), (vii) and (viii), the Representatives receive a signed lock-up agreement in the form of this lock-up agreement for the balance of the Lock-Up Period from each donee, devisee, trustee, distributee, or transferee, as the case may be, (2) in the case of clauses (i), (ii), (iii), (iv), (v), (vi), (vii) and (viii), any such transfer shall not involve a disposition for value, (3) such transfers are not required to be reported during the Lock-Up Period with the Commission on Form 4 or Form 5 in accordance with Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") , or, in the case of clauses (i), (ii), (iii), (iv) and (x) below, any such required filing shall clearly indicate in the footnotes thereto that the filing relates to circumstances described in such a clause, and (4) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers during the Lock-Up Period:

(i)as a *bona fide* gift or gifts or charitable contribution (including any commitment to donate Lock-Up Securities and/or proceeds from the sale of Lock-Up Securities pursuant to a charitable contribution), including, without limitation, to a trust, charitable organization or educational institution, or for *bona fide* estate planning purposes;

(ii)upon death or by will, testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned (for purposes of this lock-up agreement, "immediate family" of the undersigned shall mean any relationship by blood, marriage, domestic partnership or adoption, not more remote

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than first cousin of the undersigned);

(iii)by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement;

(iv)pursuant to an order of a court or regulatory agency having jurisdiction over the undersigned;

(v)to any corporation, partnership, limited liability company or other entity of which the undersigned or the immediate family of the undersigned is the legal and beneficial owner of all of the outstanding equity securities or similar interests;

(vi)to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under clauses (i) through (v) above;

(vii)to any immediate family member or any trust, partnership, limited liability company or other entity for the direct or indirect benefit of the undersigned or one or more immediate family members of the undersigned, or if the undersigned is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust;

(viii)if the undersigned is a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate (as defined in Rule 405 promulgated under the Securities Act) of the undersigned, or to any investment fund or other entity that is directly or indirectly controlling, controlled by, managing or managed by or under common control with the undersigned or affiliates of the undersigned (including, for the avoidance of doubt, where the undersigned is a partnership, to its general partner or a successor partnership or fund, or any other funds managed by such partnership), or (B) as part of a distribution, transfer or disposition to current or former limited partners, limited liability company members, managers, equityholders or stockholders of the undersigned or holders of similar equity interests in the undersigned, or to the estates of any such limited partners, limited liability company members, managers, equityholders or stockholders;

(ix)to the Company (A) upon the undersigned's death, disability or termination of employment or other service relationship with the Company, provided that such shares of Common Stock were issued to the undersigned pursuant to an agreement or equity award granted pursuant to an employee benefit plan, option, warrant or other right disclosed in the prospectus for the Public Offering, or (B) pursuant to agreements under which the Company has the option to repurchase shares;

(x)to the Company pursuant to the vesting, settlement or exercise of restricted stock units, restricted stock, options, warrants, or other rights to purchase shares of Common Stock (including, in each case, by way of "net" or "cashless" exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement or exercise of such restricted stock units, restricted stock, options, warrants, or rights, provided that (1) any such shares of Common Stock received upon such exercise, vesting or settlement shall be subject to the terms of this lock-up agreement; (2) any filing under the Exchange Act required to be made during the Lock-Up Period shall indicate in the footnotes thereto that the filing relates to circumstances described in this clause; (3) the undersigned does not otherwise voluntarily effect any public filing or report regarding such transfers; and (4) any such restricted stock units, restricted stock, options, warrants, or

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rights are held by the undersigned pursuant to an agreement or equity award granted under a stock incentive plan or other equity award plan, each of which is disclosed in the prospectus for the Public Offering; or

(xi)pursuant to a *bona fide* third party tender offer, merger, consolidation or other similar transaction, in one transaction or a series of related transactions, made to all holders of Common Stock that has been approved by the Company's board of directors, which results in any person or group of persons becoming the beneficial owners (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of 50% of the outstanding voting securities of the Company (or the surviving entity); provided that in the event that the tender offer, merger, consolidation or other such transaction is not completed, the Lock-Up Securities shall remain subject to the provisions of this lock-up agreement.

Notwithstanding anything herein to the contrary, nothing herein shall prevent or restrict: (i) the conversion of the outstanding shares of preferred stock of the Company into Common Stock; provided that the Common Stock acquired upon such exercise shall be subject to the terms of this lock up agreement; and (ii) the undersigned from establishing a trading plan that complies with Rule 10b5-1 under the Exchange Act (a "10b5-1 Trading Plan") for the transfer of Lock-Up Securities, so long as there are no sales of Lock-Up Securities under such plan during the Lock-Up Period; and provided that the establishment of a 10b5-1 Trading Plan providing for sales of Lock-Up Securities shall only be permitted if any public announcement or filing under the Exchange Act, if required or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of such plan, shall include a statement to the effect that no transfer of Lock-Up Securities may be made under such plan during the Lock-Up Period.

Furthermore, the undersigned may sell shares of Common Stock of the Company purchased by the undersigned in the Public Offering or on the open market following the Public Offering if and only if (i) such sales are not required during the Lock-Up Period to be reported in any public report or filing with the Securities and Exchange Commission or otherwise, and (ii) the undersigned does not otherwise voluntarily effect any public filing or report regarding such sales.

[If any record or beneficial owner of any Lock-Up Securities of the Company is granted an early release from the restrictions described herein during the Lock-Up Period, then each Major Holder (as defined below) shall also be granted an early release from its obligations hereunder on a pro rata basis with all other record or beneficial holders of similarly restricted Lock-Up Securities of the Company based on the maximum percentage of shares held by any such record or beneficial holder being released from such holder's lock-up agreement (a "Pro-Rata Release"); provided, however, that in the case of an early release from the restrictions described herein during the Lock-Up Period in connection with an underwritten public offering, whether or not such offering or sale is wholly or partially a secondary offering of the Company's Common Shares (an "Underwritten Sale"), the Major Holder is offered the opportunity to participate in such Underwritten Sale and such early release shall only apply to the extent of such Major Holder's participation in such Underwritten Sale. For the avoidance of doubt, there shall be no Pro-Rata Release if the Major Holder was offered and declined the opportunity to participate in the Underwritten Sale. Notwithstanding any other provisions of this lock-up agreement, if the Representatives in their sole judgment determine that a record or beneficial owner of any securities should be granted an early release from a lock-up agreement due to circumstances of an emergency or hardship, then no Major Holder shall have any right to be granted an early release pursuant to the terms of this paragraph. For purposes of this lock-up agreement, each of the following persons is a "Major Holder": each record or beneficial owner, as of the date hereof, of more than 1% of the outstanding shares of Common Shares of the Company, assuming the conversion of all series of the Company's preferred stock. For purposes of determining record or beneficial ownership of a stockholder, all shares of Common Shares held by investment funds affiliated with such stockholder shall be aggregated. In the event that, as a result of this paragraph, the undersigned is released from any of

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its obligations under this letter agreement or, by virtue of this agreement, becomes entitled to offer, pledge, sell, contract to sell, or otherwise transfer or dispose of any Common Shares of the

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Company or any security convertible into or exercisable or exchangeable for Common Shares of the Company during the Lock-Up Period, the Representatives shall use commercially reasonable efforts to promptly notify the Company, provided that in the absence of bad faith the failure to give such notice shall not give rise to any claim or liability against the underwriters, and the Company, in turn, in consultation with the Representatives, shall notify the undersigned, to the extent that such release gives rise to a corresponding release of the undersigned from its obligations hereunder pursuant to the terms of this paragraph, within two (2) business days thereafter.][1]

The undersigned acknowledges and agrees that the underwriters have neither provided any recommendation or investment advice nor solicited any action from the undersigned with respect to the Public Offering and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the underwriters may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures to you in connection with the Public Offering, the underwriters are not making a recommendation to you to enter into this lock-up agreement and nothing set forth in such disclosures is intended to suggest that any underwriter is making such a recommendation.

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this lock-up agreement. The undersigned understands that the Company and the underwriters are relying upon the lock-up agreement in proceeding toward the consummation of the Public Offering. The undersigned further understands that this lock-up agreement is irrevocable and shall be binding upon the undersigned's heirs, legal representatives, successors and assigns.

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of the Lock-Up Securities except in compliance with the foregoing restrictions.

In the event that a Representative withdraws or is terminated from, or declines to participate in, the Public Offering, all references in this lock-up agreement to the Representatives shall refer to the remaining Representatives. If all Representatives withdraw, are terminated from or decline to participate in the Public Offering, all references in this lock-up agreement to the Representatives shall refer to the lead left book runner in the Public Offering ("Replacement Entity"), and in such event, any written consent, waiver or notice given or delivered in connection with this lock-up agreement by or to such Replacement Entity shall be deemed to be sufficient and effective for all purposes under this lock-up agreement.

Notwithstanding anything to the contrary contained herein, this lock-up agreement will automatically terminate and be of no further effect, and the undersigned will be released from all of their or its obligations hereunder upon the earliest to occur, if any, of the following: (i) prior to the execution of the Underwriting Agreement, the Company advises the Representatives in writing that it has determined not to proceed with the Public Offering, (ii) the Company files an application with the Commission to withdraw the registration statement relating to the Public Offering, (iii) the Underwriting Agreement is executed but is terminated (other than with respect to the provisions thereof which survive termination) prior to payment for and delivery of the Common Stock to be sold thereunder or (iv) September 30, 2025 in the event that the Public Offering shall not have occurred on or before such date (provided that the Company may, by written notice to the undersigned prior to such date, extend such date for a period of up to an additional three months).

[1] NTD: Pro rata release clause to be included only in lock-ups of Major Holders.

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This lock-up agreement shall be governed by and construed in accordance with the laws of the State of New York.

This lock-up agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same lock-up agreement. Electronic signatures complying with the New York Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law will be deemed original signatures for purposes of this lock-up agreement. Transmission by telecopy, electronic mail or other transmission method of an executed counterpart of this lock-up agreement will constitute due and sufficient delivery of such counterpart.

[*Signature page follows*]

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Very truly yours,

By:
Name:
Title:

If not signing in an individual capacity:

Name of Authorized Signatory (Print)

Title of Authorized Signatory (Print)
(Indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity.)

[*Signature Page to Lock-Up Agreement*]

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Exhibit B

FORM OF PRESS RELEASE
TO BE ISSUED PURSUANT TO SECTION 3(j)

Carlsmed, Inc.
[Date]

Carlsmed, Inc. (the "Company") announced today that BofA Securities, Inc., Goldman Sachs & Co. LLC, and Piper Sandler & Co., the lead book-running managers in the Company's recent public sale of [•] shares of common stock, are [waiving] [releasing] a lock-up restriction with respect to shares of the Company's common stock held by [certain officers or directors] [an officer or director] of the Company. The [waiver] [release] will take effect on , 20 , and the shares may be sold on or after such date.

This press release is not an offer for sale of the securities in the United States or in any other jurisdiction where such offer is prohibited, and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the United States Securities Act of 1933, as amended.

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Exhibit 3.1

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION OF CARLSMED, INC.

(Pursuant to Sections 242 and 245 of the
General Corporation Law of the State of Delaware)

Carlsmed, Inc., a corporation organized and existing under and by virtue of the provisions of the General Corporation Law of the State of Delaware (the "**General Corporation Law**"),

DOES HEREBY CERTIFY:

1.That the name of this corporation is Carlsmed, Inc., and that this corporation was originally incorporated pursuant to the General Corporation Law on June 4, 2018 under the name CARLSMED, INC.

2.That the Board of Directors duly adopted resolutions proposing to amend and restate the Amended and Restated Certificate of Incorporation of this corporation, declaring said amendment and restatement to be advisable and in the best interests of this corporation and its stockholders, and authorizing the appropriate officers of this corporation to solicit the consent of the stockholders therefor, which resolution setting forth the proposed amendment and restatement is as follows:

RESOLVED, that the Amended and Restated Certificate of Incorporation of this corporation be amended and restated in its entirety to read as follows:

FIRST: The name of this corporation is Carlsmed, Inc. (the "**Corporation**").

SECOND: The address of the registered office of the Corporation in the State of Delaware is 8 The Green STE A, Dover, DE, 19901, Kent County. The name of its registered agent at such address is A Registered Agent, Inc.

THIRD: The nature of the business or purposes to be conducted or promoted is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law.

FOURTH: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 121,730,080 shares of Common Stock, $0.00001 par value per share ("**Common Stock**") and (ii) 79,160,370 shares of Preferred Stock, $0.00001 par value per share ("**Preferred Stock**").

The following is a statement of the designations and the powers, privileges and rights, and the qualifications, limitations or restrictions thereof in respect of each class of capital stock of the Corporation.

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A. COMMON STOCK

1. General. The voting, dividend and liquidation rights of the holders of the Common Stock are subject to and qualified by the rights, powers and preferences of the holders of the Preferred Stock set forth herein.

2. Voting. The holders of the Common Stock are entitled to one (1) vote for each share of Common Stock held at all meetings of stockholders (and written actions in lieu of meetings); provided, however, that, except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to this Amended and Restated Certificate of Incorporation that relates solely to the terms of one (1) or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one (1) or more other such series, to vote thereon pursuant to this Amended and Restated Certificate of Incorporation or pursuant to the General Corporation Law. No person entitled to vote at an election for directors may cumulate votes to which such person is entitled, unless, at the time of such election, the Corporation is subject to Section 2115 of the California Corporations Code. During such time or times that the Corporation is subject to Section 2115(b) of the California Corporations Code, every stockholder entitled to vote at an election for directors may cumulate such stockholder's votes and give one (1) candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which such stockholder's shares are otherwise entitled, or distribute the stockholder's votes on the same principle among as many candidates as such stockholder desires. No stockholder, however, shall be entitled to so cumulate such stockholder's votes unless (i) the names of such candidate or candidates have been placed in nomination prior to the voting, and (ii) the stockholder has given notice at the meeting, prior to the voting, of such stockholder's intention to cumulate such stockholder's votes. If any stockholder has given proper notice to cumulate votes, all stockholders may cumulate their votes for any candidates who have been properly placed in nomination. Under cumulative voting, the candidates receiving the highest number of votes, up to the number of directors to be elected, are elected. The number of authorized shares of Common Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by (in addition to any vote of the holders of one (1) or more series of Preferred Stock that may be required by the terms of this Amended and Restated Certificate of Incorporation) the affirmative vote of the holders of shares of capital stock of the Corporation representing a majority of the votes represented by all outstanding shares of capital stock of the Corporation entitled to vote, on an as converted to Common Stock basis, irrespective of the provisions of Section 242(b)(2) of the General Corporation Law.

B. PREFERRED STOCK

27,357,843 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series A Preferred Stock**" with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. 24,515,627 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series B Preferred Stock**" with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations. 27,286,900 shares of the authorized Preferred Stock of the Corporation are hereby designated "**Series C Preferred Stock**" with the following rights, preferences, powers, privileges and

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restrictions, qualifications and limitations. Unless otherwise indicated, references to "sections" or "Sections" in this Part B of this Article Fourth refer to sections and Sections of Part B of this Article Fourth.

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References to "**Preferred Stock**" mean, collectively, the Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock.

1. Dividends. The holders of then outstanding shares of Preferred Stock shall be entitled to receive, on a pari passu basis, only when, as and if declared by the Board of Directors of the Corporation (the "**Board of Directors**"), out of any funds and assets legally available therefor, dividends at the rate of 6% of the Original Issue Price (as defined below) for each share of Preferred Stock, prior and in preference to any declaration or payment of any other dividend (other than dividends on shares of Common Stock payable in shares of Common Stock). The right to receive dividends on shares of Preferred Stock pursuant to the preceding sentence of this Section 1 shall not be cumulative, and no right to dividends shall accrue to holders of Preferred Stock by reason of the fact that dividends on said shares are not declared. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in this Amended and Restated Certificate of Incorporation) the holders of the Preferred Stock then outstanding shall first receive, or simultaneously receive, in addition to the dividends payable pursuant to the first sentence of this Section 1, a dividend on each outstanding share of Preferred Stock in an amount at least equal to (i) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Preferred Stock as would equal the product of (A) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (B) the number of shares of Common Stock issuable upon conversion of a share of Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (ii) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Preferred Stock determined by (A) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (B) multiplying such fraction by an amount equal to the Original Issue Price (as defined below); provided that, if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one (1) class or series of capital stock of the Corporation, the dividend payable to the holders of Preferred Stock pursuant to this Section 1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Preferred Stock dividend. The "**Original Issue Price**" shall mean, with respect to the Series A Preferred Stock, $0.5032 per share, with respect to the Series B Preferred Stock $1.2402 per share, and, with respect to the Series C Preferred Stock $1.9240 per share subject in each case to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the applicable series of Preferred Stock.

2. Liquidation, Dissolution or Winding Up; Certain Mergers, Consolidations and Asset Sales.

2.1 Preferential Payments to Holders of Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, the holders of shares of Preferred Stock then outstanding shall be entitled to be paid, on a pari passu basis, out of the assets of the Corporation available for distribution to its stockholders or, in the case of a

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Deemed Liquidation Event (as defined below), out of the consideration payable to stockholders in such Deemed Liquidation Event or the Available Proceeds (as defined below), before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to one (1) times the Original Issue Price, plus any dividends declared but unpaid thereon (the "**Liquidation Preference**"). If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Preferred Stock the full Liquidation Preference to which they shall be entitled under this Section 2.1, the holders of shares of Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

2.2 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation, after the payment in full of all Liquidation Amounts required to be paid to the holders of shares of Preferred Stock the remaining assets of the Corporation available for distribution to its stockholders or, in the case of a Deemed Liquidation Event, the consideration not payable to the holders of shares of Preferred Stock pursuant to Section 2.1 or the remaining Available Proceeds, as the case may be, shall be distributed among the holders of the shares of Preferred Stock and Common Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of this Amended and Restated Certificate of Incorporation immediately prior to such liquidation, dissolution or winding up of the Corporation. The aggregate amount which a holder of a share of Preferred Stock is entitled to receive under Sections 2.1 and 2.2 is hereinafter referred to as the "**Liquidation Amount**."

2.3 Deemed Liquidation Events.

2.3.1 Definition. Each of the following events shall be considered a "**Deemed Liquidation Event**" unless the holders of a majority of the outstanding shares of Preferred Stock, voting together as a single class on an as-converted basis (the "**Requisite Holders**"), elect otherwise by written notice sent to the Corporation at least two (2) days prior to the effective date of any such event; provided, however, any such waiver shall not apply to the Series B Preferred Stock without the consent of the holders of a majority of the outstanding shares of Series B Preferred Stock (the "**Series B Majority**"), if such waiver is in connection with a proposed Deemed Liquidation Event and would result in the Series B Preferred Stock receiving less per share as a result of such waiver in connection with such proposed transaction; provided, further, that any such waiver shall not apply to the Series C Preferred Stock without the consent of the holders of at least sixty five percent (65%) of the outstanding shares of Series C Preferred Stock (the "**Series C Majority**"), if such waiver is in connection with a proposed Deemed Liquidation Event and would result in the Series C Preferred Stock receiving less per share as a result of such waiver in connection with such proposed transaction:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party or

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(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger, consolidation, statutory conversion, transfer, domestication, or continuance involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger, consolidation, statutory conversion, transfer, domestication, or continuance continue to represent, or are converted into or exchanged for shares of capital stock or other equity interests that represent, immediately following such merger, consolidation, statutory conversion, transfer, domestication, or continuance, a majority of the capital stock or other equity interests of (1) the surviving or resulting corporation or entity; or (2) if the surviving or resulting corporation or entity is a wholly owned subsidiary of another corporation or entity immediately following such merger, consolidation, statutory conversion, transfer, domestication, or continuance, the parent corporation or entity of such surviving or resulting corporation or entity; or

(b) (1) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets (or all or substantially all of the intellectual property assets) of the Corporation and its subsidiaries taken as a whole, or (2) the sale or disposition (whether by merger, consolidation, statutory conversion, domestication, continuance or otherwise, and whether in a single transaction or a series of related transactions) of one (1) or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

2.3.2 Effecting a Liquidation, Dissolution, Winding Up or Deemed Liquidation Event. The Corporation shall not have the power to effect a liquidation, dissolution, winding up or Deemed Liquidation Event unless the definitive agreement for such transaction (the "**Transaction Agreement**") provides that the consideration payable to the stockholders of the Corporation in such event or transaction shall be allocated to the holders of capital stock of the Corporation in accordance with Sections 2.1, 2.2 and 2.3.4.

2.3.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such liquidation, dissolution, winding up or Deemed Liquidation Event or any other disposition or redemption shall be the cash or the value of the property, rights or securities to be paid or distributed to such holders pursuant to such event or transaction. The value of such property, rights or securities shall be determined in good faith by the Board of Directors, including the approval of a majority of the Preferred Directors if any is then serving.

2.3.4 Allocation of Escrow and Contingent Consideration. In the event of any liquidation, dissolution, winding up or Deemed Liquidation Event, if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the "**Additional**

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Consideration"), the Transaction Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the "**Initial**

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Consideration") shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1 and 2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 2.1 and 2.2 after taking into account the previous payment of the Initial Consideration (and any previously paid Additional Consideration) as part of the same transaction. For the purposes of this Section 2.3.4, consideration placed into escrow or retained as a holdback to be available for satisfaction of indemnification or similar obligations or milestone payments in connection with such event or transaction shall be deemed to be Additional Consideration.

2.3.5 Redemption.

(a) In the event of a Deemed Liquidation Event referred to in Section 2.3.1(a)(ii) or 2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the General Corporation Law within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause (ii) to require the redemption of such shares of the Preferred Stock, and (ii) if the Requisite Holders so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors (including a majority of the Preferred Directors if any is then serving)), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the "**Available Proceeds**"), on the one hundred fiftieth (150th) day after such Deemed Liquidation Event, to redeem all outstanding shares of Preferred Stock at a price per share equal to the applicable Liquidation Amount.

(b) Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding Section 2.3.5(a), if the Available Proceeds are not sufficient to redeem all outstanding shares of the Preferred Stock, or if the Corporation does not have sufficient lawfully available funds to effect such redemption, the Corporation shall redeem a pro rata portion of each holder's shares of the Preferred Stock to the fullest extent of such Available Proceeds or such lawfully available funds, as the case may be, based on the respective amounts which would otherwise be payable in respect of the shares of the Preferred Stock to be redeemed if the legally available funds were sufficient to redeem all such shares of the Preferred Stock, and shall redeem the remaining shares of the Preferred Stock as soon as practicable after the Corporation has funds legally available therefor. Prior to the distribution or redemption provided for in this Section 2.3.5(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event or in the ordinary course of business. The date upon which any such redemption is required to be effected pursuant to this Section 2.3.5 shall be the "**Redemption Date**".

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(c) The Corporation shall send written notice of any redemption pursuant to this Section 2.3.5 (the "**Redemption Notice**") to each holder of record of Preferred Stock. Each Redemption Notice shall state:

(i) the number of shares of Preferred Stock held by the holder that the Corporation shall redeem on the Redemption Date specified in the Redemption Notice (which number shall not be less than the number of shares the Corporation is then required to redeem);

(ii) the Redemption Date and the redemption price; and

(iii) for holders of shares in certificated form, that the holder is to surrender to the Corporation, in the manner and at the place designated, such holder's certificate or certificates representing the shares of Preferred Stock to be redeemed.

If the Corporation receives, on or prior to the twentieth (20th) day after the date of delivery of the Redemption Notice to a holder of the Preferred Stock, written notice from such holder that such holder elects to be excluded from the redemption provided in this Section 2.3.5), then the shares of the Preferred Stock registered on the books of the Corporation in the name of such holder at the time of the Corporation's receipt of such notice shall thereafter be "**Excluded Shares**". Excluded Shares shall not be redeemed or redeemable pursuant to this Section 2.3.5, whether on such Redemption Date or thereafter.

(d) On or before the applicable Redemption Date, each holder of shares to be redeemed on such Redemption Date shall surrender the certificate or certificates representing such shares (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation, in the manner and at the place designated in the Redemption Notice, and thereupon the redemption price for such shares shall be payable to the order of the person whose name appears on such certificate or certificates as the owner thereof. In the event less than all of the shares represented by a certificate are redeemed, a new certificate representing the unredeemed shares shall promptly be issued to such holder.

(e) If the Redemption Notice shall have been duly given, and if on the applicable Redemption Date the redemption price payable upon redemption of the shares to be redeemed on such Redemption Date is paid or tendered for payment or deposited with an independent payment agent so as to be available therefor in a timely manner, then notwithstanding that the certificates evidencing any of the shares so called for redemption shall not have been surrendered, dividends (if any) with respect to such shares shall cease to accrue after such Redemption Date and all rights with respect to such shares shall forthwith after the Redemption Date terminate, except only the right of the holders to receive the redemption price without interest upon surrender of their certificate or certificates therefor. Any shares of Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred.

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3. Voting.

3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Amended and Restated Certificate of Incorporation, holders of Preferred Stock shall vote together with the holders of Common Stock as a single class and on an as-converted to Common Stock basis.

3.2 Election of Directors. The holders of record of the shares of Series A Preferred Stock, exclusively and as a separate series, shall be entitled to elect two (2) directors of the Corporation (each, a "**Series A Director**"), the holders of record of the shares of Series B Preferred Stock, exclusively and as a separate series, shall be entitled to elect one (1) director of the Corporation (the "**Series B Director**," and together with the Series A Directors, the "**Preferred Directors**") and the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation (each a "**Common Director**"). Any director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series A Preferred Stock, Series B Preferred Stock or Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Section 3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Series A Preferred Stock, Series B Preferred Stock or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Preferred Stock), exclusively and voting together as a single class and on an as converted to Common Stock basis, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Section 3.2, any vacancy in any directorship filled by the holders of any class or classes or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or classes or series or by any remaining director or directors elected by the holders of such class or classes or series pursuant to this Section 3.2. The rights of the holders of the Series A Preferred Stock under the first sentence of this Section 3.2 shall terminate on the first date following the date the first share of Series A Preferred Stock was issued on which there are no issued and outstanding shares of Series A Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination, or other similar recapitalization with respect to the Series A Preferred Stock). The rights of the holders of the Series B Preferred Stock under the first sentence of this Section 3.2

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shall terminate on the first date following the date the first share of Series B Preferred Stock was issued on which there are no issued and outstanding shares of Series B Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination, or other similar recapitalization with respect to the Series B Preferred Stock).

3.3 Preferred Stock Protective Provisions. At any time when at least 5,000,000 shares of Preferred Stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Preferred Stock) are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation, recapitalization, reclassification, or otherwise, do any of the following without (in addition to any other vote required by law or this Amended and Restated Certificate of Incorporation) the written consent or affirmative vote of the Requisite Holders given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio*, and of no force or effect.

3.3.1 liquidate, dissolve or wind-up the business and affairs of the Corporation or effect any Deemed Liquidation Event or any merger with a special purpose acquisition company or blank check company or any of their respective affiliates (collectively, the "**SPAC**") or its subsidiary or parent entity;

3.3.2 amend, alter, repeal or waive any provision of this Amended and Restated Certificate of Incorporation or they bylaws of the Corporation (the "**Bylaws**"), as each may be amended or restated pursuant to its terms, in a manner that adversely affects the powers, preferences or rights of the Preferred Stock (or any series thereof);

3.3.3 increase or decrease the authorized number of shares of Common Stock or Preferred Stock, or any series thereof;

3.3.4 create, or authorize the creation of, or issue or obligate itself to issue any additional shares of capital stock (or other equity securities, rights or instruments convertible or exercisable for such shares) unless the same: (x) ranks junior to all series of Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation or upon a Deemed Liquidation Event, the payment of dividends and rights of redemption, if any, and (y) does not have separate series or class voting rights which would entitle the holders thereof to a separate class or series vote with respect to any matter, including but not limited to those set forth in Section 3.3.1 through Section 3.3.10, except for rights which such new class or series of stock would have pursuant to Section 242(b)(2) of the General Corporation Law (the "**Separate Voting Rights**");

3.3.5 (x) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Preferred Stock (or any series thereof) in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Preferred Stock (or any series thereof) in respect of any such right, preference, or privilege, (y) reclassify, alter or amend any

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existing security of the Corporation that is junior to the Preferred Stock (or any series thereof) in respect of the distribution of assets on the

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liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Preferred Stock (or any series thereof) in respect of any such right, preference or privilege, or (z) reclassify, alter or amend any existing security of the Corporation that does not have Separate Voting Rights, if such reclassification, alteration or amendment would provide for Separate Voting Rights;

3.3.6 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock, (iii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at no greater than the original purchase price thereof, or (iv) purchases in connection with the exercise of contractual rights of first refusal;

3.3.7 create, or authorize the creation of, or issue, or authorize the issuance of any debt security or create any lien or security interest (except for statutory liens of landlords, mechanics, materialmen, workmen, warehousemen and other similar persons arising or incurred in the ordinary course of business) or incur other indebtedness for borrowed money, including but not limited to obligations and contingent obligations under guarantees, or permit any subsidiary to take any such action with respect to any debt security lien, security interest or other indebtedness for borrowed money, if the aggregate indebtedness of the Corporation and its subsidiaries for borrowed money following such action would exceed $500,000 individually or $1,000,000 in the aggregate (other than trade payables incurred in the ordinary course of business) unless such debt security has been approved by the Board of Directors, including a majority of the Preferred Directors;

3.3.8 results in the Corporation issuing capital stock to acquire all or substantially all of the equity interests of another entity or all or substantially all of the assets of another entity if the capital stock so issued exceeds ten percent (10%) of the shares of the Common Stock outstanding immediately prior to such transaction (calculated on the basis of all shares of Common Stock outstanding, all shares of Preferred Stock outstanding on an as converted to Common Stock basis, all option and warrants to purchase capital stock of the Corporation outstanding on an as exercised and as converted basis and all unallocated shares in reserve in the Company's 2019 Stock Incentive Plan and other equity incentive plans approved by the Board of Directors, including a majority of the Preferred Directors if any is then serving);

3.3.9 increase or decrease the authorized number of directors constituting the Board of Directors; or

3.3.10 enter into or be a party to any material transaction with any director or officer of the Corporation or any "associate" (as defined in Rule 12b-2 promulgated under the Exchange Act) of any such person, unless approved by the Board of Directors, including, if at least one Preferred Director is disinterested, a majority of the Preferred Directors if all are disinterested, or at least one Preferred Director if one or more but less than all Preferred Directors are disinterested.

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4. Optional Conversion. The holders of the Preferred Stock shall have conversion rights as follows (the "**Conversion Rights**"):

4.1 Right to Convert.

4.1.1 Conversion Ratio. Each share of Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the Original Issue Price of such series of Preferred Stock by the Conversion Price (as defined below) of such series of Preferred Stock in effect at the time of conversion. The "**Conversion Price**" applicable to (a) the Series A Preferred Stock shall initially be equal to $0.5032, (b) the Series B Preferred Stock shall initially be equal to $1.2402 and (c) the Series C Preferred Stock shall initially be equal to $1.9240. Such initial Conversion Price, and the rate at which shares of Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.1.2 Termination of Conversion Rights. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Preferred Stock; provided that the foregoing termination of Conversion Rights shall not affect the amount(s) otherwise paid or payable in accordance with Section 2.1 to holders of Preferred Stock pursuant to such liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event.

4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the number of shares of Common Stock to be issued upon conversion of the Preferred Stock shall be rounded to the nearest whole share.

4.3 Mechanics of Conversion.

4.3.1 Notice of Conversion. In order for a holder of Preferred Stock to voluntarily convert shares of Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall

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be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed

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by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the "**Conversion Time**"), and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, and (ii) pay all declared but unpaid dividends on the shares of Preferred Stock converted.

4.3.2 Reservation of Shares. The Corporation shall at all times when the Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Amended and Restated Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Conversion Price.

4.3.3 Effect of Conversion. All shares of Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor and to receive payment of any dividends declared but unpaid thereon. Any shares of Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Conversion Price shall be made for any declared but unpaid dividends on the Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Preferred Stock pursuant to this Section 4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in

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the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.4 Adjustments to Conversion Price for Diluting Issues.

4.4.1 Special Definitions. For purposes of this Article Fourth, the following definitions shall apply:

(a) "**Additional Shares of Common Stock**" shall mean all shares of Common Stock issued (or, pursuant to Section 4.4.3 below, deemed to be issued) by the Corporation after the date on which the first share of Series C Preferred Stock is issued (the "**Original Issue Date**") other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, "**Exempted Securities**"):

(i) as to any series of Preferred Stock shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on such series of Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Section 4.5, 4.6, 4.7 or 4.8**;**

(iii) shares of Common Stock issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries from the shares reserved for issuance under the Corporation's 2019 Stock Incentive Plan (the "**Equity Plan**") as of the Original Issue Date, and Options therefore, inclusive of any such shares of Common Stock and Options outstanding as of the Original Issue Date or any amendment to the Equity Plan or other plan, agreement or arrangement approved by the Board of Directors of the Corporation, including a majority of the Preferred Directors;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities (such actually issued shares of Common Stock, Convertible Securities, "**Underlying Securities**") which Options or Convertible Securities are

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outstanding as of the Original Issue Date or which Options or Convertible Securities, as applicable, are Exempted Securities, and, in each case, provided such issuance of Underlying Securities is pursuant to the terms of such Option or Convertible Security as originally issued or as amended with the approval of the Board of Directors, including the approval of a majority of the Preferred Directors;

(v) shares of Common Stock actually issued upon the conversion or exchange of Preferred Stock, provided such issuance of Common Stock is pursuant to the terms of such Preferred Stock as originally issued or as amended with the approval of the Board of Directors, including the approval of a majority of the Preferred Directors;

(vi) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions, or to real property lessors, pursuant to a debt financing, equipment leasing or real property leasing transaction, approved by the Board of Directors, including a majority of the Preferred Directors, and for which such shares, Options or Convertible Securities, as the case may be, is approved as an Exempted Security by the Board of Directors, including a majority of the Preferred Directors;

(vii) shares of Common Stock, Options or Convertible Securities issued as acquisition consideration pursuant to the acquisition of another entity by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement approved by the Board of Directors, including a majority of the Preferred Directors;

(viii) shares of Common Stock, Options or Convertible Securities issued for consideration other than cash pursuant to a technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors, including a majority of the Preferred Directors, and for which such shares, Options or Convertible Securities, as the case may be, is approved as an Exempted Security by the Board of

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Directors, including a majority of the Preferred Directors; or

(ix) shares of Common Stock issued in connection with a Qualifying IPO (as defined below).

(b) "**Convertible Securities**" shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(c) "**Option**" shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

4.4.2 No Adjustment of Conversion Price. No adjustment in the Conversion Price applicable to the Series A Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from holders a majority of the then outstanding shares of Series A Preferred Stock agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Conversion Price applicable to the Series B Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Series B Majority agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock. No adjustment in the Conversion Price applicable to the Series C Preferred Stock shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the Series C Majority agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

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(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Conversion Price pursuant to the terms of Section 4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Conversion Price to an amount which exceeds the lower of (i) the Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Conversion Price pursuant to the terms of Section 4.4.4 (either because the consideration per share (determined pursuant to Section 4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Conversion Price then in effect, or because such Option or Convertible Security was issued before the Original Issue Date), are revised after the Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Section 4.4.3(a)) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Conversion Price pursuant to the terms of Section 4.4.4, the Conversion Price shall be readjusted to such Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

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(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Conversion Price provided for in this Section 4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Section 4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Conversion Price that would result under the terms of this Section 4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.4.4 Adjustment of Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 4.4.3), without consideration or for a consideration per share less than the Conversion Price in effect immediately prior to such issuance or deemed issuance, then the Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP_2 = CP_1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) "CP_2" shall mean the Conversion Price in effect immediately after such issuance or deemed issuance of Additional Shares of Common Stock

(b) "CP_1" shall mean the Conversion Price in effect immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock;

(c) "A" shall mean the number of shares of Common Stock outstanding immediately prior to such issuance or deemed issuance of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issuance or deemed issuance or upon conversion or exchange of Convertible Securities (including the Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

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(d) "B" shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued or deemed issued at a price per share equal to CP_1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP_1); and

(e) "C" shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.4.5 Determination of Consideration. For purposes of this Section 4.4, the consideration received by the Corporation for the issuance or deemed issuance of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property. Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors, including a majority of the Preferred Directors if any is then serving; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of, including the determination of a majority of the Preferred Directors if any is then serving.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 4.4.3, relating to Options and Convertible Securities, shall be determined by dividing:

(i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such

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Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Conversion Price pursuant to the terms of Section 4.4.4, then, upon the final such issuance, the Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Original Issue Date effect a subdivision of the outstanding Common Stock, the Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Original Issue Date combine the outstanding shares of Common Stock, the Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this Section shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have

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been fixed, as of the close of business on such record date, by multiplying the Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing, (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Conversion Price shall be adjusted pursuant to this Section as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 1 do not apply to such dividend or distribution, then and in each such event the holders of Preferred Stock shall receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities or other property in an amount equal to the amount of such securities or other property as they would have received if all outstanding shares of Preferred Stock had been converted into Common Stock on the date of such event.

4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Section 2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Sections 4.4, 4.6 or 4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one (1) share of Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors, including the determination by a majority of the Preferred Directors if any is then serving) shall be made in

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the application of the provisions in this Section 4 with respect to the rights and interests thereafter of the holders of the Preferred Stock, to the end that the provisions set forth in this Section 4 (including provisions with respect to changes in and other adjustments of the Conversion Price) shall thereafter be applicable, as nearly as reasonably may be, in relation to any securities or other property thereafter deliverable upon the conversion of the Preferred Stock.

4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Conversion Price pursuant to this Section 4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Preferred Stock.

4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security; or

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation,

then, and in each such case, the Corporation will send or cause to be sent to the holders of the Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record

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date or effective date for the event specified in such notice, unless such notice is waived or such period is shortened by the affirmative written consent or vote of the Requisite Holders.

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5. Mandatory Conversion.

5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, (an "**IPO**") resulting in at least $50,000,000 of gross proceeds to the Corporation and a pre-offering valuation of the Corporation of at least $300,000,000 (a "**Qualifying IPO**") or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the Requisite Holders (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the "**Mandatory Conversion Time**"), then (i) all outstanding shares of Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Section 4.1.1 and (ii) such shares may not be reissued by the Corporation; provided, however, that (i) the consent of the Series B Majority shall also be required in connection with any automatic conversion under subsection (b) of the Series B Preferred Stock if such conversion is in connection with an IPO with a pre-offering valuation of the Corporation of less than $300,000,000 and (ii) the consent of the Series C Majority shall also be required in connection with any automatic conversion under subsection (b) of the Series C Preferred Stock if such conversion is in connection with an IPO with a pre-offering valuation of the Corporation of less than $300,000,000.

5.2 Procedural Requirements. All holders of record of shares of Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Preferred Stock pursuant to this Section 5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Preferred Stock converted pursuant to Section 5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Section 5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay any declared but unpaid dividends on the shares of Preferred Stock converted. Such converted Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action

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(without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Preferred Stock accordingly.

6. Redemption. Other than as set forth in Section 2.3.5, the Preferred Stock is not redeemable.

7. Redeemed or Otherwise Acquired Shares. Any shares of Preferred Stock that are redeemed, converted or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Preferred Stock following redemption, conversion or acquisition.

8. Waiver. Except as otherwise set forth herein, (a) any of the rights, powers, preferences and other terms of the Preferred Stock set forth herein may be waived on behalf of all holders of Preferred Stock by the affirmative written consent or vote of the Requisite Holders and (b) at any time more than one (1) series of Preferred Stock is issued and outstanding, any of the rights, powers, preferences and other terms of any series of Preferred Stock set forth herein may be waived on behalf of all holders of such series of Preferred Stock by the affirmative written consent or vote of the holders of at least a majority of the shares of such series of Preferred Stock then outstanding.

9. Notices. Any notice required or permitted by the provisions of this Article Fourth to be given to a holder of shares of Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the General Corporation Law, and shall be deemed sent upon such mailing or electronic transmission.

FIFTH: Subject to any additional vote required by this Amended and Restated Certificate of Incorporation or Bylaws, in furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, repeal, alter, amend and rescind any or all of the Bylaws of the Corporation.

SIXTH: Subject to any additional vote required by this Amended and Restated Certificate of Incorporation, the number of directors of the Corporation shall be determined in the manner set forth in the Bylaws of the Corporation. Each director shall be entitled to one (1) vote on each matter presented to the Board of Directors.

SEVENTH: Elections of directors need not be by written ballot unless the Bylaws of the Corporation shall so provide.

EIGHTH: Meetings of stockholders may be held within or without the State of Delaware, as the Bylaws of the Corporation may provide. The books of the Corporation may be kept outside the State of Delaware at such place or places as may be designated from time to time by the Board of Directors or in the Bylaws of the Corporation.

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NINTH: To the fullest extent permitted by law, a director or officer of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or officer. If the General Corporation Law or any other law of the State of Delaware is amended after approval by the stockholders of this Article Ninth to authorize corporate action further eliminating or limiting the personal liability of directors or officers, then the liability of a director or officer of the Corporation shall be eliminated or limited to the fullest extent permitted by the General Corporation Law as so amended.

Any amendment, repeal or elimination of the foregoing provisions of this Article Ninth by the stockholders of the Corporation shall not adversely affect any right or protection of a director or officer of the Corporation existing at the time of, or increase the liability of any director or officer of the Corporation with respect to any acts or omissions of such director or officer occurring prior to, such amendment, repeal or elimination.

TENTH: To the fullest extent permitted by applicable law, the Corporation is authorized to provide indemnification of (and advancement of expenses to) directors, officers and agents of the Corporation (and any other persons to which the General Corporation Law permits the Corporation to provide indemnification) through Bylaw provisions, agreements with such agents or other persons, vote of stockholders or disinterested directors or otherwise, in excess of the indemnification and advancement otherwise permitted by Section 145 of the General Corporation Law.

Any amendment, repeal,modification or elimination of the foregoing provisions of this Article Tenth shall not (a) adversely affect any right or protection of any director, officer or other agent of the Corporation existing at the time of such amendment, repeal, modification or elimination; or (b) increase the liability of any director, officer or agent of the Corporation with respect to any acts or omissions of such director, officer or agent occurring prior to, such amendment, repeal, modification or elimination.

ELEVENTH: The Corporation renounces, to the fullest extent permitted by law, any interest or expectancy of the Corporation in, or in being offered an opportunity to participate in, any Excluded Opportunity. An "**Excluded Opportunity**" is any matter, transaction or interest that is presented to, or acquired, created or developed by, or which otherwise comes into the possession of (i) any director of the Corporation who is not an employee of the Corporation or any of its subsidiaries, or (ii) any holder of Preferred Stock or any partner, member, director, stockholder, employee, affiliate or agent of any such holder, other than someone who is an employee of the Corporation or any of its subsidiaries (collectively, the persons referred to in clauses (i) and (ii) are "**Covered Persons**"), unless such matter, transaction or interest is presented to, or acquired, created or developed by, or otherwise comes into the possession of, a Covered Person expressly and solely in such Covered Person's capacity as a director of the Corporation while such Covered Person is performing services in such capacity. Any repeal or modification of this Article Eleventh will only be prospective and will not affect the rights under this Article Eleventh in effect at the time of the occurrence of any actions or omissions to act giving rise to liability. Notwithstanding anything to the contrary contained elsewhere in this Amended and Restated Certificate of Incorporation, the affirmative vote or written consent of the Requisite Holders, will be required to amend or repeal, or to adopt any provisions inconsistent with this Article Eleventh.

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TWELFTH: Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery in the State of Delaware shall be the sole and exclusive forum for any stockholder (including a beneficial owner) to bring (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) any action asserting a claim against the Corporation, its directors, officers or employees arising pursuant to any provision of the General Corporation Law or the Corporation's certificate of incorporation or bylaws or (iv) any action asserting a claim against the Corporation, its directors, officers or employees governed by the internal affairs doctrine, except for, as to each of (i) through (iv) above, any claim as to which the Court of Chancery determines that there is an indispensable party not subject to the jurisdiction of the Court of Chancery (and the indispensable party does not consent to the personal jurisdiction of the Court of Chancery within ten (10) days following such determination), which is vested in the exclusive jurisdiction of a court or forum other than the Court of Chancery, or for which the Court of Chancery does not have subject matter jurisdiction. If any provision or provisions of this Article Twelfth shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article Twelfth (including, without limitation, each portion of any sentence of this Article Twelfth containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

THIRTEENTH: For purposes of Section 500 of the California Corporations Code (to the extent applicable), in connection with any repurchase of shares of Common Stock permitted under this Amended and Restated Certificate of Incorporation from employees, officers, directors or consultants of the Corporation in connection with a termination of employment or services pursuant to agreements or arrangements approved by the Board of Directors (in addition to any other consent required under this Amended and Restated Certificate of Incorporation), such repurchase may be made without regard to any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined in Section 500 of the California Corporations Code). Accordingly, for purposes of making any calculation under California Corporations Code Section 500 in connection with such repurchase, the amount of any "preferential dividends arrears amount" or "preferential rights amount" (as those terms are defined therein) shall be deemed to be zero (0).

* * *

3. That the foregoing amendment and restatement was approved by the holders of the requisite number of shares of this corporation in accordance with Section 228 of the General Corporation Law.

4. That this Certificate of Incorporation, which restates and integrates and further amends the provisions of this Corporation's Certificate of Incorporation, has been duly adopted in accordance with Sections 242 and 245 of the General Corporation Law.

[Signature Page Follows]

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IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been executed by a duly authorized officer of this corporation on this 11th day of March, 2024.

By:	/s/ Michael Cordonnier
Name:	Michael Cordonnier
Title:	Chief Executive Officer

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Exhibit 3.1a

CERTIFICATE OF AMENDMENT OF THE

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

CARLSMED, Inc.

Carlsmed, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "**Delaware General Corporation Law**") (the "**Corporation**"),

DOES HEREBY CERTIFY:

FIRST: That the name of the Corporation is Carlsmed, Inc.

SECOND: That the Corporation's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on June 4, 2018 under the name CARLSMED, INC.

THIRD: That the Board of Directors of the Corporation has duly adopted resolutions proposing to amend the Corporation's Amended and Restated Certificate of Incorporation, and that said amendment was duly adopted in accordance with the provisions of Sections 242 of the Delaware General Corporation Law and that said amendment was approved by the holders of the requisite number of shares of the Corporation in accordance with Section 228 and Section 242 of the Delaware General Corporation Law. This Certificate of Amendment of the Amended and Restated Certificate of Incorporation amends the provisions of the Amended and Restated Certificate of Incorporation of the Corporation.

FOURTH: The first sentence of Article FOURTH of the Amended and Restated Certificate of Incorporation of the Corporation shall be amended by deleting it in its entirety and substituting the following therefore:

"**FOURTH**: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 121,843,775 shares of Common Stock, $0.00001 par value per share ("**Common Stock**") and (ii) 79,274,065 shares of Preferred Stock, $0.00001 par value per share ("**Preferred Stock**")."

FIFTH: The third sentence of Article FOURTH, Part B of the Amended and Restated Certificate of Incorporation of the Corporation shall be amended by deleting it in its entirety and substituting the following therefore:

"27,400,595 shares of the authorized Preferred Stock of the Corporation are hereby designed "**Series C Preferred Stock**" with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations."

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment of the Amended and Restated Certificate of Incorporation to be signed by its duly authorized officer, this 31st day of December, 2024.

CARLSMED, INC.

By:	/s/ Michael Cordonnier
Name:	Michael Cordonnier
Title:	Chief Executive Officer

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Exhibit 3.1b

CERTIFICATE OF AMENDMENT OF THE

AMENDED AND RESTATED CERTIFICATE OF INCORPORATION

OF

CARLSMED, Inc.

Carlsmed, Inc., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware (the "**Delaware General Corporation Law**") (the "**Corporation**"),

DOES HEREBY CERTIFY:

FIRST: That the name of the Corporation is Carlsmed, Inc.

SECOND: That the Corporation's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on June 4, 2018 under the name CARLSMED, INC.

THIRD: That the Board of Directors of the Corporation has duly adopted resolutions proposing to amend the Corporation's Amended and Restated Certificate of Incorporation, and that said amendment was duly adopted in accordance with the provisions of Sections 242 of the Delaware General Corporation Law and that said amendment was approved by the holders of the requisite number of shares of the Corporation in accordance with Section 228 and Section 242 of the Delaware General Corporation Law. This Certificate of Amendment of the Amended and Restated Certificate of Incorporation amends the provisions of the Amended and Restated Certificate of Incorporation of the Corporation.

FOURTH: The first sentence of Article FOURTH of the Amended and Restated Certificate of Incorporation of the Corporation shall be amended by deleting it in its entirety and substituting the following therefore:

"**FOURTH**: The total number of shares of all classes of stock which the Corporation shall have authority to issue is (i) 132,132,695 shares of Common Stock, $0.00001 par value per share ("**Common Stock**") and (ii) 85,511,071 shares of Preferred Stock, $0.00001 par value per share ("**Preferred Stock**")."

FIFTH: The third sentence of Article FOURTH, Part B of the Amended and Restated Certificate of Incorporation of the Corporation shall be amended by deleting it in its entirety and substituting the following therefore:

"33,637,601 shares of the authorized Preferred Stock of the Corporation are hereby designed "**Series C Preferred Stock**" with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations."

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IN WITNESS WHEREOF, the Corporation has caused this Certificate of Amendment of the Amended and Restated Certificate of Incorporation to be signed by its duly authorized officer, this 30th day of January, 2025.

CARLSMED, INC.

By:	/s/ Michael Cordonnier
Name:	Michael Cordonnier
Title:	Chief Executive Officer

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Exhibit 3.2

CARLSMED, INC.

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION

Carlsmed, Inc., a corporation organized and existing under and by virtue of the Delaware General Corporation Law (the "DGCL"), hereby certifies as follows:

The name of the Corporation is Carlsmed, Inc. The Corporation's original Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on June 4, 2018, under the name "Carlsmed, Inc." The Corporation's Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on April 18, 2022. A Certificate of Amendment to the Corporation's Amended and Restated Certificate of Incorporation was filed with the Secretary of State of the State of Delaware on December 31, 2024.

The Amended and Restated Certificate of Incorporation in the form of Exhibit A attached hereto has been duly adopted in accordance with the provisions of Sections 242, 245 and 228 of the DGCL.

The text of the Amended and Restated Certificate of Incorporation as heretofore amended or supplemented is hereby restated and further amended to read in its entirety as set forth in Exhibit A attached hereto. The Amended and Restated Certificate of Incorporation shall be effective as of 9:00 a.m. Eastern Time on [ ], 2025.

IN WITNESS WHEREOF, this Amended and Restated Certificate of Incorporation has been signed this [ ] day of [ ], 2025.

CARLSMED, INC.

By: _____

Name: Michael Cordonnier

Title: Chief Executive Officer and President

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EXHIBIT A

AMENDED AND RESTATED

CERTIFICATE OF INCORPORATION OF

CARLSMED, INC.

ARTICLE I

The name of the corporation is Carlsmed, Inc. (the "Corporation").

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is 8 The Green STE A, Dover, DE, 19901, Kent County. The name of its registered agent at such address is A Registered Agent, Inc.

ARTICLE III

The purpose of the Corporation is to engage in any lawful act or activity for which a corporation may be organized under the Delaware General Corporation Law (the "DGCL") as the same may be amended and supplemented from time to time. The Corporation is to have a perpetual existence.

ARTICLE IV

This Corporation is authorized to issue two classes of capital stock which shall be designated, respectively, "Common Stock" and "Preferred Stock." The total number of shares that the Corporation is authorized to issue is 610,000,000, of which 600,000,000 shares shall be Common Stock, par value $0.00001 per share, and 10,000,000 shares shall be Preferred Stock, par value $0.00001 per share.

ARTICLE V

The designations and the powers, preferences and rights, and the qualifications, limitations or restrictions thereof, in respect of each class of capital stock of the Corporation are as follows:

Section 1. Common Stock

(a)General. The voting, dividend, liquidation, and other rights and powers of the Common Stock are subject to and qualified by the rights, powers and preferences of any series of Preferred Stock as may be designated by the Board of Directors of the Corporation (the "Board of Directors") and outstanding from time to time.

(b)Voting. Except as otherwise provided herein or expressly required by law, each holder of Common Stock, as such, shall be entitled to vote on each matter submitted to a vote of stockholders and shall be entitled to one (1) vote for each share of Common Stock held of record by such holder as of the record date for determining stockholders entitled to vote on such matter. Except as otherwise required by law, holders of Common Stock, as such, shall not be entitled to vote on any amendment to the Certificate of Incorporation of the Corporation (as amended from time to time, the "Restated Certificate") (including any Certificate of Designation (as defined below)) that relates solely to the rights,

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powers, preferences (or the qualifications, limitations or restrictions thereof) or other terms of one or more outstanding series of Preferred Stock if the holders of such affected series are entitled, either separately or together with the holders of one or more other such series, to vote thereon pursuant to this Restated Certificate (including any Certificate of Designation) or pursuant to the DGCL.

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Subject to the rights of the holders of any series of Preferred Stock and Sections 242(d)(1) or (d)(2) of the DGCL, the number of authorized shares of Common Stock or Preferred Stock may be increased or decreased (but not below the number of shares thereof then outstanding) by the affirmative vote of the holders of a majority in voting power of the stock of the Corporation with the power to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL or any successor provision thereof, and no vote of the holders of any of the Common Stock or Preferred Stock voting separately as a class shall be required therefor.

(c)Dividends. Subject to applicable law and the rights and preferences of any holders of any outstanding series of Preferred Stock, the holders of Common Stock, as such, shall be entitled to the payment of dividends on the Common Stock when, as and if declared out of funds legally available by the Board of Directors in accordance with applicable law.

(d)Liquidation. Subject to the rights and preferences of any holders of any shares of any outstanding series of Preferred Stock, in the event of any liquidation, dissolution or winding up of the Corporation, whether voluntary or involuntary, the funds and assets of the Corporation that may be legally distributed to the Corporation's stockholders shall be distributed among the holders of the then outstanding Common Stock pro rata in accordance with the number of shares of Common Stock held by each such holder.

Section 2. Preferred Stock

Shares of Preferred Stock may be issued from time to time in one or more series, each of such series to have such terms as stated or expressed herein and in the resolution or resolutions providing for the creation and issuance of such series adopted by the Board of Directors as hereinafter provided.

The Board of Directors is hereby authorized to provide from time to time by resolution or resolutions for the creation and issuance, out of the authorized and unissued shares of Preferred Stock, of one or more series of Preferred Stock by filing a certificate (a "Certificate of Designation") pursuant to the DGCL, setting forth such resolution and, with respect to each such series, establishing the designation of such series and the number of shares to be included in such series and fixing the voting powers (full or limited, or no voting power), preferences and relative, participating, optional or other special rights, and the qualifications, limitations and restrictions thereof, of the shares of each such series. Without limiting the generality of the foregoing, the resolution or resolutions providing for the establishment of any series of Preferred Stock may, to the extent permitted by law, provide that such series shall be superior to, rank equally with or be junior to the Preferred Stock of any other series. The powers, preferences and relative, participating, optional and other special rights of each series of Preferred Stock, and the qualifications, limitations or restrictions thereof, if any, may be different from those of any and all other series at any time outstanding. Except as otherwise expressly provided in the resolution or resolutions providing for the establishment of any series of Preferred Stock, no vote of the holders of shares of Preferred Stock or Common Stock shall be a prerequisite to the issuance of any shares of any series of the Preferred Stock so authorized in accordance with this Restated Certificate.

Unless otherwise provided in the Certificate of Designation establishing a series of Preferred Stock, the Board of Directors may, by resolution or resolutions, increase or decrease (but not below the number of shares of such series then outstanding) the number of shares of such series and, if the number of shares of such series shall be so decreased, the shares constituting such decrease shall resume the status that they had prior to the adoption of the resolution originally fixing the number of shares of such series.

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ARTICLE VI

For the management of the business and for the conduct of the affairs of the Corporation it is further provided that:

Section 1.

(a)The management of the business and the conduct of the affairs of the Corporation shall be vested in the Board of Directors. The number of directors which shall constitute the whole Board of Directors shall be fixed exclusively by one or more resolutions adopted from time to time by the Board of Directors. Except as otherwise expressly delegated by resolution of the Board of Directors, the Board of Directors shall have the exclusive power and authority to appoint and remove officers of the Corporation.

(b)Other than any directors elected by the separate vote of the holders of one or more series of Preferred Stock, the Board of Directors shall be and is divided into three classes, designated as Class I, Class II and Class III. Directors shall be assigned to each class in accordance with a resolution or resolutions adopted by the Board of Directors. At the first annual meeting of stockholders following the initial registration of the Corporation's Common Stock pursuant to the Securities Exchange Act of 1934, as amended, the term of office of the Class I directors shall expire and Class I directors shall be elected for a full term of three years. At the second annual meeting of stockholders following such registration, the term of office of the Class II directors shall expire and Class II directors shall be elected for a full term of three years. At the third annual meeting of stockholders following such registration, the term of office of the Class III directors shall expire and Class III directors shall be elected for a full term of three years. Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, at each succeeding annual meeting of stockholders, directors shall be elected for a full term of three years to succeed the directors of the class whose terms expire at such annual meeting. The Board of Directors is authorized to assign members of the Board of Directors already in office to Class I, Class II and Class III.

Notwithstanding the foregoing provisions of this Article VI, Section 1(b), each director shall serve until his or her successor is duly elected and qualified or until his or her earlier death, resignation or removal. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

(c)Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, if any, the Board of Directors or any individual director may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then outstanding shares of voting stock of the Corporation with the power to vote at an election of directors (the "Voting Stock").

(d)Subject to the special rights of the holders of one or more series of Preferred Stock to elect directors, if any, any vacancies on the Board of Directors resulting from death, resignation or removal and any newly created directorships resulting from any increase in the number of directors shall, unless the Board of Directors determines by resolution that any such vacancies or newly created directorships shall be filled by the stockholders, and except as otherwise provided by law, be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum, or by a sole remaining director, and shall not be filled by the stockholders. Any director appointed in accordance with the preceding sentence shall hold office for a term that shall coincide with the remaining term of the class to which the director shall have been appointed and until such director's successor shall have been elected and qualified or until his or her earlier death, resignation or removal.

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(e)Whenever the holders of any one or more series of Preferred Stock issued by the Corporation shall have the right, voting separately as a series or separately as a class with one or more such other series, to elect directors at an annual or special meeting of stockholders, the election, term of office, removal and other features of such directorships shall be governed by the terms of this Restated Certificate (including any Certificate of Designation). Notwithstanding anything to the contrary in this Article VI, the number of directors that may be elected by the holders of any such series of Preferred Stock shall be in addition to the number fixed pursuant to paragraph (a) of this Article VI, and the total number of directors constituting the whole Board of Directors shall be automatically adjusted accordingly. Except as otherwise provided in the Certificate of Designation(s) in respect of one or more series of Preferred Stock, whenever the holders of any series of Preferred Stock having such right to elect additional directors are divested of such right pursuant to the provisions of such Certificate of Designation(s), the terms of office of all such additional directors elected by the holders of such series of Preferred Stock, or elected to fill any vacancies resulting from the death, resignation, disqualification or removal of such additional directors, shall forthwith terminate (in which case each such director thereupon shall cease to be qualified as, and shall cease to be, a director) and the total authorized number of directors of the Corporation shall automatically be reduced accordingly.

Section 2.

(a)In furtherance and not in limitation of the powers conferred by statute, the Board of Directors is expressly authorized to make, alter or repeal Bylaws of the Corporation. In addition to any vote of the holders of any class or series of stock of the Corporation required by applicable law or by this Restated Certificate (including any Certificate of Designation in respect of one or more series of Preferred Stock), the adoption, amendment or repeal of the Bylaws of the Corporation by the stockholders of the Corporation shall require the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the Voting Stock, voting together as a single class.

(b)The directors of the Corporation need not be elected by written ballot unless the Bylaws of the Corporation so provide.

ARTICLE VII

Section 1. Subject to the special rights of the holders of one or more series of Preferred Stock, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of the stockholders of the Corporation, and the taking of any action by written consent of the stockholders in lieu of a meeting of the stockholders is specifically denied.

Section 2. Subject to the special rights of the holders of one or more series of Preferred Stock, special meetings of the stockholders of the Corporation may be called, for any purpose or purposes, at any time by a majority of the directors on the Board of Directors, but such special meetings may not be called by stockholders or any other person or persons.

Section 3. Advance notice of stockholder nominations for the election of directors and of other business proposed to be brought by stockholders before any meeting of the stockholders of the Corporation shall be given in the manner provided in the Bylaws of the Corporation.

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ARTICLE VIII

Section 1. To the fullest extent permitted by the DGCL, as the same exists or as may hereafter be amended, a director or an Officer (as defined below) of the Corporation shall not be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or Officer, except for liability (i) for any breach of the director's or Officer's duty of loyalty to the Corporation or its stockholders, (ii) a director or Officer for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) a director under Section 174 of the DGCL, as the same exists or hereafter may be amended, (iv) a director or Officer for any transaction from which the director or Officer derived an improper personal benefit or (v) an Officer in any action by or in the right of the Corporation. If the DGCL is amended after approval by the stockholders of this Article VIII to authorize corporate action further eliminating or limiting the personal liability of directors and officers, then the liability of a director or an officer of the Corporation shall be eliminated or limited to the fullest extent permitted by the DGCL as so amended, automatically and without further action, upon the date of such amendment. All references in this Article VIII to an "Officer" shall mean only a person who, at the time of an act or omission as to which liability is asserted, falls within the meaning of the term "officer," as defined in Section 102(b)(7) of the DGCL.

Section 2. The Corporation, to the fullest extent permitted by law, shall indemnify and advance expenses to any person made or threatened to be made a party to an action, suit or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he or she, or his or her testator or intestate, is or was a director or officer of the Corporation or any predecessor of the Corporation, or serves or served at any other enterprise as a director or officer at the request of the Corporation or any predecessor to the Corporation.

Section 3. The Corporation, to the fullest extent permitted by law, may indemnify and advance expenses to any person made or threatened to be made a party to an action, suit or proceeding, whether criminal, civil, administrative or investigative, by reason of the fact that he or she, or his or her testator or intestate, is or was an employee or agent of the Corporation or any predecessor of the Corporation, or serves or served at any other enterprise as an employee or agent at the request of the Corporation or any predecessor to the Corporation.

Section 4. Neither any amendment nor repeal of this Article VIII, nor the adoption by amendment of this Restated Certificate of any provision inconsistent with this Article VIII, shall eliminate or reduce the effect of this Article VIII in respect of any matter occurring, or any action or proceeding accruing or arising (or that, but for this Article VIII, would accrue or arise) prior to such amendment or repeal or adoption of an inconsistent provision.

ARTICLE IX

Unless the Corporation consents in writing to the selection of an alternative forum, (a) the Court of Chancery (the "Chancery Court") of the State of Delaware (or, in the event that the Chancery Court does not have jurisdiction, the federal district court for the District of Delaware or other state courts of the State of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for (i) any derivative action, suit or proceeding brought on behalf of the Corporation, (ii) any action, suit or proceeding asserting a claim of breach of a fiduciary duty owed by any director, officer or stockholder of the Corporation to the Corporation or to the Corporation's stockholders, (iii) any action, suit or proceeding arising pursuant to any provision of the DGCL or the Bylaws of the Corporation or this Restated Certificate (as either may be amended from time to time) or (iv) any action, suit or proceeding asserting a claim against the Corporation governed by the internal affairs doctrine; and (b) subject to the preceding provisions of this Article IX, the federal district courts of the United States of America shall be the exclusive forum for the

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resolution of any complaint asserting a cause or causes of action arising under the Securities Act of 1933, as amended, including all causes of action asserted against any defendant to such complaint. If any action the subject matter of which is within the scope of clause (a) of the immediately preceding sentence is filed in a court other than the courts in the State of Delaware (a "Foreign Action") in the name of any stockholder, such stockholder shall be deemed to have consented to (x) the personal jurisdiction of the state and federal courts in the State of Delaware in connection with any action brought in any such court to enforce the provisions of clause (a) of the immediately preceding sentence and (y) having service of process made upon such stockholder in any such action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder.

Any person or entity purchasing or otherwise acquiring any interest in any security of the Corporation shall be deemed to have notice of and consented to this Article IX. This Article IX is intended to benefit and may be enforced by the Corporation, its officers and directors, the underwriters to any offering giving rise to such complaint, and any other professional or entity whose profession gives authority to a statement made by that person or entity and who has prepared or certified any part of the documents underlying the offering. Notwithstanding the foregoing, the provisions of this Article IX shall not apply to suits brought to enforce any liability or duty created by the Securities Exchange Act of 1934, as amended, or any other claim for which the federal courts of the United States have exclusive jurisdiction.

If any provision or provisions of this Article IX shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever, (a) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article IX (including, without limitation, each portion of any paragraph of this Article IX containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (b) the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

ARTICLE X

Notwithstanding any other provisions of this Restated Certificate or any provision of law which might otherwise permit a lesser vote or no vote, but in addition to any affirmative vote of the holders of any particular class or series of the Voting Stock required by law or by this Restated Certificate (including any Certificate of Designation in respect of one or more series of Preferred Stock), the affirmative vote of the holders of at least sixty-six and two-thirds percent (66-2/3%) of the voting power of all of the then-outstanding shares of the Voting Stock, voting together as a single class, shall be required to alter, amend or repeal Articles V, VI, VII, VIII, IX and this Article X.

If any provision or provisions of this Restated Certificate shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (a) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Restated Certificate (including, without limitation, each portion of any paragraph of this Restated Certificate containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not, to the fullest extent permitted by applicable law, in any way be affected or impaired thereby and (b) to the fullest extent permitted by applicable law, the provisions of this Restated Certificate (including, without limitation, each such portion of any paragraph of this Restated Certificate containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its directors, officers, employees and agents from personal liability in respect of their good faith service to or for the benefit of the Corporation to the fullest extent permitted by law.

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Exhibit 3.3

AMENDED AND RESTATED BYLAWS

OF

CARLSMED, INC.

ARTICLE 1

OFFICES

Section 1.1 Registered Office.

The registered office of the Corporation in the State of Delaware shall be set forth in the Certificate of Incorporation of the Corporation (as amended, modified or restated, the "**Certificate of Incorporation**").

Section 1.2 Other Offices.

The Corporation may also have offices at such other places, either within or without the State of Delaware, as the Board of Directors may from time to time determine or the business of the Corporation may require.

ARTICLE 2

STOCKHOLDERS' MEETINGS

Section 2.1 Place of Meetings.

(a)Meetings of stockholders may be held at such place, either within or without the State of Delaware, as may be designated by or in the manner provided in these Bylaws or, if not so designated, as determined by the Board of Directors. The Board of Directors may, in its sole discretion, determine that the meeting shall not be held at any place, but may instead be held solely by means of remote communication as authorized by paragraph (b) of this Section 2.1.

(b)If authorized by the Board of Directors in its sole discretion, and subject to such guidelines and procedures as the Board of Directors may adopt, stockholders and proxyholders not physically present at a meeting of stockholders may, by means of remote communication:

(1)Participate in a meeting of stockholders; and

(2)Be deemed present in person and vote at a meeting of stockholders whether such meeting is to be held at a designated place or solely by means of remote communication, provided that (A) the Corporation shall implement reasonable measures to verify that each person deemed present and permitted to vote at the meeting by means of remote communication is a stockholder or proxyholder, (B) the Corporation shall implement reasonable measures to provide such stockholders and proxyholders a reasonable opportunity

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to participate in the meeting and to vote on matters submitted to the stockholders, including an opportunity to read or hear the proceedings of the meeting substantially concurrently with such proceedings, and (C) if any

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stockholder or proxyholder votes or takes other action at the meeting by means of remote communication, a record of such vote or other action shall be maintained by the Corporation.

(c)For purposes of these Bylaws, "remote communication" shall include (1) telephone or other voice communications and (2) electronic mail or other form of written or visual electronic communications satisfying the requirements of Section 2.11(b).

Section 2.2 Annual Meetings.

The annual meetings of the stockholders of the Corporation, for the purpose of election of directors and for such other business as may lawfully come before it, shall be held on such date and at such time as may be designated from time to time by the Board of Directors.

Section 2.3 Special Meetings.

Special meetings of the stockholders of the Corporation may be called, for any purpose or purposes, by the Chairman of the Board or the President or the Board of Directors at any time. Upon written request of any stockholder or stockholders holding in the aggregate one-fifth of the voting power of all stockholders delivered in person or sent by registered mail to the Chairman of the Board, President or Secretary of the Corporation, the Secretary shall call a special meeting of stockholders to be held as provided in Section 2.1 at such time as the Secretary may fix, such meeting to be held not less than 10 nor more than 60 days after the receipt of such request, and if the Secretary shall neglect or refuse to call such meeting within seven days after the receipt of such request, the stockholder making such request may do so. Only such business shall be brought before a special meeting of stockholders as shall have been specified in the notice of such meeting.

Section 2.4 Notice of Meetings.

(a)Except as otherwise provided by law or the Certificate of Incorporation, written notice of each meeting of stockholders, specifying the place, if any, date and hour and purpose or purposes of the meeting, and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting, and the record date for determining the stockholders entitled to vote at the meeting, if such date is different from the record date for determining stockholders entitled to notice of the meeting, shall be given not less than 10 nor more than 60 days before the date of the meeting to each stockholder entitled to vote thereat, directed to his address as it appears upon the books of the Corporation; except that where the matter to be acted on is a merger or consolidation of the Corporation or a sale, lease or exchange of all or substantially all of its assets, such notice shall be given not less than 20 nor more than 60 days prior to such meeting. If the Board of Directors fixes a date for determining the stockholders entitled to notice of a meeting of stockholders, such date shall also be the record date for determining the stockholders entitled to vote at such meeting, unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination.

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(b)If at any meeting action is proposed to be taken which, if taken, would entitle stockholders fulfilling the requirements of Section 262(d) of the Delaware General Corporation Law to an appraisal of the fair value of their shares, the notice of such meeting shall contain a statement to that effect and shall be accompanied by a copy of that statutory section.

(c)When a meeting is adjourned to another time or place, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communication, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting, are announced at the meeting at which the adjournment is taken unless the adjournment is for more than thirty days, or unless after the adjournment a new record date is fixed for the adjourned meeting, in which event a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting; provided, however, that the Board of Directors may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote at the adjourned meeting.

(d)Notice of the time, place and purpose of any meeting of stockholders may be waived in writing, either before or after such meeting, and, to the extent permitted by law, will be waived by any stockholder by his attendance thereat, in person or by proxy.

(e)Without limiting the manner by which notice otherwise may be given effectively to stockholders, any notice to stockholders given by the Corporation under any provision of Delaware General Corporation Law, the Certificate of Incorporation, or these Bylaws shall be effective if given by a form of electronic transmission consented to by the stockholder to whom the notice is given. Any such consent shall be revocable by the stockholder by written notice to the Corporation. Any such consent shall be deemed revoked if (i) the Corporation is unable to deliver by electronic transmission two consecutive notices given by the Corporation in accordance with such consent, and (ii) such inability becomes known to the Secretary or an Assistant Secretary of the Corporation or to the transfer agent or other person responsible for the giving of notice; provided, however, the inadvertent failure to treat such inability as a revocation shall not invalidate any meeting or other action. Notice given pursuant to this subparagraph (e) shall be deemed given: (1) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice; (2) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice; (3) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (A) such posting and (B) the giving of such separate notice; and (4) if by any other form of electronic transmission, when directed to the stockholder. An affidavit of the Secretary or an Assistant Secretary or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein. For purposes of these Bylaws, “electronic transmission” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

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Section 2.5 Quorum and Voting.

(a)At all meetings of stockholders except where otherwise provided by law, the Certificate of Incorporation or these Bylaws, the presence, in person or by proxy duly authorized, of the holders of a majority of the outstanding shares of stock entitled to vote shall constitute a quorum for the transaction of business. Shares, the voting of which at said meeting have been enjoined, or which for any reason cannot be lawfully voted at such meeting, shall not be counted to determine a quorum at said meeting. In the absence of a quorum, any meeting of stockholders may be adjourned, from time to time, by vote of the holders of a majority of the shares represented thereat, but no other business shall be transacted at such meeting. At such adjourned meeting at which a quorum is present or represented, any business may be transacted which might have been transacted at the original meeting. The stockholders present at a duly called or convened meeting at which a quorum is present may continue to transact business until adjournment, notwithstanding the withdrawal of enough stockholders to leave less than a quorum.

(b)Except as otherwise provided by law, the Certificate of Incorporation or these Bylaws, all action taken by the holders of a majority of the votes cast on a matter affirmatively or negatively shall be valid and binding upon the Corporation. For purposes of these Bylaws, a share present at a meeting, but for which there is an abstention or as to which a stockholder gives no authority or direction as to a particular proposal or director nominee, shall be counted as present for the purpose of establishing a quorum but shall not be counted as a vote cast.

(c)Where a separate vote by a class or classes is required, a majority of the outstanding shares of such class or classes present in person or represented by proxy shall constitute a quorum entitled to take action with respect to that vote on that matter, and the affirmative vote of the majority of votes cast of such class or classes present in person or represented by proxy at the meeting shall be the act of such class.

Section 2.6 Voting Rights.

(a)Except as otherwise provided by law, only persons in whose names shares entitled to vote stand on the stock records of the Corporation on the record date for determining the stockholders entitled to vote at said meeting shall be entitled to vote at such meeting. Shares standing in the names of two or more persons shall be voted or represented in accordance with the determination of the majority of such persons, or, if only one of such persons is present in person or represented by proxy, such person shall have the right to vote such shares and such shares shall be deemed to be represented for the purpose of determining a quorum.

(b)Every person entitled to vote or to execute consents shall have the right to do so either in person or by an agent or agents authorized by a written proxy executed by such person or his duly authorized agent, which proxy shall be filed with the Secretary of the Corporation at or before the meeting at which it is to be used. Said proxy so appointed need not be a stockholder. No proxy shall be voted on after three (3) years from its date unless the proxy provides for a longer period. Unless and until voted, every proxy shall be revocable at the pleasure of the person who executed it or of his legal representatives or assigns, except in those cases where an irrevocable proxy permitted by statute has been given.

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(c)Without limiting the manner in which a stockholder may authorize another person or persons to act for him as proxy pursuant to subsection (b) of this section, the following shall constitute a valid means by which a stockholder may grant such authority:

(1)A stockholder may execute a writing authorizing another person or persons to act for him as proxy. Execution may be accomplished by the stockholder or his authorized officer, director, employee or agent signing such writing or causing his or her signature to be affixed to such writing by any reasonable means including, but not limited to, by facsimile signature.

(2)A stockholder may authorize another person or persons to act for him as proxy by transmitting or authorizing the transmission of an electronic transmission to the person who will be the holder of the proxy or to a proxy solicitation firm, proxy support service organization or like agent duly authorized by the person who will be the holder of the proxy to receive such transmission, provided that any such transmission must either set forth or be submitted with information from which it can be determined that the transmission was authorized by the stockholder. Such authorization can be established by the signature of the stockholder on the proxy, either in writing or by a signature stamp or facsimile signature, or by a number or symbol from which the identity of the stockholder can be determined, or by any other procedure deemed appropriate by the inspectors or other persons making the determination as to due authorization. If it is determined that such transmissions are valid, the inspectors or, if there are no inspectors, such other persons making that determination shall specify the information upon which they relied.

(d)Any copy, facsimile telecommunication or other reliable reproduction of the writing or transmission created pursuant to subsection (c) of this section may be substituted or used in lieu of the original writing or transmission for any and all purposes for which the original writing or transmission could be used, provided that such copy, facsimile telecommunication or other reproduction shall be a complete reproduction of the entire original writing or transmission.

Section 2.7 Voting Procedures and Inspectors of Elections.

(a)The Corporation shall, in advance of any meeting of stockholders, appoint one or more inspectors to act at the meeting and make a written report thereof. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the person presiding at the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his ability.

(b)The inspectors shall (i) ascertain the number of shares outstanding and the voting power of each, (ii) determine the shares represented at a meeting and the validity of proxies and ballots, (iii) count all votes and ballots, (iv) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors, and (v) certify their determination of the number of shares represented at the meeting and their count of all votes and ballots. The inspectors may appoint or retain other persons or entities to assist the inspectors in the performance of the duties of the inspectors.

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(c)The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be announced at the meeting. No ballot, proxies or votes, nor any revocations thereof or changes thereto, shall be accepted by the inspectors after the closing of the polls unless the Court of Chancery shall determine otherwise upon application by a stockholder.

(d)In determining the validity and counting of proxies and ballots, the inspectors shall be limited to an examination of the proxies, any envelopes submitted with those proxies, any information provided in accordance with Sections 211(e) or 212(c)(2) of the Delaware General Corporation Law, or any information provided pursuant to Section 211(a)(2)(B)(i) or (iii) thereof, ballots and the regular books and records of the Corporation, except that the inspectors may consider other reliable information for the limited purpose of reconciling proxies and ballots submitted by or on behalf of banks, brokers, their nominees or similar persons which represent more votes than the holder of a proxy is authorized by the record owner to cast or more votes than the stockholder holds of record. If the inspectors consider other reliable information for the limited purpose permitted herein, the inspectors at the time they make their certification pursuant to subsection (b)(v) of this section shall specify the precise information considered by them including the person or persons from whom they obtained the information, when the information was obtained, the means by which the information was obtained and the basis for the inspectors' belief that such information is accurate and reliable.

Section 2.8 List of Stockholders.

The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten days before every meeting of stockholders, a complete list of the stockholders entitled to vote at said meeting, (or, if the record date for determining the stockholders entitled to vote is less than 10 days before the meeting date, the list shall reflect the stockholders entitled to vote on the tenth day before the meeting date), arranged in alphabetical order, showing the address of and the number of shares registered in the name of each stockholder. The Corporation need not include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder for any purpose germane to the meeting for a period of at least 10 days prior to the meeting: (i) on a reasonably accessible electronic network, provided that the information required to gain access to such list is provided with the notice of the meeting, or (ii) during ordinary business hours at the principal place of business of the Corporation. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting.

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Section 2.9 Stockholder Proposals at Annual Meetings.

At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (ii) otherwise properly brought before the meeting by or at the direction of the Board of Directors, or (iii) otherwise properly brought before the meeting by a stockholder.

In addition to any other applicable requirements for business to be properly brought before an annual meeting by a stockholder, the stockholder must have given timely notice thereof in writing to the Secretary of the Corporation. To be timely, in the case of a stockholder seeking to have a proposal included in the Corporation's proxy statement or information statement, a stockholder's notice must be delivered to the Secretary at the Corporation's principal executive offices not less than 120 days or more than 180 days prior to the first anniversary of the date on which the Corporation first mailed its proxy materials (or, in the absence of proxy materials, its notice of meeting) for the previous year's annual meeting of stockholders. However, if the Corporation did not hold an annual meeting the previous year, or if the date of the annual meeting is advanced more than 30 days prior to or delayed by more than 30 days after the anniversary of the preceding year's annual meeting, then to be timely, notice by the stockholder must be delivered to the Secretary at the Corporation's principal executive offices not later than the close of business on the later of (i) the 90th day prior to such annual meeting or (ii) the 15th day following the day on which public announcement of the date of such meeting is first made. If the stockholder is not seeking inclusion of the proposal in the Corporation's proxy statement or information statement, timely notice consists of a stockholder's notice delivered to or mailed and received at the principal executive offices of the Corporation not less than 90 days prior to the date of the annual meeting. In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above. Other than with respect to stockholder proposals relating to director nomination(s), which requirements are set forth in Section 2.10 below, a stockholder's notice to the Secretary shall set forth as to each matter the stockholder proposes to bring before the annual meeting (i) a brief description of the business desired to be brought before the annual meeting and the reasons for conducting such business at the annual meeting, (ii) the name and record address of the stockholder proposing such business, (iii) the class and number of shares of the Corporation which are beneficially owned by the stockholder and (iv) any material interest of the stockholder in such business.

Notwithstanding anything in the Bylaws to the contrary, no business shall be conducted at the annual meeting except in accordance with the procedures set forth in Section 2.1 and this Section 2.9, provided, however, that nothing in this Section 2.9 shall be deemed to preclude discussion by any stockholder of any business properly brought before the annual meeting in accordance with said procedure.

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The chairman of an annual meeting shall, if the facts warrant, determine and declare to the meeting that business was not properly brought before the meeting in accordance with the provisions of Section 2.1 and this Section 2.9, and if he should so determine he shall so declare to the meeting, and any such business not properly brought before the meeting shall not be transacted.

Section 2.10 Nominations of Persons for Election to the Board of Directors.

In addition to any other applicable requirements, only persons who are nominated in accordance with the following procedures shall be eligible for election as directors at a meeting of stockholders. Nominations of persons for election to the Board of Directors of the Corporation may be made at a meeting of stockholders (i) pursuant to the Corporation's notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors, (ii) by or at the direction of the Board of Directors, or by any nominating committee or person appointed by the Board of Directors or (iii) by any stockholder of the Corporation entitled to vote for the election of directors at the meeting who complies with the notice procedures set forth in this Section 2.10. The foregoing clause (iii) shall be the exclusive means for a stockholder to make nominations at a meeting of stockholders. A stockholder who complies with the notice procedures set forth in this Section 2.10 is permitted to present the nomination at the meeting of stockholders but is not entitled to have a nominee included in the Corporation's proxy statement in the absence of an applicable rule of the U.S. Securities and Exchange Commission requiring the Corporation to include a director nomination made by a stockholder in the Corporation's proxy statement or information statement.

Such nominations, other than those made by or at the direction of the Board of Directors, shall be made pursuant to timely notice in writing to the Secretary of the Corporation. To be timely, notice by the stockholder must be delivered to the Secretary at the Corporation's principal executive offices not later than 90 days prior to the date of the annual meeting. In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period for the giving of a stockholder's notice as described above. The stockholder's notice relating to director nomination(s) shall set forth (a) as to each person whom the stockholder proposes to nominate for election or re-election as a director, (i) the name, age, business address and residence address of the person, (ii) the principal occupation or employment of the person, and (iii) the class and number of shares of the Corporation which are beneficially owned by the person; and (b) as to the stockholder giving the notice, (i) the name and record address of the stockholder, and (ii) the class and number of shares of the Corporation which are beneficially owned by the stockholder. The Corporation may require any proposed nominee to furnish such other information as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as a director of the Corporation. The stockholder giving such notice shall indemnify the Corporation in respect of any loss arising as a result of any false or misleading information or statement submitted by the nominating stockholder in connection with the nomination, as provided by Section 112(5) of the Delaware General Corporation Law. No person shall be eligible for election as a director of the Corporation at a meeting of the stockholders unless nominated in accordance with the procedures set forth herein. These provisions shall not apply to nomination of any persons entitled to be separately elected by holders of preferred stock.

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The chairman of the meeting shall, if the facts warrant, determine and declare to the meeting that a nomination was not made in accordance with the foregoing procedure, and if he should so determine, he shall so declare to the meeting and the defective nomination shall be disregarded.

Section 2.11 Action Without Meeting.

(a)Unless otherwise provided in the Certificate of Incorporation, any action required by statute to be taken at any annual or special meeting of stockholders of the Corporation, or any action which may be taken at any annual or special meeting of such stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing setting forth the action so taken are signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted. To be effective, a written consent must be delivered to the Corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. Every written consent shall bear the date of signature of each stockholder who signs the consent, and no written consent shall be effective to take the corporate action referred to therein unless, within 60 days of the earliest dated consent delivered in the manner required by this section to the Corporation, written consents signed by a sufficient number of holders to take action are delivered to the Corporation in accordance with this section. Prompt notice of the taking of the corporate action without a meeting by less than unanimous written consent shall be given to those stockholders who have not consented in writing.

(b)An electronic transmission consent to an action to be taken and transmitted by a stockholder or proxyholder, or by a person or persons authorized to act for a stockholder or proxyholder, shall be deemed to be written, signed and dated for the purposes of this section, provided that any such electronic transmission sets forth or is delivered with information from which the Corporation can determine (i) that the electronic transmission was transmitted by the stockholder or proxyholder or by a person or persons authorized to act for the stockholder or proxyholder, and (ii) the date on which such stockholder or proxyholder or authorized person or persons transmitted such electronic transmission. The date on which such electronic transmission is transmitted shall be deemed to be the date on which such consent was signed. No consent given by electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the Corporation by delivery to its registered office in the State of Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a Corporation's registered office shall be made by hand or by certified or registered mail, return receipt requested. Notwithstanding the foregoing limitations on delivery, consents given by electronic transmission may be otherwise delivered to the principal place of business of the Corporation or to an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded if to the extent and in the manner provided by resolution of the Board of Directors of the Corporation.

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(c)Any copy, facsimile or other reliable reproduction of a consent in writing may be substituted or used in lieu of the original writing for any and all purposes for which the original writing could be used, provided that such copy, facsimile or other reproduction shall be a complete reproduction of the entire original writing.

ARTICLE 3

DIRECTORS

Section 3.1 Number and Term of Office.

The number of directors which shall constitute the whole of the Board of Directors shall be determined from time to time by resolutions of the Board of Directors, provided that the Board of Directors shall consist of at least one member. With the exception of the first Board of Directors, which shall be elected by the incorporator, and except as provided in Section 3.3 of this Article 3 and the Certificate of Incorporation, the directors shall be elected by a plurality vote of the shares represented in person or by proxy at the stockholders annual meeting in each year and entitled to vote on the election of directors. Elected directors shall hold office until the next annual meeting and until their successors shall be duly elected and qualified. Directors need not be stockholders. If, for any cause, the Board of Directors shall not have been elected at an annual meeting, they may be elected as soon thereafter as convenient at a special meeting of the stockholders called for that purpose in the manner provided in these Bylaws. In no case will a decrease in the number of directors shorten the term of any incumbent director.

Section 3.2 Powers.

The powers of the Corporation shall be exercised, its business conducted and its property controlled by or under the direction of the Board of Directors.

Section 3.3 Vacancies.

Vacancies and newly created directorships resulting from any increase in the authorized number of directors may be filled by a majority of the directors then in office, although less than a quorum, or by a sole remaining director, and each director so elected shall hold office for the unexpired portion of the term of the director whose place shall be vacant and until his successor shall have been duly elected and qualified. A vacancy in the Board of Directors shall be deemed to exist under this section in the case of the death, removal or resignation of any director, or if the stockholders fail at any meeting of stockholders at which directors are to be elected (including any meeting referred to in Section 3.4 below) to elect the number of directors then constituting the whole Board of Directors.

Section 3.4 Resignations and Removals.

(a)Any director may resign at any time by delivering his resignation to the Secretary in writing or by electronic transmission, such resignation to specify whether it will be effective at a particular time, upon receipt by the Secretary or at the pleasure of the Board of Directors. If no such specification is made it shall

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be deemed effective at the pleasure of the Board of Directors. When one or more directors shall resign from the Board of Directors effective at a future date, a

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majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office for the unexpired portion of the term of the director whose place shall be vacated and until his successor shall have been duly elected and qualified.

(b)At a special meeting of stockholders called for the purpose in the manner hereinabove provided, the Board of Directors or any individual director may be removed from office, with or without cause, and a new director or directors elected by a vote of stockholders holding a majority of the outstanding shares entitled to vote at an election of directors.

Section 3.5 Meetings.

(a)The annual meeting of the Board of Directors shall be held immediately after the annual stockholders' meeting and at the place where such meeting is held or at the place announced by the chairman at such meeting. No notice of an annual meeting of the Board of Directors shall be necessary, and such meeting shall be held for the purpose of electing officers and transacting such other business as may lawfully come before it.

(b)Except as hereinafter otherwise provided, regular meetings of the Board of Directors shall be held at the principal executive office of the Corporation. Regular meetings of the Board of Directors may also be held at any place, within or without the State of Delaware, which has been designated by resolutions of the Board of Directors or the written consent of all directors.

(c)Special meetings of the Board of Directors may be held at any time and place within or without the State of Delaware whenever called by the Chairman of the Board or, if there is no Chairman of the Board, by the President, or by any of the directors.

(d)Written notice of the time and place of all regular and special meetings of the Board of Directors shall be delivered personally to each director or sent by any form of electronic transmission at least 48 hours before the start of the meeting, or sent by first class mail at least 120 hours before the start of the meeting. Notice of any meeting may be waived in writing at any time before or after the meeting and will be waived by any director by attendance thereat.

Section 3.6 Quorum and Voting.

(a)A quorum of the Board of Directors shall consist of a majority of the exact number of directors fixed from time to time in accordance with Section 3.1 of Article 3 of these Bylaws, but not less than one; provided, however, at any meeting, whether a quorum be present or otherwise, a majority of the directors present may adjourn from time to time until the time fixed for the next regular meeting of the Board of Directors, without notice other than by announcement at the meeting.

(b)At each meeting of the Board of Directors at which a quorum is present, all questions and business shall be determined by a vote of a majority of the directors present, unless a different vote be required by law, the Certificate of Incorporation, or these Bylaws.

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(c)Any member of the Board of Directors, or of any committee thereof, may participate in a meeting by means of conference telephone or other communication equipment by means of which all persons participating in the meeting can hear each other, and participation in a meeting by such means shall constitute presence in person at such meeting.

(d)The transactions of any meeting of the Board of Directors, or any committee thereof, however called or noticed, or wherever held, shall be as valid as though had at a meeting duly held after regular call and notice if a quorum be present and if, either before or after the meeting, each of the directors not present shall sign a written waiver of notice, or a consent to holding such meeting, or an approval of the minutes thereof. All such waivers, consents or approvals shall be filed with the corporate records or made a part of the minutes of the meeting.

Section 3.7 Action Without Meeting.

Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting, if all members of the Board of Directors or of such committee, as the case may be, consent thereto in writing or by electronic transmission, and such writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

Section 3.8 Fees and Compensation.

Directors and members of committees may receive such compensation, if any, for their services, and such reimbursement for expenses, as may be fixed or determined by resolution of the Board of Directors.

Section 3.9 Committees.

(a)**Executive Committee:** The Board of Directors may appoint an Executive Committee of not less than one member, each of whom shall be a director. To the extent permitted by law, the Executive Committee shall have and may exercise when the Board of Directors is not in session all powers of the Board of Directors in the management of the business and affairs of the Corporation, except such committee shall not have the power or authority to amend these Bylaws or to approve or recommend to the stockholders any action which must be submitted to stockholders for approval under the Delaware General Corporation Law.

(b)**Other Committees:** The Board of Directors may from time to time appoint such other committees as may be permitted by law. Such other committees appointed by the Board of Directors shall have such powers and perform such duties as may be prescribed by the resolution or resolutions creating such committee, but in no event shall any such committee have the powers denied to the Executive Committee in these Bylaws.

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(c)**Term:** The terms of members of all committees of the Board of Directors shall expire on the date of the next annual meeting of the Board of Directors following their appointment; provided that they shall continue in office until their successors are appointed.

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Subject to the provisions of subsections (a) or (b) of this Section 3.9, the Board of Directors may at any time increase or decrease the number of members of a committee or terminate the existence of a committee; provided that no committee shall consist of less than one member. The membership of a committee member shall terminate on the date of his death or voluntary resignation, but the Board of Directors may at any time for any reason remove any individual committee member and the Board of Directors may fill any committee vacancy created by death, resignation, removal or increase in the number of members of the committee. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee, and, in addition, in the absence or disqualification of any member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not he or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member.

(d)**Meetings:** Unless the Board of Directors shall otherwise provide, regular meetings of the Executive Committee or any other committee appointed pursuant to this Section 3.9 shall be held at such times and places as are determined by the Board of Directors, or by any such committee, and when notice thereof has been given to each member of such committee, no further notice of such regular meetings need be given thereafter; special meetings of any such committee may be held at the principal executive office of the Corporation or at any place which has been designated from time to time by resolution of such committee or by written consent of all members thereof, and may be called by any director who is a member of such committee upon written notice to the members of such committee of the time and place of such special meeting given in the manner provided for the giving of written notice to members of the Board of Directors of the time and place of special meetings of the Board of Directors. Notice of any special meeting of any committee may be waived in writing at any time after the meeting and will be waived by any director by attendance thereat. A majority of the authorized number of members of any such committee shall constitute a quorum for the transaction of business, and the act of a majority of those present at any meeting at which a quorum is present shall be the act of such committee.

ARTICLE 4

OFFICERS

Section 4.1 Officers Designated.

The officers of the Corporation shall be a President, a Secretary and a Treasurer. The Board of Directors or the President may also appoint a Chairman of the Board, one or more Vice-Presidents, Assistant Secretaries, Assistant Treasurers, and such other officers and agents with such powers and duties as it or he shall deem necessary. The order of the seniority of the Vice- Presidents shall be in the order of their nomination unless otherwise determined by the Board of Directors. The Board of Directors may assign such additional titles to one or more of the officers as they shall deem appropriate. Any one person may hold any number of offices of the Corporation at any one time unless specifically prohibited therefrom by law. The salaries and other

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compensation of the officers of the Corporation shall be fixed by or in the manner designated by the Board of Directors.

Section 4.2 Tenure and Duties of Officers.

(a)**General:** All officers shall hold office at the pleasure of the Board of Directors and until their successors shall have been duly elected and qualified, unless sooner removed. Any officer elected or appointed by the Board of Directors may be removed at any time by the Board of Directors. If the office of any officer becomes vacant for any reason, the vacancy may be filled by the Board of Directors. Nothing in these Bylaws shall be construed as creating any kind of contractual right to employment with the Corporation.

(b)**Duties of the Chairman of the Board of Directors:** The Chairman of the Board of Directors (if there be such an officer appointed) when present shall preside at all meetings of the stockholders and the Board of Directors. The Chairman of the Board of Directors shall perform such other duties and have such other powers as the Board of Directors shall designate from time to time.

(c)**Duties of President:** The President shall be the chief executive officer of the Corporation and shall preside at all meetings of the stockholders and at all meetings of the Board of Directors, unless the Chairman of the Board of Directors has been appointed and is present. The President shall perform such other duties and have such other powers as the Board of Directors shall designate from time to time.

(d)**Duties of Vice-Presidents:** The Vice-Presidents, in the order of their seniority or as otherwise provided by the Board of Directors, may assume and perform the duties of the President in the absence or disability of the President or whenever the office of the President is vacant. The Vice-President shall perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

(e)**Duties of Secretary:** The Secretary shall attend all meetings of the stockholders and of the Board of Directors and any committee thereof, and shall record all acts and proceedings thereof in the minute book of the Corporation, which may be maintained in either paper or electronic form. The Secretary shall give notice, in conformity with these Bylaws, of all meetings of the stockholders and of all meetings of the Board of Directors and any Committee thereof requiring notice. The Secretary shall perform such other duties and have such other powers as the Board of Directors shall designate from time to time. The President may direct any Assistant Secretary to assume and perform the duties of the Secretary in the absence or disability of the Secretary, and each Assistant Secretary shall perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

(f)**Duties of Treasurer:** The Treasurer shall keep or cause to be kept the books of account of the Corporation in a thorough and proper manner, and shall render statements of the financial affairs of the Corporation in such form and as often as required by the Board of Directors or the President. The Treasurer, subject to the order of the Board of Directors, shall have the custody of all funds and securities of the Corporation. The Treasurer shall perform all other duties commonly incident to his office and shall perform such other duties and have such other powers

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as the Board of Directors or the President shall designate from time to time. The President may direct any Assistant Treasurer to assume and perform the duties of the Treasurer in the absence or disability of the Treasurer, and each Assistant Treasurer shall perform such other duties and have such other powers as the Board of Directors or the President shall designate from time to time.

ARTICLE 5

EXECUTION OF CORPORATE INSTRUMENTS, AND VOTING OF SECURITIES OWNED BY THE CORPORATION

Section 5.1 Execution of Corporate Instruments.

(a)The Board of Directors may in its discretion determine the method and designate the signatory officer or officers, or other person or persons, to execute any corporate instrument or document, or to sign the corporate name without limitation, except where otherwise provided by law, and such execution or signature shall be binding upon the Corporation.

(b)Unless otherwise specifically determined by the Board of Directors or otherwise required by law, formal contracts of the Corporation, promissory notes, deeds of trust, mortgages and other evidences of indebtedness of the Corporation, other corporate instruments, and certificates of shares of stock owned by the Corporation, shall be executed, signed or endorsed by the Chairman of the Board (if there be such an officer appointed) or by the President; such documents may also be executed by any Vice-President and by the Secretary or Treasurer or any Assistant Secretary or Assistant Treasurer. All other instruments and documents requiring the corporate signature may be executed as aforesaid or in such other manner as may be directed by the Board of Directors.

(c)All checks and drafts drawn on banks or other depositaries on funds to the credit of the Corporation or in special accounts of the Corporation shall be signed by such person or persons as the Board of Directors shall authorize so to do.

(d)Execution of any corporate instrument may be effected in such form, either manual, facsimile or electronic signature, as may be authorized by the Board of Directors.

Section 5.2 Voting of Securities Owned by Corporation.

All stock and other securities of other corporations owned or held by the Corporation for itself or for other parties in any capacity shall be voted, and all proxies with respect thereto shall be executed, by the person authorized so to do by resolution of the Board of Directors or, in the absence of such authorization, by the Chairman of the Board (if there be such an officer appointed), or by the President, or by any Vice-President.

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ARTICLE 6

SHARES OF STOCK

Section 6.1 Form and Execution of Certificates.

The shares of the Corporation shall be represented by certificates, provided that the Board of Directors may provide by resolution or resolutions that some or all of any or all classes or series of its stock shall be uncertificated shares. Any such resolution shall not apply to shares represented by a certificate until such certificate is surrendered to the Corporation. Certificates for the shares of stock of the Corporation shall be in such form as is consistent with the Certificate of Incorporation and applicable law. Every holder of stock in the Corporation shall be entitled to have a certificate signed by, or in the name of the Corporation by, the Chairman of the Board (if there be such an officer appointed), or by the President or any Vice-President and by the Treasurer or Assistant Treasurer or the Secretary or Assistant Secretary, certifying the number of shares owned by him in the Corporation. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed upon a certificate shall have ceased to be such officer, transfer agent, or registrar before such certificate is issued, it may be issued with the same effect as if he were such officer, transfer agent, or registrar at the date of issue. If the Corporation shall be authorized to issue more than one class of stock or more than one series of any class, the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, provided that, except as otherwise provided in Section 202 of the Delaware General Corporation Law, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate which the Corporation shall issue to represent such class or series of stock, a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

Section 6.2 Lost Certificates.

The Board of Directors may direct a new certificate or certificates (or uncertificated shares in lieu of a new certificate) to be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost or destroyed, upon the making of an affidavit of that fact by the person claiming the certificate of stock to be lost or destroyed. When authorizing such issue of a new certificate or certificates (or uncertificated shares in lieu of a new certificate), the Board of Directors may, in its discretion and as a condition precedent to the issuance thereof, require the owner of such lost or destroyed certificate or certificates, or his legal representative, to indemnify the Corporation in such manner as it shall require and/or to give the Corporation a surety bond in such form and amount as it may direct as indemnity against any claim that may be made against the Corporation with respect to the certificate alleged to have been lost or destroyed.

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Section 6.3 Transfers.

Transfers of record of shares of stock of the Corporation shall be made only upon its books by the holders thereof, in person or by attorney duly authorized, who shall furnish proper evidence of authority to transfer, and in the case of stock represented by a certificate, upon the surrender of a certificate or certificates for a like number of shares, properly endorsed.

Section 6.4 Fixing Record Dates.

(a)In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 60 nor less than 10 days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the date on which the meeting is held. A determination of stockholders of record entitled notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

(b)In order that the Corporation may determine the stockholders entitled to consent to corporate action in writing or by electronic transmission without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which date shall not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to consent to corporate action in writing or by electronic transmission without a meeting, when no prior action by the Board of Directors is required by the Delaware General Corporation Law, shall be the first date on which a signed written consent or electronic transmission setting forth the action taken or proposed to be taken is delivered to the Corporation by delivery to its registered office in Delaware, its principal place of business, or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded; provided that any such electronic transmission shall satisfy the requirements of Section 2.11(b) and, unless the Board of Directors otherwise provides by resolution, no such consent by electronic transmission shall be deemed to have been delivered until such consent is reproduced in paper form and until such paper form shall be delivered to the Corporation by delivery to its registered office in Delaware, its principal place of business or an officer or agent of the Corporation having custody of the book in which proceedings of meetings of stockholders are recorded. Delivery made to a Corporation's registered office shall be by hand or by certified or registered mail, return receipt requested. If no record date has been fixed by the Board of Directors and prior action by the Board of Directors is required by law, the record date for determining stockholders entitled to consent to corporate action in writing or by electronic transmission without a meeting shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

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(c)In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than 60 days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 6.5 Registered Stockholders.

The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

ARTICLE 7

OTHER SECURITIES OF THE CORPORATION

All bonds, debentures and other corporate securities of the Corporation, other than stock certificates, may be signed by the Chairman of the Board (if there be such an officer appointed), or the President or any Vice-President or such other person as may be authorized by the Board of Directors; provided, however, that where any such bond, debenture or other corporate security shall be authenticated by the manual signature of a trustee under an indenture pursuant to which such bond, debenture or other corporate security shall be issued, the signature of the persons signing on such bond, debenture or other corporate security may be the imprinted facsimile of the signatures of such persons. Interest coupons appertaining to any such bond, debenture or other corporate security, authenticated by a trustee as aforesaid, shall be signed by the Treasurer or an Assistant Treasurer of the Corporation, or such other person as may be authorized by the Board of Directors, or bear imprinted thereon the facsimile signature of such person. In case any officer who shall have signed any bond, debenture or other corporate security, or whose facsimile signature shall appear thereon has ceased to be an officer of the Corporation before the bond, debenture or other corporate security so signed shall have been delivered, such bond, debenture or other corporate security nevertheless may be adopted by the Corporation and issued and delivered as though the person who signed the same or whose facsimile signature shall have been used thereon had not ceased to be such officer of the Corporation.

ARTICLE 8

INDEMNIFICATION OF OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS

Section 8.1 Right to Indemnification.

Each person who was or is a party or is threatened to be made a party to or is involved (as a party, witness, or otherwise), in any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative (hereinafter a "**Proceeding**"), by reason of

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the fact that he, or a person of whom he is the legal representative, is or was a director or officer of the Corporation or is or was serving at the request of the Corporation as a director or officer of another Corporation or of a partnership, joint venture, trust, or other enterprise, including service with respect to employee benefit plans, whether the basis of the Proceeding is alleged action in an official capacity as a director or officer or in any other capacity while serving as a director or officer, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the Delaware General Corporation Law, as the same exists or may hereafter be amended or interpreted (but, in the case of any such amendment or interpretation, only to the extent that such amendment or interpretation permits the Corporation to provide broader indemnification rights than were permitted prior thereto) against all expenses, liability, and loss (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties, and amounts paid or to be paid in settlement, and any interest, assessments, or other charges imposed thereon, and any federal, state, local, or foreign taxes imposed on any director or officer as a result of the actual or deemed receipt of any payments under this Article) reasonably incurred or suffered by such person in connection with investigating, defending, being a witness in, or participating in (including on appeal), or preparing for any of the foregoing in, any Proceeding (hereinafter "**Expenses**"). The Corporation shall have power to indemnify its employees and other agents as set forth in the Delaware General Corporation Law or any other applicable law.

Section 8.2 Authority to Advance Expenses.

Expenses incurred by an officer or director (acting in his capacity as such) in defending a Proceeding shall be paid by the Corporation in advance of the final disposition of such Proceeding, provided, however, that if required by the Delaware General Corporation Law, as amended, such Expenses shall be advanced only upon delivery to the Corporation of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that he is not entitled to be indemnified by the Corporation as authorized in this Article or otherwise. Expenses incurred by employees and other agents of the Corporation (or by the directors or officers not acting in their capacity as such, including service with respect to employee benefit plans) may be advanced upon such terms and conditions as the Board of Directors deems appropriate. Any obligation to reimburse the Corporation for Expense advances shall be unsecured and no interest shall be charged thereon.

Section 8.3 Right of Claimant to Bring Suit.

If a claim under Section 8.1 or 8.2 of this Article is not paid in full by the Corporation within thirty (30) days after a written claim has been received by the Corporation, the claimant may at any time thereafter bring suit against the Corporation to recover the unpaid amount of the claim and, if successful in whole or in part, the claimant shall be entitled to be paid also the expense (including attorneys' fees) of prosecuting such claim. It shall be a defense to any such action (other than an action brought to enforce a claim for expenses incurred in defending a Proceeding in advance of its final disposition where the required undertaking has been tendered to the Corporation) that the claimant has not met the standards of conduct that make it permissible under the Delaware General Corporation Law for the Corporation to indemnify the claimant for the amount claimed. The burden of proving such a defense shall be on the Corporation. Neither the failure of the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) to have made a determination prior to the commencement of such action that

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indemnification of the claimant is proper under the circumstances because he has met the applicable standard of conduct set forth in the Delaware General Corporation Law, nor an actual determination by the Corporation (including its Board of Directors, independent legal counsel, or its stockholders) that the claimant had not met such applicable standard of conduct, shall be a defense to the action or create a presumption that claimant has not met the applicable standard of conduct.

Section 8.4 Provisions Nonexclusive.

The rights conferred on any person by this Article shall not be exclusive of any other rights that such person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, agreement, vote of stockholders or disinterested directors, or otherwise, both as to action in an official capacity and as to action in another capacity while holding such office. To the extent that any provision of the Certificate of Incorporation, agreement, or vote of the stockholders or disinterested directors is inconsistent with these Bylaws, the provision, agreement, or vote shall take precedence.

Section 8.5 Authority to Insure.

The Corporation may purchase and maintain insurance to protect itself and any director or officer against any Expense, whether or not the Corporation would have the power to indemnify such director or officer against such Expense under applicable law or the provisions of this Article.

Section 8.6 Enforcement of Rights

Without the necessity of entering into an express contract, all rights provided under this Article shall be deemed to be contractual rights and be effective to the same extent and as if provided for in a contract between the Corporation and such director or officer. Any rights granted by this Article to a director or officer shall be enforceable by or on behalf of the person holding such right in any court of competent jurisdiction.

Section 8.7 Survival of Rights.

The rights provided by this Article shall continue as to a person who has ceased to be a director or officer and shall inure to the benefit of the heirs, executors, and administrators of such a person.

Section 8.8 Settlement of Claims.

The Corporation shall not be liable to indemnify any party under this Article (a) for any amounts paid in settlement of any action or claim effected without the Corporation's written consent, which consent shall not be unreasonably withheld; or (b) for any judicial award if the Corporation was not given a reasonable and timely opportunity, at its expense, to participate in the defense of such action.

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Section 8.9 Effect of Amendment.

Any amendment, repeal, or modification of this Article that adversely affects any rights provided in this Article to a director or officer shall only be effective upon the prior written consent of such director or officer.

Section 8.10 Primacy of Indemnification.

Notwithstanding that a director or officer may have certain rights to indemnification, advancement of expenses and/or insurance provided by other persons (collectively, the "**Other Indemnitors**"), the Corporation: (i) shall be the indemnitor of first resort (i.e., its obligations to a director or officer are primary and any obligation of the Other Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such director or officer are secondary); and (ii) shall be required to advance the full amount of expenses incurred by a director or officer and shall be liable for the full amount of all Expenses, without regard to any rights such director or officer may have against any of the Other Indemnitors. No advancement or payment by the Other Indemnitors on behalf of a director or officer with respect to any claim for which such director or officer has sought indemnification from the Corporation shall affect the immediately preceding sentence, and the Other Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such director or officer against the Corporation.

Section 8.11 Subrogation.

In the event of payment under this Article, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of the director or officer (other than against the Other Indemnitors), who shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Corporation effectively to bring suit to enforce such rights.

Section 8.12 No Duplication of Payments.

Except as otherwise set forth in Section 8.10 above, the Corporation shall not be liable under this Article to make any payment in connection with any claim made against any party to the extent such party has otherwise actually received payment (under any insurance policy, agreement, vote, or otherwise) of the amounts otherwise indemnifiable hereunder.

Section 8.13 Saving Clause.

If this Article or any portion hereof shall be invalidated on any ground by any court of competent jurisdiction, then the Corporation shall nevertheless indemnify each director or officer to the fullest extent not prohibited by any applicable portion of this Article that shall not have been invalidated, or by any other applicable law.

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ARTICLE 9

NOTICES

Whenever, under any provisions of these Bylaws, notice is required to be given to any stockholder, the same shall be given either (1) in writing, timely and duly deposited in the United States Mail, postage prepaid, and addressed to his last known post office address as shown by the stock record of the Corporation or its transfer agent, or (2) by a means of electronic transmission that satisfies the requirements of Section 2.4(e) of these Bylaws, and has been consented to by the stockholder to whom the notice is given. Any notice required to be given to any director may be given by either of the methods hereinabove stated, except that such notice other than one which is delivered personally, shall be sent to such address or (in the case of electronic communication) such e-mail address, facsimile telephone number or other form of electronic address as such director shall have filed in writing or by electronic communication with the Secretary of the Corporation, or, in the absence of such filing, to the last known post office address of such director. If no address of a stockholder or director be known, such notice may be sent to the principal executive office of the Corporation. An affidavit of mailing, executed by a duly authorized and competent employee of the Corporation or its transfer agent appointed with respect to the class of stock affected, specifying the name and address or the names and addresses of the stockholder or stockholders, director or directors, to whom any such notice or notices was or were given, and the time and method of giving the same, shall be conclusive evidence of the statements therein contained. All notices given by mail, as above provided, shall be deemed to have been given as at the time of mailing and all notices given by means of electronic transmission shall be deemed to have been given as at the sending time recorded by the electronic transmission equipment operator transmitting the same. It shall not be necessary that the same method of giving notice be employed in respect of all directors, but one permissible method may be employed in respect of any one or more, and any other permissible method or methods may be employed in respect of any other or others. The period or limitation of time within which any stockholder may exercise any option or right, or enjoy any privilege or benefit, or be required to act, or within which any director may exercise any power or right, or enjoy any privilege, pursuant to any notice sent him in the manner above provided, shall not be affected or extended in any manner by the failure of such a stockholder or such director to receive such notice. Whenever any notice is required to be given under the provisions of the statutes or of the Certificate of Incorporation, or of these Bylaws, a waiver thereof in writing signed by the person or persons entitled to said notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent thereto. Whenever notice is required to be given, under any provision of law or of the Certificate of Incorporation or Bylaws of the Corporation, to any person with whom communication is unlawful, the giving of such notice to such person shall not be required and there shall be no duty to apply to any governmental authority or agency for a license or permit to give such notice to such person. Any action or meeting which shall be taken or held without notice to any such person with whom communication is unlawful shall have the same force and effect as if such notice had been duly given. In the event that the action taken by the Corporation is such as to require the filing of a certificate under any provision of the Delaware General Corporation Law, the certificate shall state, if such is the fact and if notice is required, that notice was given to all persons entitled to receive notice except such persons with whom communication is unlawful.

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ARTICLE 10

AMENDMENTS

Except as otherwise provided in Section 8.9 above, these Bylaws may be repealed, altered or amended or new Bylaws adopted by written consent of stockholders in the manner authorized by Section 2.11 of Article 2, or at any meeting of the stockholders, either annual or special, by the affirmative vote of a majority of the stock entitled to vote at such meeting, unless a larger vote is required by these Bylaws or the Certificate of Incorporation. Except as otherwise provided in Section 8.9 above, the Board of Directors shall also have the authority to repeal, alter or amend these Bylaws or adopt new Bylaws (including, without limitation, the amendment of any Bylaws setting forth the number of directors who shall constitute the whole Board of Directors) by unanimous written consent or at any annual, regular, or special meeting by the affirmative vote of a majority of the whole number of directors, subject to the power of the stockholders to change or repeal such Bylaws.

ARTICLE 11

ANNUAL AND OTHER REPORTS

Section 11.1 Reports to Stockholders.

The Board of Directors of the Corporation shall cause an annual report to be sent to the stockholders not later than 120 days after the close of the fiscal year, and at least fifteen (15) days (or, if sent by third-class mail, thirty-five (35) days) prior to the annual meeting of stockholders to be held during the next fiscal year. If approved by the Board of Directors, the report and any accompanying material may be sent by electronic transmission by the Corporation (as defined in Section 2.4 hereof). This report shall contain a balance sheet as of the end of that fiscal year and an income statement and statement of changes in financial position for that fiscal year, accompanied by any report thereon of independent accountants or, if there is no such report, the certificate of an authorized officer of the Corporation that the statements were prepared without audit from the books and records of the Corporation. This report shall also contain such other matters as required by Section 1501(b) of the California Corporations Code, unless the Corporation is subject to the reporting requirements of Section 13 of the Securities Exchange Act of 1934, and is not exempted therefrom under Section 12(g)(2) thereof. As long as the Corporation has less than 100 holders of record of its shares (determined as provided in Section 605 of the California Corporations Code), the foregoing requirement of an annual report is hereby waived.

If no annual report for the last fiscal year has been sent to stockholders, the Corporation shall, upon the written request of any stockholder made more than 120 days after the close of such fiscal year, deliver (including by electronic transmission by the Corporation (as defined in Section 2.4 hereof) or mail to the person making the request within thirty (30) days thereafter the financial statements for such year as required by Section 1501(a) of the California Corporations Code. A stockholder or stockholders holding at least five percent (5%) of the outstanding shares of any class of the Corporation may make a written request to the Corporation for an income statement of the Corporation for the three-month, six-month or nine-month period

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of the current fiscal year ended more than thirty (30) days prior to the date of the request and a balance sheet of the

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Corporation as of the end of such period and, in addition, if no annual report for the last fiscal year has been sent to stockholders, the annual report for the last fiscal year, unless such report has been waived under these Bylaws. The statements shall be delivered (including by electronic transmission by the Corporation (as defined in Section 2.4 hereof) if such transmission is permitted to such stockholder pursuant to such definition) or mailed to the person making the request within thirty (30) days thereafter. A copy of any such statements shall be kept on file in the principal executive office of the Corporation for twelve (12) months, and they shall be exhibited at all reasonable times to any stockholder demanding an examination of the statements, or a copy shall be mailed to the stockholder.

The quarterly income statements and balance sheets referred to in this section shall be accompanied by the report thereon, if any, of any independent accountants engaged by the Corporation or the certificate of an authorized officer of the Corporation that the financial statements were prepared without audit from the books and records of the Corporation.

Section 11.2 Reports to the Secretary of State.

(a)Except as otherwise required by the Secretary of State of the State of California, every year, during the applicable filing period, the Corporation shall file a certified statement with the Secretary of State of the State of California on the prescribed form, setting forth the names and complete business or residence addresses of all incumbent directors; the number of vacancies on the Board of Directors, if any; the names and complete business or residence addresses of the Chief Executive Officer, the Secretary, and the Chief Financial Officer; the street address of the Corporation's principal executive office or principal business office in California; a statement of the general type of business constituting the principal business activity of the Corporation; and a designation of the agent of the Corporation for the purpose of service of process, all in compliance with Section 2117 of the California Corporations Code.

(b)Notwithstanding the provisions of paragraph (a) of this section, if there has been no change in the information contained in the Corporation's last annual statement on file in the Secretary of State of the State of California's office, the Corporation may in lieu of filing the annual statement described in paragraph (a) of this section, advise the Secretary of State of the State of California, on the appropriate form, that no changes in the required information have occurred during the applicable period, as permitted by Section 2117 of the California Corporations Code.

(c)In addition to the statement required pursuant to paragraph (a) of this section, except as otherwise required by the Secretary of State of the State of California, if and as long as the Corporation is a publicly traded Corporation, within 150 days after the end of its fiscal year, each year it shall file a certified statement on the appropriate form setting forth (i) the name of the independent auditor that prepared the most recent auditor's report on the Corporation's annual financial statements; (ii) a description of other services, if any, performed by the independent auditor, its parent, subsidiary or affiliate Corporation, during the two most recent fiscal years; (iii) the name of the independent auditor employed by the Corporation on the date of the statement; (iv) the compensation paid for the most recent fiscal year to each member of the Board of Directors, to each of the five most highly compensated executive officers of the Corporation who are not members of the Board of Directors, and to the Chief Executive Officer if not otherwise disclosed,

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including equity-based compensation; (v) a description of any loan and the terms thereof made to any member of the Board of Directors by the Corporation during the Corporation's two most recent fiscal years at an interest rate lower than that available from unaffiliated commercial lenders to a similarly-situated borrower; (vi) a statement indicating whether an order of relief has within the preceding ten-year period been entered in a bankruptcy case with respect to the Corporation, its executive officers or members of the Board of Directors; (vii) a statement indicating whether any member of the Board of Directors or executive officer of the Corporation was convicted of fraud during the preceding ten-year period, as long as the conviction has not been overturned or expunged; and (viii) a description of any material pending legal proceedings, other than routine litigation incidental to the business, to which the Corporation or any of its subsidiaries is a party, and a description of any material legal proceeding within the preceding five-year period resulting in a final judgment or final order where the Corporation was found liable.

Section 11.3 Effectiveness of Article 11.

If at any time following the adoption of these Bylaws the Corporation is no longer subject to Section 2115 of the California Corporations Code, this Article 11 shall cease to apply to the Corporation and it shall have no further obligation to deliver any of the reports to its stockholders or to the Secretary of State of California as herein described.

ARTICLE 12

RIGHT OF FIRST REFUSAL

No stockholder shall sell, assign, pledge, or in any manner transfer any of the shares of Common Stock of the Corporation or any right or interest therein, whether voluntarily or by operation of law, or by gift or otherwise, except by a transfer which meets the requirements hereinafter set forth in this bylaw:

(a)If the stockholder receives from anyone a bona fide offer acceptable to the stockholder to purchase any of such stockholder's shares of Common Stock of the Corporation, then the stockholder shall first give written notice thereof to the Corporation. The notice shall name the proposed transferee and state the number of shares to be transferred, the price per share and all other terms and conditions of the offer.

(b)For thirty (30) days following receipt of such notice, the Corporation or its assigns shall have the option to purchase all or any lesser part of the shares specified in the notice at the price and upon the terms set forth in such bona fide offer. In the event the Corporation elects to purchase all the shares, it shall give written notice to the selling stockholder of its election and settlement for said shares shall be made as provided below in paragraph (c).

(c)In the event the Corporation elects to acquire any of the shares of the selling stockholder as specified in said selling stockholder's notice, the Secretary of the Corporation shall so notify the selling stockholder and settlement thereof shall be made in cash within thirty (30) days after the Secretary of the Corporation receives said selling stockholder's notice; provided that if the terms of payment set forth in said selling stockholder's notice were other than cash against

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delivery, the Corporation shall pay for said shares on the same terms and conditions set forth in said selling stockholder's notice.

(d)In the event the Corporation does not elect to acquire all of the shares specified in the selling stockholder's notice, said selling stockholder may, within the sixty (60) day period following the expiration of the option rights granted to the Corporation, sell elsewhere the shares specified in said selling stockholder's notice which were not acquired by the Corporation, in accordance with the provisions of paragraph (c) of this bylaw, provided that said sale shall not be on terms and conditions more favorable to the purchaser than those contained in the bona fide offer set forth in said selling stockholder's notice. All shares so sold by said selling stockholder shall continue to be subject to the provisions of this bylaw in the same manner as before said transfer.

(e)Anything to the contrary contained herein notwithstanding, the following transactions shall be exempt from the provisions of this bylaw:

(1)An individual stockholder's transfer of any or all of his or her shares of Common Stock of the Corporation either during such stockholder's lifetime or on death to such stockholder's immediate family or a trust that is primarily for the benefit of such stockholder and/or his or her immediate family. “Immediate family” as used herein shall mean spouse, lineal descendent, parent, or sibling (including half siblings) of the stockholder making such transfer. A trust shall be considered to be primarily for the benefit of such stockholder and/or his or her immediate family only if the beneficial interest of any other person is so remote as to be negligible.

(2)A stockholder's bona fide pledge or mortgage of any shares of Common Stock of the Corporation with a commercial lending institution, provided that any subsequent transfer of said shares by said institution shall be conducted in the manner set forth in this bylaw.

(3)A stockholder's transfer of any or all of such stockholder's shares of Common Stock of the Corporation to any other stockholder of the Corporation.

(4)A stockholder's transfer of any or all of such stockholders shares of Common Stock of the Corporation to a person who, at the time of such transfer, is an officer or director of the Corporation.

(5)A corporate stockholder's transfer of any or all of its shares of Common Stock of the Corporation pursuant to and in accordance with the terms of any merger, consolidation, reclassification of shares or capital reorganization of the corporate stockholder, or pursuant to a sale of all or substantially all of the stock or assets of a corporate stockholder.

(6)A corporate stockholder's transfer of any or all of its shares of Common Stock of the Corporation to any or all of its stockholders.

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(7)A transfer by a stockholder which is a limited or general partnership of any or all of its shares of Common Stock of the Corporation to any or all of its partners.

(8)A transfer by a stockholder which is a limited liability company of any or all of its shares of Common Stock of the Corporation to any or all of its members.

In any such case, the transferee, assignee, or other recipient shall receive and hold such stock subject to the provisions of this section, and there shall be no further transfer of such stock except in accord with this section.

(f)The provisions of this section may be waived with respect to any transfer either by the Corporation, upon duly authorized action of its Board of Directors, or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the Corporation (excluding the votes represented by those shares to be sold by the selling stockholder). This section may be amended or repealed either by a duly authorized action of the Board of Directors or by the stockholders, upon the express written consent of the owners of a majority of the voting power of the Corporation.

(g)Any sale or transfer, or purported sale or transfer, of securities of the Corporation by stockholders shall be null and void unless the terms, conditions, and provisions of this bylaw are strictly observed and followed.

(h)The foregoing right of first refusal shall terminate upon the date securities of the Corporation are first offered to the public pursuant to a registration statement filed with, and declared effective by, the Securities and Exchange Commission under the Securities Act of 1933, as amended.

(i)The certificates representing shares of Common Stock of the Corporation shall bear on their face the following legend so long as the foregoing right of first refusal remains in effect:

“THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO A RIGHT OF FIRST REFUSAL OPTION, AS PROVIDED IN THE BYLAWS OF THE CORPORATION.”

Whenever the Corporation shall have the right to purchase Common Stock under this right of first refusal, the Corporation may designate and assign to one or more employees, officers, directors or stockholders of the Corporation or other persons or organizations, the right to exercise all or a part of the Corporation’s right of first refusal.

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ARTICLE 13

FORUM FOR CERTAIN ACTIONS

Except for (a) actions in which the Court of Chancery in the State of Delaware concludes that an indispensable party is not subject to the jurisdiction of the Delaware courts, and (b) actions in which a federal court has assumed exclusive jurisdiction of a proceeding, any derivative action brought by or on behalf of the Corporation, and any direct action brought by a stockholder against the Corporation or any of its directors or officers, alleging a violation of the Delaware General Corporation Law, the Corporation's Certificate of Incorporation or Bylaws or breach of fiduciary duties or other violation of Delaware decisional law relating to the internal affairs of the Corporation, shall be brought in the Court of Chancery in the State of Delaware, which shall be the sole and exclusive forum for such proceedings; provided, however, that the Corporation may consent to an alternative forum for any such proceedings upon the approval of the Board of Directors of the Corporation.

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CERTIFICATE OF SECRETARY

The undersigned, Secretary of Carlsmed, Inc., a Delaware corporation, hereby certifies that the foregoing is a full, true and correct copy of the Amended and Restated Bylaws of said corporation, with all amendments to date of this Certificate.

WITNESS the signature of the undersigned this July 3, 2019.

/s/ Niall Casey

NIALL CASEY, Secretary

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Exhibit 3.4

AMENDED AND RESTATED BYLAWS

OF

CARLSMED, INC.
(a Delaware corporation)

ARTICLE I
CORPORATE OFFICES

Section 1.1 Registered Office. The registered office of Carlsmed, Inc., a Delaware corporation (the "Corporation"), shall be fixed in the Certificate of Incorporation of the Corporation (as the same may be amended and/or restated from time to time, the "Certificate of Incorporation").

Section 1.2 Other Offices. The Corporation may also have an office or offices, and keep the books and records of the Corporation, except as otherwise required by law, at such other place or places, either within or without the State of Delaware, as the Corporation may from time to time determine or the business of the Corporation may require.

ARTICLE II
MEETINGS OF STOCKHOLDERS

Section 2.1 Place of Meetings. All meetings of the stockholders shall be held at any such place, either within or without the State of Delaware, as shall be designated from time to time by the Board of Directors (the "Board of Directors" or the "Board") and stated in the notice of meeting or in a duly executed waiver thereof. The Board of Directors may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication in the manner authorized by Section 211 of the General Corporation Law of the State of Delaware, as amended and in effect from time to time (the "DGCL").

Section 2.2 Annual Meeting. The annual meeting of stockholders, for the election of directors and for the transaction of such other business as may properly come before the meeting, shall be held at such time and place, if any, as shall be determined by the Board of Directors and stated in the notice of the meeting. The Board of Directors may postpone, reschedule or cancel any annual meeting of stockholders previously scheduled by the Board of Directors.

Section 2.3 Special Meeting.

(a)Except as otherwise required by law, special meetings of the stockholders may be called only by such persons and only in such manner as set forth in the Certificate of Incorporation.

(b)No business may be transacted at any special meeting of stockholders other than the business specified in the notice of such meeting. The Board may postpone, reschedule or cancel any previously scheduled special meeting of stockholders.

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Section 2.4 Notice of Stockholders' Meetings.

(a)Whenever stockholders are required or permitted to take any action at a meeting, a notice of the meeting of stockholders shall specify the place, if any, date and time of the meeting of stockholders, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for determining the stockholders entitled to notice of the meeting), and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such meeting. The notice shall be given not less than 10 nor more than 60 days before the date on which the meeting is to be held, to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting, except as otherwise provided by law, the Certificate of Incorporation or these Bylaws. In the case of a special meeting, the purpose or purposes for which the meeting is called also shall be set forth in the notice.

(b)Except as otherwise required by law, notice may be given in writing directed to a stockholder's mailing address as it appears on the records of the Corporation and shall be given: (i) if mailed, when notice is deposited in the U.S. mail, postage prepaid; and (ii) if delivered by courier service, the earlier of when the notice is received or left at such stockholder's address.

(c)At any time when the Corporation is subject to the Securities and Exchange Commission's proxy rules set forth in Regulation 14A under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), notice shall be given in the manner required by such rules. To the extent permitted by such rules, or if the Corporation is not subject to Regulation 14A, notice may be given by electronic transmission directed to the stockholder's electronic mail address, and if so given, shall be given when directed to such stockholder's electronic mail address unless the stockholder has notified the Corporation in writing or by electronic transmission of an objection to receiving notice by electronic mail or such notice is prohibited by Section 232(e) of the General Corporation Law of the State of Delaware (as the same exists or may hereafter be amended from time to time, the "DGCL"). If notice is given by electronic mail, such notice shall comply with the applicable provisions of Sections 232(a) and 232(d) of the DGCL.

(d)Notice may be given by other forms of electronic transmission with the consent of a stockholder in the manner permitted by Section 232(b) of the DGCL and shall be deemed given as provided therein.

(e)An affidavit that notice has been given, executed by the Secretary of the Corporation (the "Secretary"), Assistant Secretary (or other officer designated by the Board) or any transfer agent or other agent of the Corporation, shall be *prima facie* evidence of the facts stated in the notice in the absence of fraud. Notice shall be deemed to have been given to all stockholders who share an address if notice is given in accordance with the "householding" rules set forth in Rule 14a-3(e) under the Exchange Act and Section 233 of the DGCL.

(f)When a meeting is adjourned to another time or place (including an adjournment taken to address a technical failure to convene or continue a meeting using remote communication), notice need not be given of the adjourned meeting if the place, if any, date and time thereof, and the means of remote communications, if any, by which stockholders and proxyholders may be deemed to be present in person and vote at such adjourned meeting are: (i) announced at the meeting at which the adjournment is taken; (ii) displayed, during the time scheduled for the meeting, on the same electronic network used to enable stockholders and proxyholders to participate in the meeting by means of remote communication; or (iii) set forth in the notice of meeting given in accordance with Section 2.4(a); provided, however, that if the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. If after the adjournment a new record date for stockholders entitled to vote is fixed for the adjourned meeting, the Board of Directors shall fix a new record date for notice of

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such adjourned meeting in accordance with Section 7.6(a), and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at such adjourned meeting as of the record date fixed for notice of such adjourned meeting.

Section 2.5 Organization.

(a)Meetings of stockholders shall be presided over by the Chairperson of the Board of Directors (the "Chairperson of the Board"), or in his or her absence, by the Chief Executive Officer (if separate and serving as a director) or another person designated by or in the manner provided by the Board of Directors. The Secretary, or in his or her absence, an Assistant Secretary, or in the absence of the Secretary and all Assistant Secretaries, a person whom the chairperson of the meeting shall appoint, shall act as secretary of the meeting and keep a record of the proceedings thereof.

(b)The date and time of the opening and the closing of the polls for each matter upon which the stockholders shall vote at a meeting of stockholders shall be announced at the meeting. The Board of Directors may adopt such rules and regulations for the conduct of any meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chairperson of the meeting shall have the authority to adopt and enforce such rules and regulations for the conduct of any meeting of stockholders and the safety of those in attendance as, in the judgment of the chairperson, are necessary, appropriate or convenient for the conduct of the meeting. Rules and regulations for the conduct of meetings of stockholders, whether adopted by the Board of Directors or by the chairperson of the meeting, may include, without limitation, establishing: (i) an agenda or order of business for the meeting; (ii) rules and procedures for maintaining order at the meeting and the safety of those present; (iii) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the meeting, their duly authorized and constituted proxies, qualified representatives (including rules around who qualifies as such) and such other persons as the chairperson of the meeting shall permit; (iv) restrictions on entry to the meeting after the time fixed for the commencement thereof; (v) limitations on the time allotted for consideration of each agenda item and for questions and comments by participants; (vi) regulations for the opening and closing of the polls for balloting and matters which are to be voted on by ballot (if any); and (vii) procedures (if any) requiring attendees to provide the Corporation advance notice of their intent to attend the meeting. Subject to any rules and regulations adopted by the Board of Directors, the chairperson of the meeting may convene and, for any or no reason, from time to time, adjourn and/or recess any meeting of stockholders pursuant to Section 2.8. The chairperson of the meeting, in addition to making any other determinations that may be appropriate to the conduct of the meeting, shall declare that a nomination or other business was not properly brought before the meeting if the facts warrant (including if a determination is made that a nomination or other business was not made or proposed, as the case may be, in accordance with Section 2.10 of these Bylaws), and if such chairperson should so declare, such nomination shall be disregarded (and such nominee shall be disqualified from standing for election or re-election) or such other business shall not be transacted.

Section 2.6 List of Stockholders. The Corporation shall prepare, no later than the 10th day before each meeting of stockholders, a complete list of the stockholders entitled to vote at the meeting; provided, however, that if the record date for determining the stockholders entitled to vote is less than 10 days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the 10th day before the meeting date. Such list shall be arranged in alphabetical order and shall show the address of each stockholder and the number of shares registered in the name of each stockholder. Nothing in this Section 2.6 shall require the Corporation to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder for any purpose germane to the meeting for 10 days ending on the day before the meeting date: (a) on a reasonably accessible

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electronic network, provided that the information required to gain access to such list is provided with the notice of meeting; or (b) during ordinary business hours at the principal place of business of the Corporation. In the

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event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. Except as otherwise required by law, the stock ledger shall be the only evidence as to who are the stockholders entitled to examine the list of stockholders required by this Section 2.6 or to vote in person or by proxy at any meeting of stockholders.

Section 2.7 Quorum. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws, at any meeting of stockholders, the holders of a majority of the voting power of the stock outstanding and entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum for the transaction of business; provided, however, that where a separate vote by a class or series or classes or series is required, the holders of a majority of the voting power of the stock of such class or series or classes or series outstanding and entitled to vote on that matter, present in person or represented by proxy, shall constitute a quorum entitled to take action with respect to such matter. If a quorum is not present or represented at any meeting of stockholders, then the chairperson of the meeting, or the holders of a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon, shall have power to adjourn or recess the meeting from time to time in accordance with Section 2.8, until a quorum is present or represented. Subject to applicable law, if a quorum initially is present at any meeting of stockholders, the stockholders may continue to transact business until adjournment or recess, notwithstanding the withdrawal of enough stockholders to leave less than a quorum, but if a quorum is not present at least initially, no business other than adjournment or recess may be transacted.

Section 2.8 Adjourned or Recessed Meeting. Any annual or special meeting of stockholders, whether or not a quorum is present, may be adjourned or recessed for any or no reason from time to time by the chairperson of the meeting, subject to any rules and regulations adopted by the Board of Directors pursuant to Section 2.5(b). Any such meeting may be adjourned for any or no reason (and may be recessed if a quorum is not present or represented) from time to time by the holders of a majority of the voting power of the stock present in person or represented by proxy at the meeting and entitled to vote thereon. At any such adjourned or recessed meeting at which a quorum is present, any business may be transacted that might have been transacted at the meeting as originally called.

Section 2.9 Submission of Information Regarding Director Nominees.

(a)As to each person whom a stockholder of record proposes to nominate for election or reelection as a director of the Corporation pursuant to Section 2.10, the stockholder must deliver to the Secretary (or other officer designated by the Board) at the principal executive offices of the Corporation the following information:

(i)a written representation and agreement, which shall be signed by the person proposed to be nominated and pursuant to which such person shall represent and agree that such person: (A) consents to being named as a nominee in a proxy statement and form of proxy relating to the meeting at which directors are to be elected and to serving as a director if elected, and currently intends to serve as a director for the full term for which such person is standing for election; (B) is not and will not become a party to any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity: (1) as to how the person, if elected as a director, will act or vote on any issue or question, except as disclosed in such representation and agreement; or (2) that could limit or interfere with the person's ability to comply, if elected as a director, with such person's fiduciary duties under applicable law; (C) is not and will not become a party to any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director or nominee, except as disclosed in such representation and agreement; and (D) if elected as a director, will comply with all of the Corporation's

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corporate governance policies and guidelines related to conflict of interest, confidentiality, stock ownership and trading policies and guidelines, and any other policies and guidelines applicable to directors (which will be provided within five business days following a request therefor from such stockholder of record); and

(ii)a completed and signed questionnaire in the same form required of the Corporation's nominees (the "Questionnaire"). The Questionnaire will be provided by the Corporation within five business days following a request therefor from such stockholder of record.

(b)If a stockholder has submitted notice of an intent to nominate a candidate for election or re-election as a director pursuant to Section 2.10, a written and signed representation and agreement and a fully completed and signed Questionnaire described in Section 2.9(a) above shall be provided to the Corporation at the same time as such notice. All information provided pursuant to this Section 2.9 shall be deemed part of the stockholder's notice submitted pursuant to Section 2.10.

(c)Notwithstanding the foregoing, if any information or communication submitted pursuant to this Section 2.9 is inaccurate or incomplete in any material respect (as determined in good faith by the Board of Directors (or any authorized committee thereof)) such information shall be deemed not to have been provided in accordance with this Section 2.9. Upon written request of the Secretary, the stockholder giving notice of an intent to nominate a candidate for election shall provide, within five business days after delivery of such request (or such longer period as may be specified in such request), (i) written verification, reasonably satisfactory to the Corporation, to demonstrate the accuracy of any information submitted and (ii) a written affirmation of any information submitted as of an earlier date. If such stockholder fails to provide such written verification or affirmation within such time period, the information as to which written verification or affirmation was requested may be deemed not to have been provided in accordance with this Section 2.9.

Section 2.10 Notice of Stockholder Business and Nominations.

(a)Annual Meeting.

(i)Subject in all respects to the terms set forth in the Certificate of Incorporation, nominations of persons for election to the Board of Directors and the proposal of business other than nominations to be considered by the stockholders may be made at an annual meeting of stockholders only: (A) pursuant to the Corporation's notice of meeting (or any supplement thereto); (B) by or at the direction of the Board of Directors (or any authorized committee thereof); or (C) by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(a) is delivered to the Secretary (or other officer designated by the Board), who is entitled to vote at the meeting and who complies with the notice procedures set forth in this Section 2.10(a). For the avoidance of doubt, the foregoing clause (C) shall be the exclusive means for a stockholder to make nominations or propose other business at an annual meeting of stockholders (other than a proposal included in the Corporation's proxy statement pursuant to and in compliance with Rule 14a-8 under the Exchange Act).

(ii)For nominations or other business to be properly brought before an annual meeting by a stockholder pursuant to clause (C) of the foregoing paragraph, the stockholder must have given timely notice thereof in writing to the Secretary (or other officer designated by the Board) and, in the case of business other than nominations, such business must be a proper subject for stockholder action. To be timely, a stockholder's notice must be delivered to the Secretary (or other officer designated by the Board) at the principal executive offices of the Corporation not later than the close of business (as defined in Section 2.10(c)(iv) below below) on the 120th day nor earlier than the close of

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business on the 150th day prior to the anniversary of the date that the Corporation first distributed its proxy statement to stockholders for the

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immediately preceding annual meeting of stockholders; provided, however, that in the event that the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, or if no annual meeting was held or deemed to have been held in the preceding year, notice by the stockholder to be timely must be so delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 120th day prior to such annual meeting or the 10th day following the date on which public announcement (as defined in Section 2.10(c)(iv) below) of the date of such meeting is first made by the Corporation. In no event shall an adjournment or recess of an annual meeting, or a postponement of an annual meeting for which notice of the meeting has already been given to stockholders or a public announcement of the meeting date has already been made, commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above. For purposes of this Section 2.10, the 2025 annual meeting of stockholders shall be deemed to have been held on May 1, 2025. Such stockholder's notice shall set forth:

A.as to each person whom the stockholder proposes to nominate for election or re-election as a director: (1) a written statement, not to exceed 500 words, in support of such person; (2) all information relating to such person that is required to be disclosed in solicitations of proxies for election of directors in an election contest, or is otherwise required, in each case pursuant to and in accordance with Regulation 14A under the Exchange Act; and (3) the information required to be submitted regarding nominees pursuant to Section 2.9 above, including, within the time period specified in Section 2.9(b) above, a fully completed and signed Questionnaire described in Section 2.9(a)(ii) above;

B.as to any other business that the stockholder proposes to bring before the meeting, a brief description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws of the Corporation, the language of the proposed amendment), the reasons for conducting such business at the meeting and any substantial interest (within the meaning of Item 5 of Schedule 14A under the Exchange Act) in such business of such stockholder and the beneficial owner (within the meaning of Section 13(d) of the Exchange Act), if any, on whose behalf the proposal is made, and if such stockholder or beneficial owner is an entity, any related person (as defined below);

C.as to the stockholder giving the notice, the beneficial owner, if any, on whose behalf the nomination is made or the other business is proposed, and if such stockholder or beneficial owner is an entity, as to each individual who is a director, executive officer, general partner or managing member of such entity or of any other entity that has or shares control of such entity (any such individual or entity, a "related person"):

(1)the name and address of such stockholder, as they appear on the Corporation's books, and the name and address of any such beneficial owner and any such related person;

(2)the class or series and number of shares of stock of the Corporation which are owned of record by such stockholder, any such beneficial owner and any such related person as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation owned of record by the stockholder, any such beneficial owner and any such related person as of the record date for the meeting; and

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(3)a representation that the stockholder (or a qualified representative of the stockholder) intends to appear at the meeting to make such nomination or propose such business; and

D.as to the stockholder giving the notice or, if the notice is given on behalf of a beneficial owner on whose behalf the nomination is made or the other business is proposed, as to such beneficial owner, and if such stockholder or beneficial owner is an entity, any related person:

(1)the class or series and number of shares of stock of the Corporation which are beneficially owned (as defined in Section 2.10(c)(iv) below) by such stockholder or beneficial owner and by any related person as of the date of the notice, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of the class or series and number of shares of stock of the Corporation beneficially owned by such stockholder or beneficial owner and by any related person as of the record date for the meeting;

(2)a description (which description shall include, in addition to all other information described in this clause (2), information identifying all parties thereto) of (x) any plans or proposals which such stockholder, beneficial owner, if any, or related person may have with respect to securities of the Corporation that would be required to be disclosed pursuant to Item 4 of Exchange Act Schedule 13D and (y) any agreement, arrangement or understanding with respect to the nomination or other business between or among such stockholder, beneficial owner, if any, or related person and any other person, including, without limitation any agreements that would be required to be disclosed pursuant to Item 5 or Item 6 of Exchange Act Schedule 13D (in the case of either clause (x) or (y), regardless of whether the requirement to file a Schedule 13D is applicable) and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such plans or proposals with respect to securities of the Corporation or any such agreement, arrangement or understanding in effect as of the record date for the meeting;

(3)a description (which description shall include, in addition to all other information described in this clause (3), information identifying all parties thereto) of any agreement, arrangement or understanding (including, without limitation, any option, warrant, forward contract, swap, contract of sale, or other derivative or similar agreement or short positions, profit interests, hedging or pledging transactions, voting rights, dividend rights, and/or borrowed or loaned shares), whether the instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of stock, that has been entered into as of the date of the stockholder's notice by, or on behalf of, such stockholder, beneficial owner, if any, or related person, the effect or intent of which is to mitigate loss, manage risk or benefit from changes in the share price of any class or series of the Corporation's stock or maintain, increase or decrease the voting power of the stockholder, beneficial owner, if any, or related person with respect to securities of the Corporation, and a representation that the stockholder will notify the Corporation in writing within five business days after the record date for such meeting of any such agreement, arrangement or understanding in effect as of the record date for the meeting;

(4)a representation as to whether the stockholder, beneficial owner, if any, related person or any other participant (as defined in Item 4 of Schedule 14A under the Exchange Act) will engage in a solicitation with respect to such nomination or proposal and, if so, whether such solicitation will be conducted as an exempt solicitation under Rule 14a-2(b) of the Exchange Act, the name of each participant in such solicitation, and (x) in the case of a proposal of business other than nominations, whether such person or group intends to deliver a proxy statement and form of proxy to holders of at least the percentage of the Corporation's voting shares required under applicable law to carry the proposal, (y) in the case of any solicitation that is subject to Rule 14a-19 of the Exchange

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Act, confirming that such person or group will deliver, through means satisfying each of the conditions that would be applicable to the Corporation under either Exchange Act Rule 14a-16(a) or Exchange Act Rule 14a-16(n), a proxy

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statement and form of proxy to holders of at least 67% of the voting power of the Corporation's stock entitled to vote generally in the election of directors; and

(5)a representation that promptly (and in any event no more than 2 business days) after soliciting the holders of the Corporation's stock referred to in the representation required under clause (a)(ii)(D)(4) of this Section 2.10, such stockholder will provide the Corporation with documents, which may take the form of a certified statement and documentation from a proxy solicitor, specifically demonstrating that the necessary steps have been taken to deliver a proxy statement and form of proxy to holders of such percentage of the Corporation's stock.

(iii)Notwithstanding anything in this Section 2.10(a) to the contrary, if any information or communication submitted pursuant to this Section 2.10 is inaccurate or incomplete in any material respect (as determined in good faith by the Board of Directors (or any authorized committee thereof)) such information shall be deemed not to have been provided in accordance with this Section 2.10. The obligation to update and supplement as set forth in Section 2.9, this Section 2.10 or any other section of these Bylaws shall not limit the Corporation's rights with respect to any deficiencies in any notice provided by a stockholder, extend any applicable deadlines hereunder or under any other provision of these Bylaws or enable or be deemed to permit a stockholder who has previously submitted notice hereunder or under any other provision of these Bylaws to amend or update any nomination or other business proposal or to submit any new nomination or other business proposal, including by changing or adding nominees, matters, business and / or resolutions proposed to be brought before a meeting of stockholders.

(iv)Notwithstanding anything in Section 2.10(a)(ii) above or Section 2.10(b) below to the contrary, if the record date for determining the stockholders entitled to vote at any meeting of stockholders is different from the record date for determining the stockholders entitled to notice of the meeting, a stockholder's notice required by this Section 2.10 shall set forth a representation that the stockholder will notify the Corporation in writing within five business days after the record date for determining the stockholders entitled to vote at the meeting, or by the opening of business on the date of the meeting (whichever is earlier), of the information required under this Section 2.10(a), and such information when provided to the Corporation shall be current as of the record date for determining the stockholders entitled to vote at the meeting.

(v)This Section 2.10(a) shall not apply to a proposal proposed to be made by a stockholder if the stockholder has notified the Corporation of his or her intention to present the proposal at an annual or special meeting only pursuant to and in compliance with Rule 14a-8 under the Exchange Act and such proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such meeting.

(vi)Notwithstanding anything in this Section 2.10(a) to the contrary, in the event that the number of directors to be elected to the Board of Directors at an annual meeting is increased and there is no public announcement by the Corporation naming all of the nominees proposed by the Board of Directors to be elected at such meeting or specifying the size of the increased Board of Directors made by the Corporation at least 10 days prior to the last day a stockholder may deliver a notice in accordance with Section 2.10(a)(ii) above, a stockholder's notice required by this Section 2.10(a) shall also be considered timely, but only with respect to nominees for any new positions created by such increase, if it shall be delivered to the Secretary (or other officer designated by the Board) at the principal executive offices of the Corporation not later than the close of business on the 10th day following the day on which such public announcement is first made by the Corporation.

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(b)Special Meeting. Subject in all respects to the terms set forth in the Certificate of Incorporation, nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders at which directors are to be elected pursuant to the Corporation's notice of meeting by or at the direction of the Board of Directors (or any authorized committee thereof);) provided that if one or more directors are to be elected at such meeting, by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.10(b) is delivered to the Secretary (or other officer designated by the Board) who is entitled to vote at the meeting and upon such election and who delivers notice thereof in writing setting forth the information required by Section 2.10(a) above and provides the additional information required by Section 2.9 above. In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in the Corporation's notice of meeting, if the notice required by this Section 2.10(b) shall be delivered to the Secretary (or other officer designated by the Board) at the principal executive offices of the Corporation not earlier than the close of business on the 120th day prior to such special meeting and not later than the close of business on the later of the 90th day prior to such special meeting or the 10th day following the date on which public announcement of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting is first made by the Corporation. In no event shall an adjournment, recess or postponement of a special meeting commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c)General.

(i)A stockholder's notice given in accordance with this Section 2.10 must contain the names of only the nominees for whom such stockholder (or any beneficial owner or related party) intends to solicit proxies. For the avoidance of doubt, the number of nominees a stockholder may nominate for election at a stockholder meeting (or in the case of a stockholder giving the notice on behalf of a beneficial owner, the number of nominees a stockholder may nominate for election at such stockholder meeting on behalf of the beneficial owner) shall not exceed the number of directors to be elected at such meeting.

(ii)Except as otherwise required by law or as provided in the Certificate of Incorporation, only such persons who are nominated in accordance with the procedures set forth in this Section 2.10 shall be eligible to be elected at any meeting of stockholders of the Corporation to serve as directors and only such other business shall be conducted at a meeting of stockholders as shall have been brought before the meeting in accordance with the procedures set forth in this Section 2.10. Notwithstanding any other provision of these Bylaws, a stockholder (and any beneficial owner on whose behalf a nomination is made or other business is proposed, and if such stockholder or beneficial owner is an entity, any related person) shall also comply with all applicable requirements of the Exchange Act and the rules and regulations promulgated thereunder with respect to the matters set forth in this Section 2.10 and Section 2.3, as applicable; provided, however, that any references in these Bylaws to the Exchange Act or the rules and regulations promulgated thereunder are not intended to and shall not limit any requirements applicable to nominations or proposals as to any other business to be considered pursuant to this Section 2.10, as applicable. The Chairperson of the Board, the chairperson of the meeting, or any other person designated by the Board shall determine whether a nomination or any other business proposed to be brought before the meeting was made or proposed, as the case may be, in accordance with the procedures set forth in the Certificate of Incorporation and this Section 2.10, as applicable (including whether a stockholder or beneficial owner provided all information and complied with all representations required under Section 2.9 or this Section 2.10 or complied with the applicable requirements of the Exchange Act, including Rule 14a-19 thereunder). If any proposed nomination or other business is not in compliance with the Certificate of Incorporation or

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this Section 2.10, including due to a failure to comply with the applicable requirements of the Exchange Act, including Rule 14a-19 thereunder, then except as otherwise required by law or the

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Certificate of Incorporation, the chairperson of the meeting shall declare that such nomination shall be disregarded or such other business shall not be transacted, notwithstanding that proxies and votes in respect of any such nomination or other business may have been received by the Corporation. In furtherance and not by way of limitation of the foregoing provisions of this Section 2.10, unless otherwise required by law or the Certificate of Incorporation, or otherwise determined by the Chairperson of the Board, the chairperson of the meeting or any other person designated by the Board, (A) if the stockholder does not provide the information required under Section 2.9 or this Section 2.10 to the Corporation within the time frames specified herein or (B) if the stockholder (or a qualified representative of the stockholder) does not appear at the annual or special meeting of stockholders of the Corporation to present a nomination or other business, any such nomination shall be disregarded or such other business shall not be transacted, notwithstanding that proxies and votes in respect of any such nomination or other business may have been received by the Corporation.

(iii)To be considered a qualified representative of a stockholder for purposes of these Bylaws, a person must be a duly authorized officer, manager, trustee or partner of such stockholder or authorized by a writing executed by such stockholder (or a reliable reproduction of the writing) delivered to the Corporation prior to the making of such nomination or proposal at such meeting (and in any event not fewer than five business days before the meeting) stating that such person is authorized to act for such stockholder as proxy at the meeting of stockholders.

(iv)For purposes of this Section 2.10, the "close of business" shall mean 6:00 p.m. local time at the principal executive offices of the Corporation on any calendar day, whether or not the day is a business day, and a "public announcement" shall mean disclosure in a press release reported by the Dow Jones News Service, Associated Press or a comparable national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Section 13, 14 or 15(d) of the Exchange Act. For purposes of clause (a)(ii)(D)(1) of this Section 2.10, shares shall be treated as "beneficially owned" by a person if the person beneficially owns such shares, directly or indirectly, for purposes of Section 13(d) of the Exchange Act and Regulations 13D and 13G thereunder or has or shares pursuant to any agreement, arrangement or understanding (whether or not in writing): (A) the right to acquire such shares (whether such right is exercisable immediately or only after the passage of time or the fulfillment of a condition or both); (B) the right to vote such shares, alone or in concert with others; provided, however, that a person shall not be deemed to beneficially own such shares if the right to vote such shares arises solely from a revocable proxy or consent given to such person in response to a public proxy or consent solicitation made pursuant to and in accordance with applicable rules and regulations promulgated under the Exchange Act; and/or (C) investment power with respect to such shares, including the power to dispose of, or to direct the disposition of, such shares.

(v)Nothing in this Section 2.10 shall be deemed to affect any rights (A) of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 promulgated under the Exchange Act or (B) of the holders of any series of Preferred Stock to elect directors pursuant to any applicable provisions of the Certificate of Incorporation. In addition, this Section 2.10 shall be inapplicable to the extent such inapplicability is required by Section 5.2(e) or Section 5.3(f) of the Certificate of Incorporation.

(vi)Any stockholder directly or indirectly soliciting proxies from other stockholders must use a proxy card color other than white, which shall be reserved for the exclusive use for solicitation by the Board of Directors.

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Section 2.11 Voting; Proxies.

(a)Except as otherwise required by law or the Certificate of Incorporation, each holder of stock of the Corporation entitled to vote at any meeting of stockholders shall be entitled to one vote for each share of such stock held of record by such holder that has voting power upon the subject matter in question.

(b)Except as otherwise required by law or the Certificate of Incorporation, at all duly called or convened meetings of stockholders at which a quorum is present, for the election of directors, a plurality of the votes cast shall be sufficient to elect a director. Except as otherwise required by law, the Certificate of Incorporation, these Bylaws or any law, rule or regulation applicable to the Corporation or its securities, at each meeting of stockholders at which a quorum is present, all actions other than the election of directors shall be decided by the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote on the subject matter. Voting at meetings of stockholders need not be by written ballot.

(c)Every stockholder entitled to vote for directors, or on any other matter, shall have the right to do so either in person or by one or more persons authorized to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A proxy may be made irrevocable regardless of whether the interest with which it is coupled is an interest in the stock itself or an interest in the Corporation generally. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary (or other officer designated by the Board) a revocation of the proxy or an executed new proxy bearing a later date.

Section 2.12 Inspectors of Election. Before any meeting of stockholders, the Corporation may, and shall if required by law, appoint one or more inspectors of election to act at the meeting and make a written report thereof. Inspectors may be employees of the Corporation. The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting of stockholders, the chairperson of the meeting may, and shall if required by law, appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. Inspectors need not be stockholders. No director or nominee for the office of director at an election shall be appointed as an inspector at such election.

Such inspectors shall:

(a)determine the number of shares outstanding and the voting power of each, the number of shares represented at the meeting, the existence of a quorum, and the validity of proxies and ballots;

(b)determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors;

(c)count and tabulate all votes and ballots; and

(d)certify their determination of the number of shares represented at the meeting, and their count of all votes and ballots.

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Section 2.13 Delivery to the Corporation. Whenever this Article II requires one or more persons (including a record or beneficial owner of stock) to deliver a document or information (other than a document authorizing another person to act for a stockholder by proxy at a meeting of stockholders pursuant to Section 212 of the DGCL) to the Corporation or any officer, employee or agent thereof (including any notice, request, questionnaire, revocation, representation or other document or agreement), the Corporation shall not be required to accept delivery of such document or information unless the document or information is in writing exclusively (and not in an electronic transmission) and delivered exclusively by hand (including, without limitation, overnight courier service) or by certified or registered mail, return receipt requested. For the avoidance of doubt, the Corporation expressly opts out of Section 116 of the DGCL with respect to the delivery of information and documents (other than a document authorizing another person to act for a stockholder by proxy at a meeting of stockholders pursuant to Section 212 of the DGCL) to the Corporation required by this Article II.

ARTICLE III
DIRECTORS

Section 3.1 Powers. In addition to the powers and authorities these Bylaws expressly confer upon it, the Board of Directors may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law, the Certificate of Incorporation or these Bylaws required to be exercised or done by the stockholders.

Section 3.2 Number of Directors. Subject to the Certificate of Incorporation, the total number of directors constituting the Board of Directors shall be determined from time to time by resolution of the Board of Directors. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

Section 3.3 Term of Office. Except as otherwise provided in the Certificate of Incorporation, each director shall hold office until the expiration of the term of the class, if any, for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation, disqualification or removal. Directors need not be stockholders. The Certificate of Incorporation or these Bylaws may prescribe qualifications for directors.

Section 3.4 Vacancies. Newly created directorships resulting from any increase in the authorized number of directors and any vacancies on the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause may only be filled in the manner provided in the Certificate of Incorporation.

Section 3.5 Resignations and Removal.

(a)Any director may resign at any time upon notice given in writing or by electronic transmission to the Board of Directors, the Chairperson of the Board or the Secretary. Such resignation shall take effect upon delivery, unless the resignation specifies a later effective date or time or an effective date or time determined upon the happening of an event or events. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective.

(b)Directors of the Corporation may only be removed from office in the manner provided in and to the extent permitted in the Certificate of Incorporation.

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Section 3.6 Regular Meetings. Regular meetings of the Board of Directors shall be held at such place or places (if any), within or without the State of Delaware, on such date or dates and at such time or times, as shall have been established by the Board of Directors and publicized among all directors. A notice of each regular meeting shall not be required.

Section 3.7 Special Meetings. Special meetings of the Board of Directors for any purpose or purposes may be called at any time by the Chairperson of the Board, the Chief Executive Officer (if separate and serving as a director) or a majority of the directors then in office. The person or persons authorized to call special meetings of the Board of Directors may fix the place, within or without the State of Delaware, date and time of such meetings. Notice of each such meeting shall be given to each director, if by mail, addressed to such director at his or her residence or usual place of business, at least five days before the day on which such meeting is to be held, or shall be sent to such director by electronic transmission, or be delivered personally or by telephone, in each case at least 24 hours prior to the time set for such meeting. A notice of special meeting need not state the purpose of such meeting, and, unless indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 3.8 Remote Participation in Meetings. Members of the Board of Directors, or of any committee thereof, may participate in a meeting of such Board of Directors or committee by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation shall constitute presence in person at such meeting.

Section 3.9 Quorum and Voting. Except as otherwise required by law, the Certificate of Incorporation or these Bylaws, a majority of the total number of directors shall constitute a quorum for the transaction of business at any meeting of the Board of Directors, and the vote of a majority of the directors present at a duly held meeting at which a quorum is present shall be the act of the Board of Directors. The chairperson of the meeting or a majority of the directors present may adjourn the meeting to another time and place (if any) whether or not a quorum is present. At any adjourned meeting at which a quorum is present, any business may be transacted which might have been transacted at the meeting as originally called.

Section 3.10 Board of Directors Action by Written Consent Without a Meeting. Unless otherwise restricted by the Certificate of Incorporation or these Bylaws, any action required or permitted to be taken at any meeting of the Board of Directors, or any committee thereof, may be taken without a meeting, provided that all members of the Board of Directors or committee, as the case may be, consent in writing or by electronic transmission to such action. After an action is taken, the consent or consents relating thereto shall be filed with the minutes or proceedings of the Board of Directors or committee in the same paper or electronic form as the minutes are maintained. Any person (whether or not then a director) may provide, whether through instruction to an agent or otherwise, that a consent to action shall be effective at a future time (including a time determined upon the happening of an event), no later than 60 days after such instruction is given or such provision is made and such consent shall be deemed to have been given at such effective time so long as such person is then a director and did not revoke the consent prior to such time. Any such consent shall be revocable prior to its becoming effective.

Section 3.11 Chairperson of the Board. The Chairperson of the Board shall be appointed by a majority of the directors then in office. The Chairperson of the Board shall preside at meetings of stockholders in accordance with Section 2.5(a) above and at meetings of directors and shall perform such other duties as the Board of Directors may from time to time determine. If the Chairperson of the Board is not present at a meeting of the Board of Directors, the Chief Executive Officer (if separate and serving as a director) or another director chosen by or in the manner provided

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by the Board of Directors shall preside. For the avoidance of doubt, if the vote of the Board of Directors results in a tie, neither the Chairperson of the Board nor any other director shall have a tie-breaking vote.

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Section 3.12 Rules and Regulations. The Board of Directors may adopt such rules and regulations not inconsistent with the provisions of law, the Certificate of Incorporation, and these Bylaws for the conduct of its meetings and management of the affairs of the Corporation as the Board of Directors shall deem proper.

Section 3.13 Fees and Compensation of Directors. Unless otherwise restricted by the Certificate of Incorporation, directors may receive such compensation, if any, for their services on the Board of Directors and its committees, and such reimbursement of expenses, as may be fixed or determined by resolution of the Board of Directors.

ARTICLE IV
COMMITTEES

Section 4.1 Committees of the Board of Directors. The Board of Directors may designate (by majority vote) one or more committees, with each such committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee to replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members present at any meeting and not disqualified from voting, whether or not he, she or they constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent permitted by law and provided in the resolution of the Board of Directors establishing such committee, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it, but no such committee shall have the power or authority in reference to the following matters: (a) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval; or (b) adopting, amending or repealing these Bylaws.

Section 4.2 Meetings and Action of Committees. Unless the Board of Directors provides otherwise by resolution, any committee of the Board of Directors may adopt, alter and repeal such rules and regulations not inconsistent with the provisions of law, the Certificate of Incorporation or these Bylaws for the conduct of its meetings as such committee may deem proper. A majority of the directors then serving on a committee shall constitute a quorum for the transaction of business by the committee except as otherwise required by law, the Certificate of Incorporation or these Bylaws and except as otherwise provided in a resolution of the Board of Directors; provided, however, that in no case shall a quorum be less than one-third of the directors then serving on the committee. Unless the Certificate of Incorporation, these Bylaws or a resolution of the Board of Directors requires a greater number, the vote of a majority of the members of a committee present at a meeting at which a quorum is present shall be the act of the committee.

ARTICLE V
OFFICERS

Section 5.1 Officers. The officers of the Corporation shall include a Chief Executive Officer and a Secretary, who shall be elected by the Board of Directors. The Corporation may have such other officers as the Board of Directors may determine and appoint from time to time. Officers shall have such authority, functions or duties as set forth in these Bylaws or as determined by the Board of Directors. To the extent not so set forth or determined, each such officer shall have such authority, functions or duties as those that generally pertain to their respective offices, subject to the control of the Board of Directors. Each officer shall hold office until such person’s successor shall have been duly elected and qualified, or until such

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person's earlier death, disqualification, resignation or removal. Any number of offices may be held by the same person; provided, however, that no officer shall execute, acknowledge or verify any instrument in more than one capacity if such instrument is required by law, the Certificate of Incorporation or these Bylaws to be executed, acknowledged or verified by two or more officers. The Board of Directors may determine to leave any office vacant.

Section 5.2 Additional Positions and Titles. The Corporation may have assistants to officers, with such powers and duties as the Board of Directors may from time to time determine. Any officer or employee may be assigned any additional title, with such powers and duties, as the Board of Directors may from time to time determine. Any persons appointed as assistant officers, and any persons upon whom such titles are conferred, shall not be deemed officers of the Corporation unless appointed by the Board of Directors pursuant to Section 5.1.

Section 5.3 Compensation. The salaries of the officers of the Corporation and the manner and time of the payment of such salaries shall be fixed by, or in the manner determined by, the Board of Directors or by a duly authorized officer.

Section 5.4 Removal, Resignation and Vacancies. Any officer of the Corporation may be removed, with or without cause, by the Board of Directors or by a duly authorized officer, without prejudice to the rights, if any, of such officer under any contract to which he or she is a party. Any officer may resign at any time upon notice given in writing or by electronic transmission to the Corporation, without prejudice to the rights, if any, of the Corporation under any contract to which such officer is a party. Any vacancy occurring in any office of the Corporation may be filled by the Board of Directors or such office may be left vacant.

Section 5.5 Chief Executive Officer. The Chief Executive Officer shall have general supervision and direction of the business and affairs of the Corporation, shall be responsible for corporate policy and strategy, and shall report directly to the Board of Directors. Unless otherwise provided in these Bylaws or determined by the Board of Directors, all other officers of the Corporation shall report directly to the Chief Executive Officer or as otherwise determined by the Chief Executive Officer.

Section 5.6 Secretary. The powers and duties of the Secretary shall include acting as Secretary at all meetings of the Board of Directors, of the committees of the Board of Directors and of the stockholders, and performing all other duties incident to the office of Secretary. The Secretary shall perform such other duties as the Board of Directors may from time to time determine. In the absence or disability of Secretary, the Assistant Secretary (if any) or another person appointed by the Board shall fill the role of Secretary.

Section 5.7 Checks; Drafts; Evidences of Indebtedness. From time to time, the Board of Directors shall determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority, to sign or endorse all checks, drafts, other orders for payment of money and notes, bonds, debentures or other evidences of indebtedness that are issued in the name of or payable by the Corporation, and only the persons so authorized shall sign or endorse such instruments.

Section 5.8 Corporate Contracts and Instruments; How Executed. Except as otherwise provided in these Bylaws, the Board of Directors may determine the method, and designate (or authorize officers of the Corporation to designate) the person or persons who shall have authority to enter into any contract or execute any instrument in the name of and on behalf of the Corporation. Such authority may be general or confined to specific instances. Unless so authorized, or within the power incident to a person's office or other position with the Corporation, no person shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

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Section 5.9 Action with Respect to Securities of Other Corporations or Entities. The Chief Executive Officer, or any other person or persons the Board of Directors or the Chief Executive Officer has delegated such authority, is authorized to vote, represent, and exercise on behalf of the Corporation all rights incident to any and all shares or other equity interests of any other corporation or entity or corporations or entities, standing in the name of the Corporation. The authority herein granted may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by the person having such authority.

Section 5.10 Delegation. The Board of Directors or an authorized officer may from time to time delegate the powers or duties of any officer to any other officers or agents, notwithstanding the foregoing provisions of this Article V.

ARTICLE VI
INDEMNIFICATION AND ADVANCEMENT OF EXPENSES

Section 6.1 Right to Indemnification.

(a)Each person who was or is a party or is threatened to be made a party to, or was or is otherwise involved in, any action, suit, arbitration, alternative dispute resolution mechanism, investigation, inquiry, judicial, administrative or legislative hearing, or any other threatened, pending or completed proceeding, whether brought by or in the right of the Corporation or otherwise, including any and all appeals, whether of a civil, criminal, administrative, legislative, investigative or other nature (hereinafter a "proceeding"), by reason of the fact that he or she is or was a director or an officer of the Corporation or while a director or an officer of the Corporation is or was serving at the request of the Corporation as a director, officer, employee, agent or trustee of another corporation or of a partnership, joint venture, trust or other enterprise, including service with respect to an employee benefit plan (hereinafter an "indemnitee"), or by reason of anything done or not done by him or her in any such capacity, shall be indemnified and held harmless by the Corporation to the fullest extent authorized by the DGCL, as the same exists or may hereafter be amended, against all expense, liability and loss (including attorneys' fees, judgments, fines, ERISA excise taxes, penalties and amounts paid in settlement by or on behalf of the indemnitee) actually and reasonably incurred by such indemnitee in connection therewith, all on the terms and conditions set forth in these Bylaws; provided, however, that, except as otherwise required by law or provided in Section 6.4 with respect to suits to enforce rights under this Article VI, the Corporation shall indemnify any such indemnitee in connection with a proceeding, or part thereof, voluntarily initiated by such indemnitee (including claims and counterclaims, whether such counterclaims are asserted by such indemnitee or the Corporation in a proceeding initiated by such indemnitee) only if such proceeding, or part thereof, was authorized or ratified by the Board of Directors or the Board of Directors otherwise determines that indemnification or advancement of expenses is appropriate.

(b)To receive indemnification under this Article VI, an indemnitee shall submit a written request to the Secretary (or other officer designated by the Board) of the Corporation. Such request shall include documentation or information that is necessary to determine the entitlement of the indemnitee to indemnification and that is reasonably available to the indemnitee. Upon receipt by the Secretary (or other officer designated by the Board) of the Corporation of such a written request, unless indemnification is required by Section 6.3, the entitlement of the indemnitee to indemnification shall be determined by the following person or persons who shall be empowered to make such determination, as selected by the Board of Directors (except with respect to clause (v) of this Section 6.1(b)): (i) the Board of Directors by a majority vote of the directors who are not parties to such proceeding, whether or not such majority constitutes a quorum; (ii) a committee of such directors designated by a majority vote of such directors, whether or not such majority constitutes a quorum; (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion to the Board of Directors, a copy of which shall

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be delivered to the indemnitee; (iv) the stockholders of the Corporation; or (v) in the event that a change of control (as defined below) has occurred, by independent legal counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the indemnitee. The determination of entitlement to indemnification shall be made and, unless a contrary determination is made, such indemnification shall be paid in full by the Corporation not later than 60 days after receipt by the Secretary (or other officer designated by the Board) of the Corporation of a written request for indemnification. For purposes of this Section 6.1(b), a "change of control" will be deemed to have occurred if, with respect to any particular 24-month period, the individuals who, at the beginning of such 24-month period, constituted the Board of Directors (the "incumbent board"), cease for any reason to constitute at least a majority of the Board of Directors; provided, however, that any individual becoming a director subsequent to the beginning of such 24-month period whose election, or nomination for election by the stockholders of the Corporation, was approved by a vote of at least a majority of the directors then comprising the incumbent board shall be considered as though such individual were a member of the incumbent board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person other than the Board of Directors.

(c)Any reference to an officer of the Corporation in this Article VI shall be deemed to refer exclusively to the Chief Executive Officer, the Secretary and any officer of the Corporation appointed by the Board of Directors pursuant to Section 5.1 or otherwise specifically appointed as "officer" for purposes of these Bylaws pursuant to the delegated authority under Section 5.2, and any reference to an officer of any other enterprise shall be deemed to refer exclusively to an officer appointed by the board of directors or equivalent governing body of such other enterprise pursuant to the certificate of incorporation and bylaws (or equivalent organizational documents) of such other enterprise. The fact that any person who is or was an employee of the Corporation or an employee of any other enterprise has been given or has used the title of "Vice President" or any other title that could be construed to suggest or imply that such person is or may be an officer of the Corporation or of such other enterprise shall not, by itself, result in such person being constituted as, or being deemed to be, an officer of the Corporation or of such other enterprise for purposes of this Article VI.

Section 6.2 Right to Advancement of Expenses.

(a)In addition to the right to indemnification conferred in Section 6.1, an indemnitee shall, to the fullest extent permitted by law, also have the right to be paid by the Corporation the expenses (including attorneys' fees) incurred in defending any proceeding in advance of its final disposition (hereinafter an "advancement of expenses"); provided, however, that an advancement of expenses shall be made only upon delivery to the Corporation of an undertaking (hereinafter an "undertaking"), by or on behalf of such indemnitee, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision of a court of competent jurisdiction from which there is no further right to appeal (hereinafter a "final adjudication") that such indemnitee is not entitled to be indemnified for such expenses under this Article VI or otherwise.

(b)To receive an advancement of expenses under this Section 6.2, an indemnitee shall submit a written request to the Secretary of the Corporation (or other officer designated by the Board). Such request shall reasonably evidence the expenses incurred by the indemnitee and shall include or be accompanied by the undertaking required by Section 6.2(a). Each such advancement of expenses shall be made within 20 days after the receipt by the Secretary of the Corporation (or other officer designated by the Board) of a written request for advancement of expenses.

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(c)Notwithstanding the foregoing Section 6.2(a), the Corporation shall not make or continue to make advancements of expenses to an indemnitee pursuant to Section 6.2(a) (except in connection with any proceeding initiated against such indemnitee by reason of the fact that he or she is a current director of the Corporation, in which event this Section 6.2(c) shall not apply) if a determination is reasonably made that the facts known at the time such determination is made demonstrate clearly and convincingly that the indemnitee acted in bad faith or in a manner that the indemnitee did not reasonably believe to be in or not opposed to the best interests of the Corporation, or, with respect to any criminal proceeding, that the indemnitee had reasonable cause to believe his or her conduct was unlawful. Such determination shall be made: (i) by the Board of Directors by a majority vote of directors who are not parties to such proceeding, whether or not such majority constitutes a quorum; (ii) by a committee of such directors designated by a majority vote of such directors, whether or not such majority constitutes a quorum; or (iii) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion to the Board of Directors, a copy of which shall be delivered to the indemnitee.

Section 6.3 Indemnification for Successful Defense. Notwithstanding anything to the contrary, to the extent that an indemnitee has been successful on the merits or otherwise in defense of any proceeding (or in defense of any claim, issue or matter therein), such indemnitee shall be indemnified under this Section 6.3 against expenses (including attorneys' fees) actually and reasonably incurred in connection with such defense. Indemnification under this Section 6.3 shall not be subject to satisfaction of a standard of conduct, and the Corporation may not assert the failure to satisfy a standard of conduct as a basis to deny indemnification or recover amounts advanced, including in a suit brought pursuant to Section 6.4 (notwithstanding anything to the contrary therein).

Section 6.4 Right of Indemnitee to Bring Suit. In the event that a determination is made that the indemnitee is not entitled to indemnification or if payment is not timely made following a determination of entitlement to indemnification pursuant to Section 6.1(b), if a request for indemnification under Section 6.3 is not paid in full by the Corporation within 60 days after a written request has been received by the Secretary of the Corporation, or if an advancement of expenses is not timely made under Section 6.2(b), the indemnitee may at any time thereafter bring suit against the Corporation in a court of competent jurisdiction in the State of Delaware seeking an adjudication of entitlement to such indemnification or advancement of expenses. If successful in whole or in part in any such suit, or in a suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the indemnitee shall be entitled to be paid also the expense of prosecuting or defending such suit to the fullest extent permitted by law. In any suit brought by the indemnitee to enforce a right to indemnification hereunder, it shall be a defense that the indemnitee has not met any applicable standard of conduct for indemnification set forth in Section 145(a) or Section 145(b) of the DGCL. In connection with any suit brought by an indemnitee for advancement (except in connection with any proceeding initiated against such indemnitee by reason of the fact that he or she is a current director of the Corporation), the Corporation shall be entitled to raise a defense as to any suit clear and convincing evidence that the indemnitee acted in bad faith or in a manner that the indemnitee did not reasonably believe to be in or not opposed to the best interests of the Corporation, or with respect to any criminal proceeding, that such indemnitee had reasonable cause to believe that his or her conduct was unlawful. Further, in any suit brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the Corporation shall be entitled to recover such expenses upon a final adjudication that the indemnitee has not met any applicable standard of conduct for indemnification set forth in Section 145(a) or Section 145(b) of the DGCL. Neither the failure of the Corporation (including its directors who are not parties to such action, a committee of such directors, independent legal counsel or its stockholders) to have made a determination prior to the commencement of such suit that indemnification of the indemnitee is proper in the circumstances because the indemnitee has met such applicable standard of conduct, nor an actual determination by the Corporation (including its directors who are not parties to such action, a committee of such

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directors, independent legal counsel or its stockholders) that the indemnitee has not met such applicable standard of conduct, shall create a

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presumption that the indemnitee has not met the applicable standard of conduct or, in the case of such a suit brought by the indemnitee, be a defense to such suit. In any suit brought by the indemnitee to enforce a right to indemnification or to an advancement of expenses hereunder, or brought by the Corporation to recover an advancement of expenses pursuant to the terms of an undertaking, the burden of proving that the indemnitee is not entitled to be indemnified, or to such advancement of expenses, under applicable law, this Article VI or otherwise shall be on the Corporation.

Section 6.5 Non-Exclusivity of Rights. The rights to indemnification and to the advancement of expenses conferred in this Article VI shall not be exclusive of any other right which any person may have or hereafter acquire under any law, agreement, vote of stockholders or disinterested directors, provisions of a certificate of incorporation or bylaws, or otherwise.

Section 6.6 Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Section 6.7 Indemnification of Employees and Agents of the Corporation; Services at Subsidiaries. The Corporation may, to the extent and in the manner permitted by law, and to the extent authorized from time to time, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation. In addition, the Corporation may, to the extent and in the manner permitted by law, and to the extent authorized from time to time, grant rights to indemnification and to the advancement of expenses to individuals with respect to their service as a director, officer, employee or agent of subsidiaries of the Corporation.

Section 6.8 Nature of Rights. The rights conferred upon indemnitees in this Article VI shall be contract rights and such rights shall continue as to an indemnitee who has ceased to be a director or officer and shall inure to the benefit of the indemnitee's heirs, executors and administrators. Any amendment, alteration or repeal of this Article VI that adversely affects any right of an indemnitee or its successors shall be prospective only and shall not limit or eliminate any such right with respect to any proceeding involving any occurrence or alleged occurrence of any action or omission to act that took place prior to such amendment, alteration or repeal.

Section 6.9 Settlement of Claims. Notwithstanding anything in this Article VI to the contrary, the Corporation shall not be liable to indemnify any indemnitee under this Article VI for any amounts paid in settlement of any proceeding effected without the Corporation's written consent, which consent shall not be unreasonably withheld.

Section 6.10 Subrogation. In the event of payment under this Article VI, the Corporation shall be subrogated to the extent of such payment to all of the rights of recovery of the indemnitee (excluding insurance obtained on the indemnitee's own behalf), and the indemnitee shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Corporation effectively to bring suit to enforce such rights.

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Section 6.11 Severability. If any provision or provisions of this Article VI shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law: (a) the validity, legality and enforceability of such provision in any other circumstance and of the remaining provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not by themselves invalid, illegal or unenforceable) and the application of such provision to other persons or entities or circumstances shall not in any way be affected or impaired thereby; and (b) to the fullest extent possible, the provisions of this Article VI (including, without limitation, all portions of any paragraph of this Article VI containing any such provision held to be invalid, illegal or unenforceable, that are not themselves invalid, illegal or unenforceable) shall be construed so as to give effect to the intent of the parties that the Corporation provide protection to the indemnitee to the fullest extent set forth in this Article VI.

ARTICLE VII
CAPITAL STOCK

Section 7.1 Certificates of Stock. The shares of the Corporation may be certificated or uncertificated. Any certificates shall be in such form as shall be determined by the Board of Directors, and shall be numbered and entered in the books of the Corporation as they are issued. Every holder of stock represented by certificates shall be entitled to have a certificate signed by or in the name of the Corporation by any two authorized officers of the Corporation, including, without limitation, the Chief Executive Officer or the Secretary, or the President, the Chief Financial Officer, the Treasurer, the Controller, or an Assistant Treasurer or Assistant Secretary, if any, representing the number of shares registered in certificated form. Any or all such signatures may be facsimiles or otherwise electronic signatures. In case any officer, transfer agent or registrar who has signed or whose facsimile or otherwise electronic signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if such person were such officer, transfer agent or registrar at the date of issue.

Section 7.2 Special Designation on Certificates. If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the registered owner thereof shall be given a notice, in writing or by electronic transmission, containing the information required to be set forth or stated on certificates pursuant to this Section 7.2 or Section 151, 156, 202(a) or 218(a) of the DGCL or with respect to this Section 7.2 and Section 151 of the DGCL a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences, and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Except as otherwise expressly provided by law, the rights and obligations of the holders of uncertificated stock and the rights and obligations of the holders of certificates representing stock of the same class and series shall be identical.

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Section 7.3 Transfers of Stock. Transfers of shares of stock of the Corporation shall be made only on the books of the Corporation upon authorization by the registered holder thereof or by such holder's attorney thereunto authorized by a power of attorney duly executed and filed with the Secretary (or other officer designated by the Board) or a transfer agent for such stock, and if such shares are represented by a certificate, upon surrender of the certificate or certificates for such shares properly endorsed or accompanied by a duly executed stock transfer power and the payment of any taxes thereon; provided, however, that the Corporation shall be entitled to recognize and enforce any lawful restriction on transfer. Transfers may also be made in any manner authorized by the Corporation (or its authorized transfer agent) and permitted by Section 224 of the DGCL.

Section 7.4 Lost Certificates. The Corporation may issue a new share certificate or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate or the owner's legal representative to give the Corporation a bond (or other adequate security) sufficient to indemnify it against any claim that may be made against it (including any expense or liability) on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares. The Board of Directors may adopt such other provisions and restrictions with reference to lost certificates, not inconsistent with applicable law, as it shall in its discretion deem appropriate.

Section 7.5 Registered Stockholders. The Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends, and to vote as such owner, and shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise required by law.

Section 7.6 Record Date for Determining Stockholders.

(a)In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjourned meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall, unless otherwise required by law, not be more than 60 nor less than 10 days before the date of such meeting. If the Board of Directors so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board of Directors determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of and to vote at a meeting of stockholders shall be at the close of business (as defined in Section 2.10(c)(iv) above) on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjourned meeting; provided, however, that the Board of Directors may fix a new record date for the determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

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(b)In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 60 days prior to such action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

(c)Unless otherwise restricted by the Certificate of Incorporation, in order that the Corporation may determine the stockholders entitled to express consent to corporate action without a meeting, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than 10 days after the date upon which the resolution fixing the record date is adopted by the Board of Directors. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to express consent to corporate action without a meeting, when no prior action of the Board of Directors is required by law, shall be the first date on which a signed consent setting forth the action taken or proposed to be taken was delivered to the Corporation in accordance with Section 2.12. If no record date has been fixed by the Board of Directors, the record date for determining stockholders entitled to express consent to corporate action without a meeting, if prior action by the Board of Directors is required by law, shall be at the close of business on the day on which the Board of Directors adopts the resolution taking such prior action.

Section 7.7 Regulations. To the extent permitted by applicable law, the Board of Directors may make such additional rules and regulations as it may deem expedient concerning the issue, transfer and registration of shares of stock of the Corporation.

Section 7.8 Waiver of Notice. Whenever notice is required to be given under any provision of the DGCL or the Certificate of Incorporation or these Bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time stated therein, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, the Board of Directors or a committee of the Board of Directors need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the Certificate of Incorporation or these Bylaws.

ARTICLE VIII
GENERAL MATTERS

Section 8.1 Fiscal Year. The fiscal year of the Corporation shall begin on the first day of January of each year and end on the last day of December of the same year, or shall extend for such other 12 consecutive months as the Board of Directors may designate.

Section 8.2 Corporate Seal. The Board of Directors may provide a suitable seal, containing the name of the Corporation, which seal shall be in the charge of the Secretary (or other officer designated by the Board). If and when so directed by the Board of Directors or a committee thereof, duplicates of the seal may be kept and used by the Treasurer or by an Assistant Secretary or Assistant Treasurer, if any.

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Section 8.3 Reliance upon Books, Reports and Records. Each director and each member of any committee designated by the Board of Directors shall, in the performance of his or her duties, be fully protected in relying in good faith upon the books of account or other records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of its officers or employees, or committees of the Board of Directors so designated, or by any other person as to matters which such director or committee member reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 8.4 Subject to Law and Certificate of Incorporation. All powers, duties and responsibilities provided for in these Bylaws, whether or not explicitly so qualified, are qualified by the Certificate of Incorporation and applicable law.

Section 8.5 Electronic Signatures, etc. Except as otherwise required by the Certificate of Incorporation or these Bylaws, any document, including, without limitation, any consent, agreement, certificate or instrument, required by the DGCL, the Certificate of Incorporation or these Bylaws to be executed by any officer, director, stockholder, employee or agent of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. All other contracts, agreements, certificates or instruments to be executed on behalf of the Corporation may be executed using a facsimile or other form of electronic signature to the fullest extent permitted by applicable law. The terms "electronic mail," "electronic mail address," "electronic signature" and "electronic transmission" as used herein shall have the meanings ascribed thereto in the DGCL.

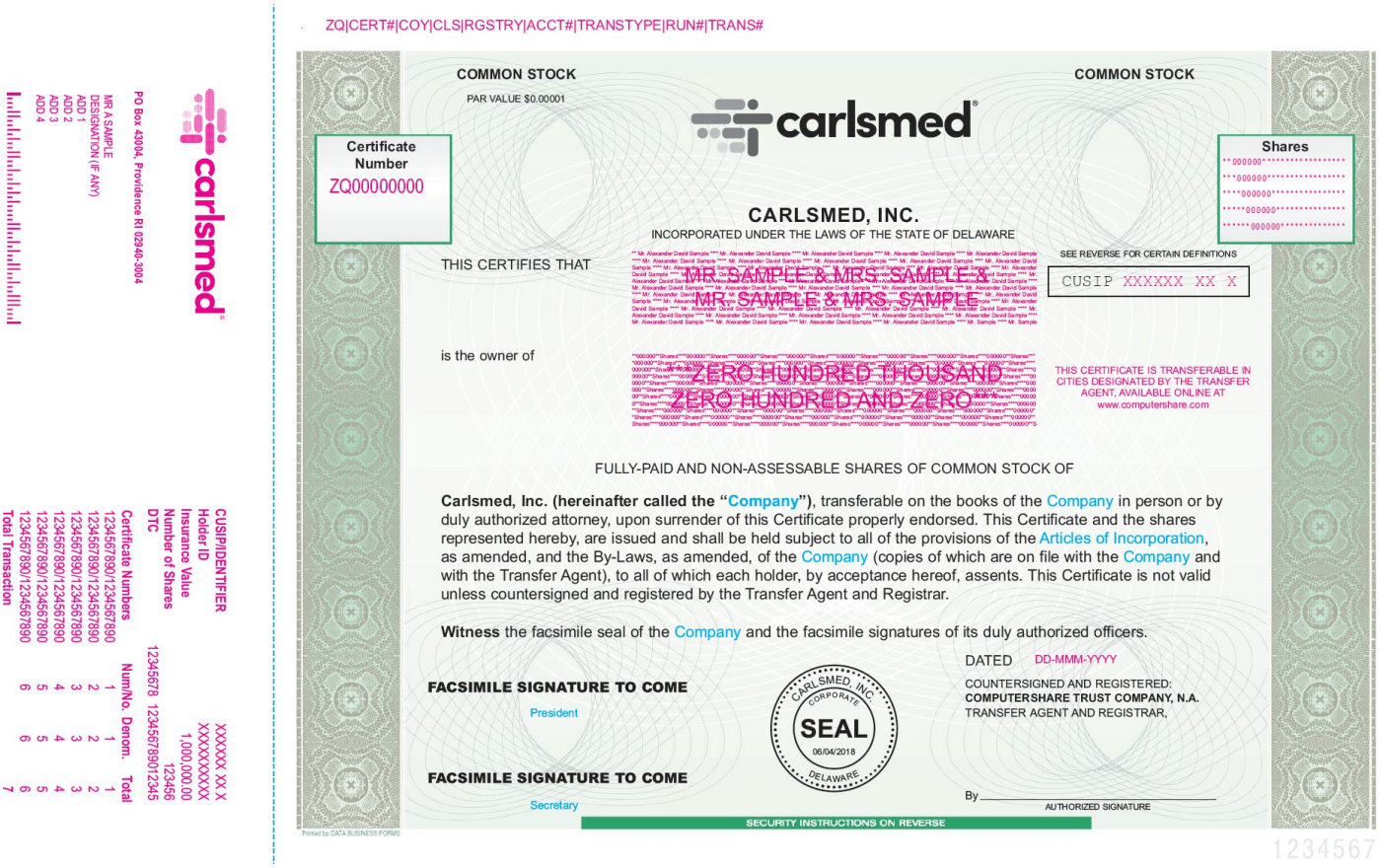
ARTICLE IX
AMENDMENTS

Section 9.1 Amendments. In furtherance and not in limitation of the powers conferred by the laws of the State of Delaware, the Board of Directors is expressly authorized to adopt, amend or repeal these Bylaws. Except as otherwise provided in the Certificate of Incorporation or these Bylaws, the affirmative vote of stockholders representing at least sixty-six and two-thirds percent (66-2/3%) of the voting power of the stock outstanding and entitled to vote thereon, voting together as a single class, shall be required for the stockholders to adopt, amend or repeal, or adopt any provision inconsistent with, any provision of these Bylaws; provided, however, that no Bylaws hereafter adopted by the stockholders shall invalidate any prior act of the Board that would have been valid if such Bylaws had not been adopted.

The foregoing Amended and Restated Bylaws were adopted by the Board of Directors on [ ], 2025.

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Exhibit 4.1



ZQ|CERT#|COY|CLS|RGSTRY|ACCT#|TRANSTYPE|RUN#|TRANS#

COMMON STOCK

PAR VALUE $0.00001

COMMON STOCK

carlsmed

Certificate Number
ZQ00000000

Shares
000000********
000000*******
****000000**********
*****000000**********
******000000**********

CARLSMED, INC.

INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE

THIS CERTIFIES THAT

MR SAMPLE & MRS SAMPLE &
MR SAMPLE & MRS SAMPLE

SEE REVERSE FOR CERTAIN DEFINITIONS

CUSIP XXXXXX XX X

is the owner of

ZERO HUNDRED THOUSAND
ZERO HUNDRED AND ZERO

THIS CERTIFICATE IS TRANSFERABLE IN CITIES DESIGNATED BY THE TRANSFER AGENT, AVAILABLE ONLINE AT www.computershare.com

FULLY-PAID AND NON-ASSESSABLE SHARES OF COMMON STOCK OF

Carlsmed, Inc. (hereinafter called the "Company"), transferable on the books of the Company in person or by duly authorized attorney, upon surrender of this Certificate properly endorsed. This Certificate and the shares represented hereby, are issued and shall be held subject to all of the provisions of the Articles of Incorporation, as amended, and the By-Laws, as amended, of the Company (copies of which are on file with the Company and with the Transfer Agent), to all of which each holder, by acceptance hereof, assents. This Certificate is not valid unless countersigned and registered by the Transfer Agent and Registrar.

Witness the facsimile seal of the Company and the facsimile signatures of its duly authorized officers.

DATED DD-MMM-YYYY

FACSIMILE SIGNATURE TO COME

President

CARLSMED, INC. CORPORATE SEAL 06/04/2018 DELAWARE

COUNTERSIGNED AND REGISTERED:
COMPUTERSHARE TRUST COMPANY, N.A.
TRANSFER AGENT AND REGISTRAR,

FACSIMILE SIGNATURE TO COME

Secretary

By _____
AUTHORIZED SIGNATURE

SECURITY INSTRUCTIONS ON REVERSE

Printed by DATA BUSINESS FORMS

1234567

carlsmed

PO Box 43004, Providence RI 02940-3004

MR A SAMPLE
DESIGNATION (IF ANY)
ADD 1
ADD 2
ADD 3
ADD 4

CUSIP/IDENTIFIER	XXXXXX XX X
Holder ID	XXXXXXXXXX
Insurance Value	1,000,000.00
Number of Shares	123456
DTC	12345678 12345678901234

Certificate Numbers	Num/No.	Denom.	Total
12345678/12345678/90	1	1	1
12345678/12345678/90	2	2	2
12345678/12345678/90	3	3	3
12345678/12345678/90	4	4	4
12345678/12345678/90	5	5	5
12345678/12345678/90	6	6	6
Total Transaction			7

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CARLSMED, INC.

THE COMPANY WILL FURNISH WITHOUT CHARGE TO EACH SHAREHOLDER WHO SO REQUESTS, A SUMMARY OF THE POWERS, DESIGNATIONS, PREFERENCES AND RELATIVE, PARTICIPATING, OPTIONAL OR OTHER SPECIAL RIGHTS OF EACH CLASS OF STOCK OF THE COMPANY AND THE QUALIFICATIONS, LIMITATIONS OR RESTRICTIONS OF SUCH PREFERENCES AND RIGHTS, AND THE VARIATIONS IN RIGHTS, PREFERENCES AND LIMITATIONS DETERMINED FOR EACH SERIES, WHICH ARE FIXED BY THE ARTICLES OF INCORPORATION OF THE COMPANY, AS AMENDED, AND THE RESOLUTIONS OF THE BOARD OF DIRECTORS OF THE COMPANY, AND THE AUTHORITY OF THE BOARD OF DIRECTORS TO DETERMINE VARIATIONS FOR FUTURE SERIES. SUCH REQUEST MAY BE MADE TO THE OFFICE OF THE SECRETARY OF THE COMPANY OR TO THE TRANSFER AGENT. THE BOARD OF DIRECTORS MAY REQUIRE THE OWNER OF A LOST OR DESTROYED STOCK CERTIFICATE, OR HIS LEGAL REPRESENTATIVES, TO GIVE THE COMPANY A BOND TO INDEMNIFY IT AND ITS TRANSFER AGENTS AND REGISTRARS AGAINST ANY CLAIM THAT MAY BE MADE AGAINST THEM ON ACCOUNT OF THE ALLEGED LOSS OR DESTRUCTION OF ANY SUCH CERTIFICATE.

The following abbreviations, when used in the inscription on the face of this certificate, shall be construed as though they were written out in full according to applicable laws or regulations:

TEN COM - as tenants in common	UNIF GIT MIN ACT - (Cust) Custodian (Minor)	
TEN ENT - as tenants by the entireties	under Uniform Gifts to Minors Act (State)	
JT TEN - as joint tenants with right of survivorship and not as tenants in common	UNIF TRF MIN ACT - (Cust) Custodian (until age)	
	(Minor) under Uniform Transfers to Minors Act (State)	

Additional abbreviations may also be used though not in the above list.

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

For value received, _____ hereby sell, assign and transfer unto

_____

(PLEASE PRINT OR TYPEWRITE NAME AND ADDRESS, INCLUDING POSTAL ZIP CODE, OF ASSIGNEE)

_____

_____

_____ Shares

of the common stock represented by the within Certificate, and do hereby irrevocably constitute and appoint

_____ Attorney

to transfer the said stock on the books of the within-named Company with full power of substitution in the premises.

Dated: _____ 20_____

Signature:_____

Signature:_____

Notice: The signature to this assignment must correspond with the name as written upon the face of the certificate, in every particular, without alteration or enlargement, or any change whatever.

Signature(s) Guaranteed: Medallion Guarantee Stamp

THE SIGNATURE(S) SHOULD BE GUARANTEED BY AN ELIGIBLE GUARANTOR INSTITUTION (Banks, Stockbrokers, Savings and Loan Associations and Credit Unions) WITH MEMBERSHIP IN AN APPROVED SIGNATURE GUARANTEE MEDALLION PROGRAM, PURSUANT TO S.E.C. RULE 17Ad-15.

SECURITY INSTRUCTIONS

THIS IS WATERMARKED PAPER. DO NOT ACCEPT WITHOUT NOTING WATERMARK. HELD TO LIGHT TO VERIFY WATERMARK.

The IRS requires that the named transfer agent ("we") report the cost basis of certain shares or units acquired after January 1, 2011. If your shares or units are covered by the legislation, and you requested to sell or transfer the shares or units using a specific cost basis calculation method, then we have processed as you requested. If you did not specify a cost basis calculation method, then we have defaulted to the first in, first out (FIFO) method. Please consult your tax advisor if you need additional information about cost basis.

If you do not keep in contact with the issuer or do not have any activity in your account for the time period specified by state law, your property may become subject to state unclaimed property laws and transferred to the appropriate state.

1234567

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EXHIBIT 4.2

THIS WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN SECTIONS 5.3 AND 5.4 BELOW, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE COMPANY, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

WARRANT TO PURCHASE COMMON STOCK

Company:	Carlsmed, Inc., a Delaware corporation
Number of Shares:	57,686 Shares of Common Stock (the "**Initial Shares**"), which is equal to at least 0.10% of the total fully diluted ownership of the Company as of the Issue Date; plus all Additional Shares which Holder is entitled to purchase pursuant to Section 1.7
Warrant Price:	(1) $0.06 per Share for the Initial Shares and First Additional Shares, which is equal to the

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	fair market value of a share of Common Stock set forth in the most recent 409A valuation report issued on December 31, 2020, with a valuation date of December 17, 2020, and (2) the price per Share for the Second Additional Shares calculated in accordance with Section 1.7 of this Warrant
Issue Date:	April 30, 2021
Expiration Date:	April 30, 2031 **See also Section 5.1(b).**
Credit Facility:	This Warrant to Purchase Common Stock (this "**Warrant**") is issued in connection with that certain Loan and Security Agreement dated as of even date herewith between Silicon Valley Bank and the

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Company (as the same may from time to time be amended, modified, supplemented or restated, the "**Loan Agreement**").

THIS WARRANT CERTIFIES THAT, for good and valuable consideration, SILICON VALLEY BANK (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "**Holder**") is entitled to purchase the number of fully paid and non-assessable shares (the "**Shares**") of the above-stated common stock (the "**Common Stock**") of the above-named company (the "**Company**") at the above-stated applicable Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant, subject to the provisions and upon the terms and conditions set forth in this Warrant. Reference is made to Section 5.4 of this Warrant whereby Silicon Valley Bank shall transfer this Warrant to its parent company, SVB Financial Group.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to the Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by the Company), or other

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form of payment acceptable to the Company for the aggregate applicable Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate applicable Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised (a "**Cashless Exercise**"). Thereupon, the Company shall issue to the Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to the Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to the Company in payment of the aggregate applicable Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share on the date of exercise; and

B = the applicable Warrant Price.

1.3 Fair Market Value. If the Company's Common Stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "**Trading Market**"), the fair market value of a Share shall be the closing price or last sale price of a share of Common Stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to the Company. If the Company's Common Stock is not traded in a Trading Market, the Board of Directors of the Company shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Within a reasonable time after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, the Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to the Company or, in the case of mutilation, on surrender of this Warrant to the Company for cancellation, the Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

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1.6 Treatment of Warrant Upon Acquisition of Company.

(a) Acquisition. For the purpose of this Warrant, "**Acquisition**" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of the Company; (ii) any merger or consolidation of the Company into or with another person or entity (other than a merger or consolidation effected exclusively to change the Company's domicile), or any other corporate reorganization, in which the stockholders of the Company in their capacity as such immediately prior to such merger, consolidation or reorganization, own less than a majority of the Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation or reorganization; (iii) any merger or consolidation of the Company into or with another person or entity as the result of which the Company becomes a wholly-owned subsidiary of a Company that is subject to the reporting requirements of Section 13 or Section 15(d) of the Exchange Act (as defined below); or (iv) any sale or other transfer by the stockholders of the Company of shares representing at least a majority of the Company's then-total outstanding combined voting power.

(b) Treatment of Warrant at Acquisition. In the event of an Acquisition in which the consideration to be received by the Company's stockholders consists solely of cash, solely of Marketable Securities or a combination of cash and Marketable Securities (a "**Cash/Public Acquisition**"), and the fair market value of one Share as determined in accordance with Section 1.3 above would be greater than the applicable Warrant Price in effect on such date immediately prior to such Cash/Public Acquisition, and Holder has not exercised this Warrant pursuant to Section 1.1 above as to all Shares, then this Warrant shall automatically be deemed to be Cashless Exercised pursuant to Section 1.2 above as to all Shares effective immediately prior to and contingent upon the consummation of a Cash/Public Acquisition. In connection with such Cashless Exercise, Holder shall be deemed to have restated each of the representations and warranties in Section 4 of the Warrant as of the date thereof and the Company shall promptly notify the Holder of the number of Shares (or such other securities) issued upon exercise. In the event of a Cash/Public Acquisition where the fair market value of one Share as determined in accordance with Section 1.3 above would be less than the applicable Warrant Price in effect immediately prior to such Cash/Public Acquisition, then this Warrant will expire immediately prior to the consummation of such Cash/Public Acquisition.

(c) Upon the closing of any Acquisition other than a Cash/Public Acquisition defined above, the acquiring, surviving or successor entity shall assume the obligations of this Warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant.

(d) As used in this Warrant, "**Marketable Securities**" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the

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Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded in Trading Market, and (iii) following the closing of

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such Acquisition, Holder would not be restricted from publicly re-selling all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise or convert this Warrant in full on or prior to the closing of such Acquisition, except to the extent that any such restriction (x) arises solely under federal or state securities laws, rules or regulations, and (y) does not extend beyond six (6) months from the closing of such Acquisition.

1.7 Additional Shares. In addition to the right to purchase the Initial Shares granted to Holder on the Issue Date,

(a) on the Funding Date of the initial Term Loan Advance under Tranche One (the "**First Additional Shares Date**"), the Company shall be deemed to have automatically granted to Holder the right to purchase under this Warrant, at an exercise price per share equal to the Warrant Price, additional Shares equal to 0.10% of the total fully diluted ownership of the Company as of the First Additional Shares Date (all such additional Shares being called the "**First Additional Shares**"). On the First Additional Shares Date, Company shall provide Holder with a true, correct, and complete copy of the Company's capitalization table as of the First Additional Shares Date.

(b) on the Funding Date of the initial Term Loan Advance under Tranche Two (the "**Second Additional Shares Date**"), the Company shall be deemed to have automatically granted to Holder the right to purchase under this Warrant, at an exercise price per share equal to the fair market value of a share of Common Stock set forth in the most recent 409A valuation report of Borrower as of the Second Additional Shares Date (the "**Second Additional Shares 409A**"), additional Shares equal to 0.05% of the total fully diluted ownership of the Company as of the Second Additional Shares Date (all such additional Shares being called the "**Second Additional Shares**"; together with the First Additional Shares, the "**Additional Shares**"). On the Second Additional Shares Date, Company shall provide Holder with a true, correct, and complete copy of (i) the Second Additional Shares 409A, and (ii) the Company's capitalization table as of the Second Additional Shares Date.

Capitalized terms used but not defined in this Section 1.7 shall have the meanings given to them in the Loan Agreement.

SECTION 2. ADJUSTMENTS TO THE SHARES AND APPLICABLE WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If the Company declares or pays a dividend or distribution on the outstanding shares of the Common Stock payable in securities or property (other than cash), then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of securities and property which Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the Company subdivides the outstanding shares of the Common Stock by reclassification or otherwise into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the applicable Warrant Price shall be proportionately decreased. If the outstanding shares of the Common Stock are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the applicable

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Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Common Stock are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations substitutions, replacements or other similar events.

2.3 Intentionally Omitted.

2.4 Intentionally Omitted.

2.5 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of the Warrant, the Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (i) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (ii) the then-effective applicable Warrant Price.

2.6 Notice/Certificate as to Adjustments. Upon each adjustment of the applicable Warrant Price, Common Stock and/or number of Shares, the Company, at the Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the applicable Warrant Price, class and/or number of Shares and facts upon which such adjustment is based. The Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the applicable Warrant Price, class and number of Shares in effect upon the date of such adjustment.

SECTION 3. REPRESENTATIONS AND COVENANTS OF THE COMPANY.

3.1 Representations and Warranties. The Company represents and warrants to, and agrees with, the Holder as follows:

(a) The initial Warrant Price for the Initial Shares referenced on the first page of this Warrant is not greater than the price per share at which shares of the Company's Common Stock or options to purchase shares of the Company's Common Stock were valued in the most recent 409A valuation occurring prior to the Issue Date hereof.

(b) All Shares which may be issued upon the exercise of this Warrant shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under the Company's Certificate of Incorporation or Bylaws, each as amended and in effect from time to time, any stockholder agreement (to the extent Holder is

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then a party thereto) or applicable federal and state securities laws. The Company covenants that it shall at all times cause to be reserved

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and kept available out of its authorized and unissued capital stock such number of securities as will be sufficient to permit the exercise in full of this Warrant.

(c) The Company's capitalization table attached hereto as Schedule 1 is true and complete, in all material respects, as of the Issue Date.

3.2 Notice of Certain Events. During the time in which this Warrant is outstanding, if the Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of its Common Stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(b) offer for subscription or sale pro rata to all of the holders of the outstanding shares of Common Stock any additional shares of any class or series of the Company's stock (other than pursuant to contractual pre-emptive rights);

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Common Stock;

(d) effect an Acquisition or to liquidate, dissolve or wind up; or

(e) effect an initial, underwritten offering and sale of its securities to the public pursuant to an effective registration statement under the Act (the "**IPO**"); then, in connection with each such event, the Company shall give Holder:

(1) in the case of the matters referred to in (a) and (b) above, at least seven (7) Business Days prior written notice of the earlier to occur of the effective date thereof or the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the estimated date, if then known, on which the holders of outstanding shares of the Common Stock will be entitled thereto) or for determining rights to vote, if any;

(2) in the case of the matters referred to in (c) and (d) above at least seven (7) Business Days prior written notice of the date when the same will take place (and specifying the estimated date, if then known, on which the holders of outstanding shares of the Common Stock will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event and such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such event giving rise to the notice); and

(3) with respect to the IPO, at least seven (7) Business Days prior written notice of the date on which the Company proposes to file its registration statement in connection therewith.

Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

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Notwithstanding anything to the contrary, in no event shall the Company be required to provide information: (i) as prohibited by applicable law, rule, regulation, court order, stock exchange rules or agreement or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest. With respect to any confidential information that Holder receives under this Warrant, Holder agrees to be bound by the confidentiality provisions contained in Section 12.9 of the Loan Agreement whether or not the Loan Agreement otherwise remains in effect.

SECTION 4. REPRESENTATIONS, WARRANTIES OF THE HOLDER.

The Holder represents and warrants to the Company as follows:

4.1 Purchase for Own Account. This Warrant and the Shares to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to the public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of the Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from the Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent the Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of such Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with the Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of the Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such

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registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Market Stand-off Agreement. The Holder agrees that this Warrant and the Shares shall be subject to, and Holder shall be bound by as if a party to, the Market Standoff provisions set forth in Section 2.11 of the Investors' Rights Agreement, dated as of December 15, 2020, by and among the Company and certain of its stockholders, as the same may be amended, modified or restated from time to time, and any successor agreement thereto.

4.7 No Voting Rights. Holder, as a Holder of this Warrant, will not have any voting rights until the exercise of this Warrant.

SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Pacific time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise upon Expiration. In the event that, upon the Expiration Date, the fair market value of one Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the applicable Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it shall not previously have been exercised, and the Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) shall be imprinted with a legend in substantially the following form, together with any additional legends required by the Company's Bylaws or any agreement to which the Holder, this Warrant or the Shares is then subject:

> THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "**ACT**"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN WARRANT TO PURCHASE COMMON STOCK ISSUED BY THE ISSUER TO SILICON VALLEY BANK DATED APRIL 30, 2021, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED UNLESS AND UNTIL REGISTERED UNDER SAID ACT AND LAWS OR IN FORM AND SUBSTANCE SATISFACTORY TO THE ISSUER, SUCH OFFER, SALE, PLEDGE OR OTHER TRANSFER IS EXEMPT FROM SUCH REGISTRATION.

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5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee (including, without limitation, the delivery of investment representation letters and legal opinions reasonably satisfactory to the Company, as reasonably requested by the Company), the Company's Bylaws, and any agreement to which the Holder, this Warrant or the Shares is then subject. The Company shall not require Holder to provide an opinion of counsel if the transfer is to SVB Financial Group (Silicon Valley Bank's parent company) or any other affiliate of Holder, provided that any such transferee is an "accredited investor" as defined in Regulation D promulgated under the Act. Additionally, the Company shall also not require an opinion of counsel if there is no material question as to the availability of Rule 144 promulgated under the Act.

5.4 Transfer Procedure. After receipt by Silicon Valley Bank of the executed Warrant, Silicon Valley Bank will transfer all of this Warrant to its parent company, SVB Financial Group. By its acceptance of this Warrant, SVB Financial Group hereby makes to the Company each of the representations and warranties set forth in Section 4 hereof and agrees to be bound by all of the terms and conditions of this Warrant as if the original Holder hereof. Subject to the provisions of Section 5.3 and upon providing the Company with written notice, SVB Financial Group and any subsequent Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable directly or indirectly, upon conversion of the Shares, if any) to any transferee that is an "accredited investor" pursuant to Rule 501 under the Act, provided, however, in connection with any such transfer, SVB Financial Group or any subsequent Holder will give the Company notice of the portion of the Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable directly or indirectly, upon conversion of the Shares, if any) being transferred with the name, address and taxpayer identification number of the transferee and Holder will surrender this Warrant to the Company for reissuance to the transferee(s) (and Holder if applicable); and provided further, that any subsequent transferee other than SVB Financial Group shall agree in writing with the Company to be bound by all of the terms and conditions of this Warrant, the Company's Bylaws and, to the extent requested by the Company, any agreement to which the Holder, this Warrant or the Shares is then subject. Notwithstanding any contrary provision herein, at all times prior to the IPO, Holder may not, without the Company's prior written consent, transfer this Warrant or any portion hereof, or any Shares issued upon any exercise hereof, or any shares or other securities issued upon any conversion of any Shares issued upon any exercise hereof, to any person or entity who directly competes with the Company, except in connection with an Acquisition of the Company by such a direct competitor.

5.5 Notices. All notices and other communications hereunder from the Company to the Holder, or vice versa, shall be deemed delivered and effective (i) when given personally, (ii) on the third (3rd) Business Day after being mailed by first-class registered or certified mail, postage prepaid, (iii) upon actual receipt if given by facsimile or electronic mail and such receipt is confirmed in writing by the recipient, or (iv) on the first Business Day following delivery to a reliable overnight courier service, courier fee prepaid, in any case at such address as may have been furnished to the Company or Holder, as the case may be, in writing by the Company or such Holder from time to time in accordance with the provisions of this Section 5.5. All notices to

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Holder shall be addressed as follows until the Company receives notice of a change of address in connection with a transfer or otherwise:

SVB Financial Group
Attn: Treasury Department
3003 Tasman Drive, HC 215
Santa Clara, California 95054
[***]
[***]
[***]

Notice to the Company shall be addressed as follows until Holder receives notice of a change in address:

Carlsmed, Inc.
Attn: Michael Cordonnier, CEO
1800 Aston Avenue, Suite 100
Carlsbad, California 92008
[***]

5.6 Waiver. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.7 Attorneys' Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.8 Counterparts; Facsimile/Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Company, Holder and any other party hereto may execute this Warrant by electronic means and each party hereto recognizes and accepts the use of electronic signatures and records by any other party hereto in connection with the execution and storage hereof. To the extent that this Warrant or any agreement subject to the terms hereof or any amendment hereto is executed, recorded or delivered electronically, it shall be binding to the same extent as though it had been executed on paper with an original ink signature. The fact that this Warrant is executed, signed, stored or delivered electronically shall not prevent the transfer by any Holder of this Warrant pursuant to Section 5.4 or the enforcement of the terms hereof.

5.9 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of California, without giving effect to its principles regarding conflicts of law.

5.10 Headings. The headings in this Warrant are for purposes of reference only and shall not limit or otherwise affect the meaning of any provision of this Warrant.

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5.11 Business Days. "**Business Day**" is any day that is not a Saturday, Sunday or a day on which Silicon Valley Bank is closed.

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[Signature page follows]

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IN WITNESS WHEREOF, the parties have caused this Warrant to Purchase Common Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

CARLSMED, INC.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: CEO

"HOLDER"

SILICON VALLEY BANK

By: /s/ Brendan Crawford

Name: Brendan Crawford

Title: Vice President

[Signature Page to Warrant to Purchase Common Stock]

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APPENDIX 1

NOTICE OF EXERCISE

1.The undersigned Holder hereby exercises its right purchase _____ shares of the Common Stock of CARLSMED, INC., a Delaware corporation (the "**Company**") in accordance with the attached Warrant To Purchase Common Stock, and tenders payment of the aggregate applicable Warrant Price for such shares as follows:

[ ] check in the amount of $_____ payable to order of the Company enclosed herewith

[ ] Wire transfer of immediately available funds to the Company's account

[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant

[ ] Other [Describe]
_____

2.Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3.By its execution below and for the benefit of the Company, Holder hereby restates each of the representations and warranties in Section 4 of the Warrant to Purchase Common Stock as of the date hereof.

HOLDER:

___ ___ __

By: _____

Name: __

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Title:

(Date): ___

Appendix 1

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SCHEDULE 1

Company Capitalization Table

See attached

Schedule 1

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Execution Version

EXHIBIT 4.3

THIS SECOND WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN COMPLIANCE WITH APPLICABLE LAW.

SECOND WARRANT TO PURCHASE STOCK

Company:	Carlsmed, Inc.
Number of Shares:	Determined in accordance with Section 2.5
Type/ Series of Stock:	Series C Preferred Stock
Warrant Price:	$1.9240 per share
Issue Date:	December 30, 2024
Expiration Date:	December 30, 2034
Credit Facility:	This Second Warrant to Purchase Stock (this "**Warrant**") is issued in connection with that certain Loan and Security Agreement dated as of December 20, 2022 between Customers Bank (as successor-in-interest to Signature Bank) and Company, as amended by that certain First Amendment to Loan and Security Agreement dated as of March 21, 2023, that certain Second Amendment to Loan and Security Agreement dated as of October 2, 2023, that certain Third Amendment to Loan and Security Agreement dated as of March 7, 2024,

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and that certain Fourth Amendment to Loan and Security Agreement dated on or about the Issue Date (as the same may be further amended, restated, or otherwise modified from time to time, the "**Loan Agreement**").

THIS SECOND WARRANT CERTIFIES THAT Customers Bank (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "**Holder**") is entitled to purchase the number of fully paid and non-assessable shares (the "**Shares**") of the above-stated Type/Series of Stock (the "**Class**") of Company at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant.

SECTION 1. EXERCISE.

1.1 Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by Company), or other form of payment acceptable to Company for the aggregate Warrant Price for the Shares being purchased.

1.2 Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, Company shall issue to Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

X = the number of Shares to be issued to Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to Company in payment of the aggregate Warrant Price);

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[A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3 Fair Market Value. If Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "**Trading Market**") and the Class is common stock, the fair market value of a Share shall be the closing price or last sale price of a share of common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to Company. If Company's common stock is then traded in a Trading Market and the Class is a series of Company's convertible preferred stock, the fair market value of a Share shall be the closing price or last sale price of a share of Company's common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to Company multiplied by the number of shares of Company's common stock into which a Share is then convertible. If Company's common stock is not traded in a Trading Market, the Company's Board of Directors shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4 Delivery of Certificate and New Warrant. Within a reasonable time after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5 Replacement of Warrant. On receipt of evidence reasonably satisfactory to Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to Company or, in the case of mutilation, on surrender of this Warrant to Company for cancellation, Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6 Treatment of Warrant Upon Acquisition of Company.

(a) For the purpose of this Warrant, "**Acquisition**" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of Company; (ii) any merger or consolidation of Company into or with another person or entity (other than a merger or consolidation effected exclusively to change Company's domicile), or any other corporate reorganization, in which the stockholders of Company in their capacity as such immediately prior to such merger, consolidation, or reorganization own less than a majority of Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation, or reorganization; or (iii) any sale or other transfer by the stockholders of Company of shares representing at least a majority of Company's then-total outstanding combined voting power.

(b) In the event of an Acquisition in which the consideration to be received by Company's stockholders consists solely of cash, solely of Marketable Securities, or solely a combination of cash and Marketable Securities (a "**Cash/Public Acquisition**"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or Section 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c) Company shall provide Holder with written notice of a Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice) not less than seven (7) Business Days prior to the closing of the proposed Cash/Public Acquisition. In the event Company does not provide such notice, then if, immediately prior to the Cash/Public Acquisition, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it

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has not previously been exercised, and Company shall promptly notify Holder of the number of Shares (or such other securities) issued upon

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such exercise to Holder, and Holder shall be deemed to have restated each of the representations and warranties in Section 4 of this Warrant as of the date thereof. If, immediately prior to the Cash/Public Acquisition, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be less than the Warrant Price in effect on such date, then this Warrant will expire and be terminated in its entirety immediately prior to the consummation of such Cash/Public Acquisition.

(d) Upon the closing of any Acquisition other than a Cash/Public Acquisition, Holder shall have the option to (i) deem this Warrant to have been automatically converted pursuant to Section 1.2 simultaneously with the closing of the Acquisition, and thereafter Holder shall participate in the Acquisition on the same terms as other holders of the same class of securities of Company or (ii) cause the successor entity to assume the obligations of this warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant. Holder shall give the Company written notice of its election with respect to the above within five (5) Business Days after Holder receives notice of the Acquisition and information reasonably necessary for Holder to evaluate the treatment of this Warrant in connection with the Acquisition.

(e) As used in this Warrant, "**Marketable Securities**" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**") and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market, and (iii) following the closing of the Acquisition, Holder would not be restricted from publicly re-selling all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise or convert this Warrant in full on or prior to the closing of such Acquisition, except to the extent that any such restriction (x) arises solely under federal or state securities laws, rules or regulations, and (y) does not extend beyond six (6) months from the closing of such Acquisition (or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in applicable FINRA rules, or any successor provisions or amendments thereto).

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1 Stock Dividends, Splits, Etc. If Company declares or pays a dividend or distribution on the outstanding shares of the Class, then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of property that Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the outstanding shares of the Class are split or subdivided, by reclassification or otherwise, into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

2.2 Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations, substitutions, replacements or other similar events.

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2.3 No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant, and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of this Warrant, Company shall eliminate such fractional Share interest by paying Holder in

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cash the amount computed by multiplying the fractional interest by (a) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (b) the then-effective Warrant Price.

2.4 Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, Company, at Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

2.5 Number of Shares.

(a) Capitalized terms used in this Section 2.5 but not defined in this Warrant have the meaning given to them in the Loan Agreement.

(b) Initially, this Warrant shall be exercisable for 28,424 Shares.

(c) If the Fifth Monthly Revenue Milestone is achieved and Company has the ability to request and receive Term Loan Advances in an aggregate amount up to Twenty-Seven Million Five Hundred Thousand Dollars ($27,500,000) (inclusive of prior Term Loan Advances) at any time on or before the date of exercise of this Warrant, then this Warrant shall be exercisable for an additional 28,424 Shares, for a total of 56,848 Shares.

(d) In addition to the foregoing, if Company receives Term Loan Advances in an aggregate amount exceeding Eighteen Million Seven Hundred Fifty Thousand Dollars ($18,750,000) (inclusive of prior Term Loan Advances) at any time on or before the date of exercise of this Warrant, then this Warrant shall be exercisable for an additional number of shares (rounded down to the nearest whole share) equal to the quotient of:

(i) the product of (A) the aggregate principal amount of Term Loan Advances in excess of $18,750,000, up to a maximum of $27,500,000, received by Company, multiplied by (B) 0.0125; divided by

(ii) the Warrant Price.

(e) The maximum number of Shares issuable under this Warrant shall be 113,695 Shares. The number of Shares issued pursuant to this Section 2.5 shall reflect any adjustments made pursuant to other provisions of this Warrant.

SECTION 3. REPRESENTATIONS AND COVENANTS OF COMPANY.

3.1 Representations and Warranties. Company represents and warrants to, and agrees with, Holder as follows:

(a) The initial Warrant Price referenced on the first page of this Warrant is the price per share at which Company most recently sold shares of its Series C Preferred Stock to institutional investors prior to the Issue Date.

(b) All Shares which may be issued upon the exercise of this Warrant, and all securities, if any, issuable upon conversion of the Shares, shall, upon issuance, be duly authorized, validly issued, fully paid and non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of common stock and other securities as will be sufficient to permit the exercise in full of this Warrant and, if applicable, the conversion of the Shares into common stock or such other securities.

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(c) Company's capitalization table attached hereto as Schedule 1 is true and complete, in all material respects, as of the Issue Date.

3.2 Notice of Certain Events. During the time in which the Warrant is outstanding, if Company proposes at any time to:

(a) declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(b) offer for subscription or sale pro rata to holders of the outstanding shares of the Class any additional shares of any class or series of Company's stock (other than pursuant to contractual pre-emptive rights) in connection with which Holder could purchase such additional shares if this Warrant were exercised;

(c) effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class;

(d) effect an Acquisition or to liquidate, dissolve or wind up; or

(e) effect an initial, underwritten public offering and sale of its common stock pursuant to an effective registration statement under the Act ("**IPO**");

then, in connection with each such event, Company shall give Holder:

(1) for the matters referred to in (a) and (b) above, at least seven (7) Business Days' prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date, if then known, on which holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any;

(2) for the matters referred to in (c) and (d) above, at least seven (7) Business Days' prior written notice of the date when the same will take place (and specifying the date, if then known, on which Holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event); and

(3) for an IPO, at least seven (7) Business Days' prior written notice of the date on which Company proposes to file its first public registration statement in connection therewith.

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

Notwithstanding anything to the contrary, in no event shall the Company be required to provide information under this Warrant: (i) as prohibited by applicable law, rule, regulation, court order, stock exchange rules or agreement or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest. With respect to any confidential information that Holder receives under this Warrant, Holder agrees to be bound by the confidentiality provisions contained in Section 13.8 of the Loan Agreement whether or not the Loan Agreement otherwise remains in effect.

3.3 Registration Rights. The Shares issuable upon exercise of this Warrant shall, at the option of Holder, be "Registrable Securities", and Holder shall have the rights of an "Investor", under that certain Amended and Restated Investors' Rights Agreement dated as of March 12, 2024 among Company and its stockholders named therein (as amended from time to time, the "**Investor Rights Agreement**"), subject to and contingent upon both Holder's compliance with Section 4.7 and the Investors' Rights Agreement being in effect at the time of such exercise.

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3.4 Information Rights. So long as Holder holds this Warrant and/or any of the Shares, Company shall deliver to Holder (a) before August 31 of each fiscal year of Company, the annual audited financial statements of Company, and (b) within forty-five (45) days after the end of each fiscal quarter, Company's quarterly, unaudited financial statements. This Section 3.4 shall terminate in its entirety and be of no further force and effect immediately prior to earliest to occur of: (i) the consummation of an initial public offering by the Company (or its successor) or (ii) such time as the Company (or its successor) is required to file reports pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934, as amended.

SECTION 4. REPRESENTATIONS AND COVENANTS OF HOLDER.

Holder represents and warrants to Company and agrees as follows:

4.1 Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to their public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2 Disclosure of Information. Holder is aware of Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3 Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4 Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5 The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6 Market Standoff. Holder agrees to be bound by the Market Standoff provision set forth in Section 2.11 of the Investor Rights Agreement so long as all other holders of the same class of shares as the Shares are also bound by that provision.

4.7 Holder's Obligation to Execute Investors Rights Agreement and Voting Agreement. Upon or after any exercise of this Warrant, at the request of the Company, Holder, to the extent not already a party thereto, agrees to promptly take such actions as requested by the Company to become a party to each of (i) the Investors Rights Agreement and (ii) that certain Amended and Restated Voting Agreement, dated March 12, 2024, by and among the Company and certain other parties thereto, in each case as the same may be amended, modified or restated from time to time.

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SECTION 5. MISCELLANEOUS.

5.1 Term and Automatic Conversion Upon Expiration.

(a) Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Eastern Time, on the Expiration Date and shall be void thereafter.

(b) Automatic Cashless Exercise Upon Expiration. In the event that, upon the Expiration Date, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it has not previously been exercised, and Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2 Legends. The Shares (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) shall be imprinted with a legend in substantially the following form, together with any additional legends required by the Company's Bylaws or any agreement to which the Holder, this Warrant or the Shares is then subject:

> THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN SECOND WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO CUSTOMERS BANK DATED AS OF DECEMBER 30, 2024, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN ACCORDANCE WITH APPLICABLE LAW.

5.3 Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee. Customers Bank may transfer this Warrant or the Shares issuable upon exercise of this Warrant to a parent, subsidiary, or other affiliate, and any such transferee may make subsequent assignments to its parent, subsidiary, or other affiliate, so long as, in each case, (i) Holder gives Company notice of the portion of this Warrant or Shares being transferred and the identity of the transferee, (ii) such transferee is an "accredited investor" pursuant to Rule 501 under the Act and (iii) transferee agrees in writing to be bound by all of the terms and conditions of this Warrant and any agreement to which the Holder, this Warrant or the Shares is then subject (any such transfer, an "Affiliate Transfer"). In addition, Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable directly or indirectly, upon conversion of the Shares, if any) to any transferee that is an "accredited investor" pursuant to Rule 501 under the Act, so long as (a) in connection with such transfer, Holder gives Company notice of the portion of this Warrant or Shares being transferred and surrenders this Warrant to Company for reissuance to the transferee(s), and (b) such transfer complies with the Company's Bylaws and any agreement to which the Holder, this Warrant or the Shares is then subject. By acceptance of this Warrant, any subsequent transferee shall agree in writing with Company to be bound by all of the terms and conditions of this Warrant and to the extent requested by the Company, any agreement to which the Holder, this Warrant or the Shares is then subject. Company shall not require Holder to provide an opinion of counsel for a transfer to any parent, subsidiary, or other affiliate of Holder or if there is no material question as to the availability of Rule 144 promulgated under the Act. Notwithstanding any contrary provision herein, at all times prior to the IPO, Holder may not, without the Company's prior written consent, transfer this Warrant or any portion hereof, or any Shares issued upon any exercise hereof, or any shares or other securities issued upon any conversion of any Shares issued upon any exercise hereof, to any person or entity who competes with the Company, except in connection with an Acquisition of the Company by such a competitor.

5.4 Notices. All notices shall be deemed delivered and effective (a) when given personally, (b) upon actual receipt if given by electronic mail, or (c) on the first Business Day following delivery to a reliable overnight courier service, in any case at such address as may have been furnished to Company or Holder, as the case may be, in writing by Company or Holder from time to time in accordance with the provisions of this Section. All

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notices to Holder shall be addressed as follows until Company receives notice of a change of address in connection with a transfer or otherwise:

Customers Bank
701 Reading Avenue
West Reading, PA 19611
Attn: Matt Jacobs
[***]

Notice to Company shall be addressed as follows until Holder receives notice of a change in address:

Carlsmed, Inc.
1800 Aston Avenue, Suite 100
Carlsbad, CA 92008
Attn: Michael Cordonnier, Chief Executive Officer
[***]

5.5 Amendment. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.6 Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.7 Counterparts; Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically shall be binding to the same extent as an original signature page.

5.8 Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

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IN WITNESS WHEREOF, the parties have caused this Second Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

Carlsmed, Inc.

By:	/s/ Michael Cordonnier
Name:	Michael Cordonnier
Title:	Chief Executive Officer

"HOLDER"

Customers Bank

By:	/s/ Matthew K. Jacobs
Name:	Matthew K. Jacobs
Title:	Managing Director

[Signature Page to Second Warrant to Purchase Stock]

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APPENDIX 1

NOTICE OF EXERCISE

1.The undersigned Holder hereby exercises its right purchase _____ shares of the _____ of Carlsmed, Inc. ("Company") in accordance with the attached Second Warrant to Purchase Stock and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ] check in the amount of $_____ payable to order of Company enclosed herewith

[ ] Wire transfer of immediately available funds to Company's account

[ ] Cashless Exercise pursuant to Section 1.2 of the Warrant

[ ] Other [Describe]
_____

2.Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3.By its execution below and for the benefit of Company, Holder hereby restates each of the representations and warranties in Section 4 of the Second Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____ ____

By: ____

Name: ____

Title: ____

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Date: ____

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SCHEDULE 1

COMPANY CAPITALIZATION TABLE

See Attached

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Execution Version

EXHIBIT 4.4

THIS AMENDED AND RESTATED WARRANT AND THE SHARES ISSUABLE HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN COMPLIANCE WITH APPLICABLE LAW.

AMENDED AND RESTATED WARRANT TO PURCHASE STOCK

Company:	Carlsmed, Inc.
Number of Shares:	Determined in accordance with Section 2.5
Type/Series of Stock:	Series B Preferred Stock
Warrant Price:	$1.2402 per share
Original Issue Date:	March 7, 2024
Issue Date:	December 30, 2024
Expiration Date:	December 30, 2034
Credit Facility:	This Amended and Restated Warrant to Purchase Stock (this "**Warrant**") is issued in connection with that certain Loan and Security Agreement dated as of December 20, 2022 between Customers Bank (as successor-in-interest to Signature Bank) and Company, as amended by that certain First Amendment to Loan and Security Agreement dated as of March 21, 2023, that certain Second Amendment to Loan and Security Agreement dated as of October 2, 2023, that certain Third Amendment to Loan and Security Agreement dated as of March 7, 2024,

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and that certain Fourth Amendment to Loan and Security Agreement dated on or about the Issue Date (as the same may be further amended, restated, or otherwise modified from time to time, the "**Loan Agreement**") and amends and restates that certain Warrant to Purchase Stock originally entered into on March 7, 2024, by and between Customers Bank and Company (the "**Original Warrant**"). Customers Bank and Company hereby agree that the Original Warrant is amended and restated in its entirety as set forth herein.

THIS AMENDED AND RESTATED WARRANT CERTIFIES THAT Customers Bank (together with any successor or permitted assignee or transferee of this Warrant or of any shares issued upon exercise hereof, "**Holder**") is entitled to purchase the number of fully paid and non-assessable shares (the "**Shares**") of the above-stated Type/Series of Stock (the "**Class**") of Company at the above-stated Warrant Price, all as set forth above and as adjusted pursuant to Section 2 of this Warrant.

SECTION 1. EXERCISE.

1.1.Method of Exercise. Holder may at any time and from time to time exercise this Warrant, in whole or in part, by delivering to Company the original of this Warrant together with a duly executed Notice of Exercise in substantially the form attached hereto as Appendix 1 and, unless Holder is exercising this Warrant pursuant to a cashless exercise set forth in Section 1.2, a check, wire transfer of same-day funds (to an account designated by Company), or other form of payment acceptable to Company for the aggregate Warrant Price for the Shares being purchased.

1.2.Cashless Exercise. On any exercise of this Warrant, in lieu of payment of the aggregate Warrant Price in the manner as specified in Section 1.1 above, but otherwise in accordance with the requirements of Section 1.1, Holder may elect to receive Shares equal to the value of this Warrant, or portion hereof as to which this Warrant is being exercised. Thereupon, Company shall issue to Holder such number of fully paid and non-assessable Shares as are computed using the following formula:

$$X = Y(A-B)/A$$

where:

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X = the number of Shares to be issued to Holder;

Y = the number of Shares with respect to which this Warrant is being exercised (inclusive of the Shares surrendered to Company in payment of the aggregate Warrant Price);

A = the Fair Market Value (as determined pursuant to Section 1.3 below) of one Share; and

B = the Warrant Price.

1.3.Fair Market Value. If Company's common stock is then traded or quoted on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market (a "**Trading Market**") and the Class is common stock, the fair market value of a Share shall be the closing price or last sale price of a share of common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to Company. If Company's common stock is then traded in a Trading Market and the Class is a series of Company's convertible preferred stock, the fair market value of a Share shall be the closing price or last sale price of a share of Company's common stock reported for the Business Day immediately before the date on which Holder delivers this Warrant together with its Notice of Exercise to Company multiplied by the number of shares of Company's common stock into which a Share is then convertible. If Company's common stock is not traded in a Trading Market, the Company's Board of Directors shall determine the fair market value of a Share in its reasonable good faith judgment.

1.4.Delivery of Certificate and New Warrant. Within a reasonable time after Holder exercises this Warrant in the manner set forth in Section 1.1 or 1.2 above, Company shall deliver to Holder a certificate representing the Shares issued to Holder upon such exercise and, if this Warrant has not been fully exercised and has not expired, a new warrant of like tenor representing the Shares not so acquired.

1.5.Replacement of Warrant. On receipt of evidence reasonably satisfactory to Company of the loss, theft, destruction or mutilation of this Warrant and, in the case of loss, theft or destruction, on delivery of an indemnity agreement reasonably satisfactory in form, substance and amount to Company or, in the case of mutilation, on surrender of this Warrant to Company for cancellation, Company shall, within a reasonable time, execute and deliver to Holder, in lieu of this Warrant, a new warrant of like tenor and amount.

1.6.Treatment of Warrant Upon Acquisition of Company.

(a)For the purpose of this Warrant, "**Acquisition**" means any transaction or series of related transactions involving: (i) the sale, lease, exclusive license, or other disposition of all or substantially all of the assets of Company; (ii) any merger or consolidation of Company into or with another person or entity (other than a merger or consolidation effected exclusively to change Company's domicile), or any other corporate reorganization, in which the stockholders of Company in their capacity as such immediately prior to such merger, consolidation, or reorganization own less than a majority of Company's (or the surviving or successor entity's) outstanding voting power immediately after such merger, consolidation, or reorganization; or (iii) any sale or other transfer by the stockholders of Company of shares representing at least a majority of Company's then-total outstanding combined voting power.

(b)In the event of an Acquisition in which the consideration to be received by Company's stockholders consists solely of cash, solely of Marketable Securities, or solely a combination of cash and Marketable Securities (a "**Cash/Public Acquisition**"), either (i) Holder shall exercise this Warrant pursuant to Section 1.1 and/or Section 1.2 and such exercise will be deemed effective immediately prior to and contingent upon the consummation of such Acquisition or (ii) if Holder elects not to exercise the Warrant, this Warrant will expire immediately prior to the consummation of such Acquisition.

(c)Company shall provide Holder with written notice of a Cash/Public Acquisition (together with such reasonable information as Holder may reasonably require regarding the treatment of this Warrant in connection with such contemplated Cash/Public Acquisition giving rise to such notice) not less than seven (7) Business

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Days prior to the closing of the proposed Cash/Public Acquisition. In the event Company does not provide such notice, then if, immediately prior to the Cash/Public Acquisition, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be greater than the Warrant Price in effect on such date, this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it has not previously been exercised, and Company shall promptly notify Holder of the number of Shares (or such other securities) issued upon such exercise to Holder, and Holder shall be deemed to have restated each of the representations and warranties in Section 4 of this Warrant as of the date thereof. If, immediately prior to the Cash/Public Acquisition, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above would be less than the Warrant Price in effect on such date, then this Warrant will expire and be terminated in its entirety immediately prior to the consummation of such Cash/Public Acquisition.

(d)Upon the closing of any Acquisition other than a Cash/Public Acquisition, Holder shall have the option to (i) deem this Warrant to have been automatically converted pursuant to Section 1.2 simultaneously with the closing of the Acquisition, and thereafter Holder shall participate in the Acquisition on the same terms as other holders of the same class of securities of Company or (ii) cause the successor entity to assume the obligations of this warrant, and this Warrant shall thereafter be exercisable for the same securities and/or other property as would have been paid for the Shares issuable upon exercise of the unexercised portion of this Warrant as if such Shares were outstanding on and as of the closing of such Acquisition, subject to further adjustment from time to time in accordance with the provisions of this Warrant. Holder shall give the Company written notice of its election with respect to the above within five (5) Business Days after Holder receives notice of the Acquisition and information reasonably necessary for Holder to evaluate the treatment of this Warrant in connection with the Acquisition.

(e)As used in this Warrant, "**Marketable Securities**" means securities meeting all of the following requirements: (i) the issuer thereof is then subject to the reporting requirements of Section 13 or Section 15(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**") and is then current in its filing of all required reports and other information under the Act and the Exchange Act; (ii) the class and series of shares or other security of the issuer that would be received by Holder in connection with the Acquisition were Holder to exercise this Warrant on or prior to the closing thereof is then traded on a nationally recognized securities exchange, inter-dealer quotation system or over-the-counter market, and (iii) following the closing of the Acquisition, Holder would not be restricted from publicly re-selling all of the issuer's shares and/or other securities that would be received by Holder in such Acquisition were Holder to exercise or convert this Warrant in full on or prior to the closing of such Acquisition, except to the extent that any such restriction (x) arises solely under federal or state securities laws, rules or regulations, and (y) does not extend beyond six (6) months from the closing of such Acquisition (or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in applicable FINRA rules, or any successor provisions or amendments thereto).

SECTION 2. ADJUSTMENTS TO THE SHARES AND WARRANT PRICE.

2.1.Stock Dividends, Splits, Etc. If Company declares or pays a dividend or distribution on the outstanding shares of the Class, then upon exercise of this Warrant, for each Share acquired, Holder shall receive, without additional cost to Holder, the total number and kind of property that Holder would have received had Holder owned the Shares of record as of the date the dividend or distribution occurred. If the outstanding shares of the Class are split or subdivided, by reclassification or otherwise, into a greater number of shares, the number of Shares purchasable hereunder shall be proportionately increased and the Warrant Price shall be proportionately decreased. If the outstanding shares of the Class are combined or consolidated, by reclassification or otherwise, into a lesser number of shares, the Warrant Price shall be proportionately increased and the number of Shares shall be proportionately decreased.

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2.2.Reclassification, Exchange, Combinations or Substitution. Upon any event whereby all of the outstanding shares of the Class are reclassified, exchanged, combined, substituted, or replaced for, into, with or by Company securities of a different class and/or series, then from and after the consummation of such event, this Warrant will be exercisable for the number, class and series of Company securities that Holder would have received had the Shares been outstanding on and as of the consummation of such event, and subject to further adjustment thereafter from time to time in accordance with the provisions of this Warrant. The provisions of this Section 2.2 shall similarly apply to successive reclassifications, exchanges, combinations, substitutions, replacements or other similar events.

2.3.No Fractional Share. No fractional Share shall be issuable upon exercise of this Warrant, and the number of Shares to be issued shall be rounded down to the nearest whole Share. If a fractional Share interest arises upon any exercise of this Warrant, Company shall eliminate such fractional Share interest by paying Holder in cash the amount computed by multiplying the fractional interest by (a) the fair market value (as determined in accordance with Section 1.3 above) of a full Share, less (b) the then-effective Warrant Price.

2.4.Notice/Certificate as to Adjustments. Upon each adjustment of the Warrant Price, Class and/or number of Shares, Company, at Company's expense, shall notify Holder in writing within a reasonable time setting forth the adjustments to the Warrant Price, Class and/or number of Shares and facts upon which such adjustment is based. Company shall, upon written request from Holder, furnish Holder with a certificate of its Chief Financial Officer, including computations of such adjustment and the Warrant Price, Class and number of Shares in effect upon the date of such adjustment.

2.5.Number of Shares.

(a)Capitalized terms used in this Section 2.5 but not defined in this Warrant have the meaning given to them in the Loan Agreement.

(b)Initially, this Warrant shall be exercisable for 294,491 Shares.

(c)In addition to the foregoing, if Company receives Term Loan Advances in an aggregate amount exceeding Fifteen Million Six Hundred Twenty-Five Thousand Dollars ($15,625,000) (inclusive of prior Term Loan Advances) at any time on or before the date of exercise of this Warrant, then this Warrant shall be exercisable for an additional number of shares (rounded to the nearest whole share) equal to the quotient of:

(i) the product of (A) the aggregate principal amount of Term Loan Advances in excess of $15,625,000, up to a maximum of $18,750,000, received by Company, multiplied by (B) 0.0125; divided by

(ii) the Warrant Price.

(d)The maximum number of Shares issuable under this Warrant shall be 325,988 Shares. The number of Shares issued pursuant to this Section 2.5 shall reflect any adjustments made pursuant to other provisions of this Warrant.

SECTION 3. REPRESENTATIONS AND COVENANTS OF COMPANY.

3.1.Representations and Warranties. Company represents and warrants to, and agrees with, Holder as follows:

(a)The initial Warrant Price referenced on the first page of this Warrant is the price per share at which Company most recently sold shares of its Series B Preferred Stock to institutional investors prior to the Original Issue Date.

(b)All Shares which may be issued upon the exercise of this Warrant, and all securities, if any, issuable upon conversion of the Shares, shall, upon issuance, be duly authorized, validly issued, fully paid and

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non-assessable, and free of any liens and encumbrances except for restrictions on transfer provided for herein or under applicable federal and state securities laws. Company covenants that it shall at all times cause to be reserved and kept available out of its authorized and unissued capital stock such number of shares of common stock and other securities as will be sufficient to permit the exercise in full of this Warrant and, if applicable, the conversion of the Shares into common stock or such other securities.

(c)Company's capitalization table attached hereto as Schedule 1 is true and complete, in all material respects, as of the Original Issue Date.

3.2.Notice of Certain Events. During the time in which the Warrant is outstanding, if Company proposes at any time to:

(a)declare any dividend or distribution upon the outstanding shares of the Class or common stock, whether in cash, property, stock, or other securities and whether or not a regular cash dividend;

(b)offer for subscription or sale pro rata to holders of the outstanding shares of the Class any additional shares of any class or series of Company's stock (other than pursuant to contractual pre-emptive rights) in connection with which Holder could purchase such additional shares if this Warrant were exercised;

(c)effect any reclassification, exchange, combination, substitution, reorganization or recapitalization of the outstanding shares of the Class;

(d)effect an Acquisition or to liquidate, dissolve or wind up; or

(e)effect an initial, underwritten public offering and sale of its common stock pursuant to an effective registration statement under the Act ("**IPO**");

then, in connection with each such event, Company shall give Holder:

(1)for the matters referred to in (a) and (b) above, at least seven (7) Business Days' prior written notice of the date on which a record will be taken for such dividend, distribution, or subscription rights (and specifying the date, if then known, on which holders of outstanding shares of the Class will be entitled thereto) or for determining rights to vote, if any;

(2)for the matters referred to in (c) and (d) above, at least seven (7) Business Days' prior written notice of the date when the same will take place (and specifying the date, if then known, on which Holders of outstanding shares of the Class will be entitled to exchange their shares for the securities or other property deliverable upon the occurrence of such event); and

(3)for an IPO, at least seven (7) Business Days' prior written notice of the date on which Company proposes to file its first public registration statement in connection therewith.

Reference is made to Section 1.6(c) whereby this Warrant will be deemed to be exercised pursuant to Section 1.2 hereof if Company does not give written notice to Holder of a Cash/Public Acquisition as required by the terms hereof. Company will also provide information requested by Holder that is reasonably necessary to enable Holder to comply with Holder's accounting or reporting requirements.

Notwithstanding anything to the contrary, in no event shall the Company be required to provide information under this Warrant: (i) as prohibited by applicable law, rule, regulation, court order, stock exchange rules or agreement or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest. With respect to any confidential information that Holder receives under this Warrant, Holder agrees to be bound by the confidentiality provisions contained in Section 13.8 of the Loan Agreement whether or not the Loan Agreement otherwise remains in effect.

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3.3.Registration Rights. The Shares issuable upon exercise of this Warrant shall, at the option of Holder, be "Registrable Securities", and Holder shall have the rights of an "Investor", under that certain Amended and Restated Investors' Rights Agreement dated as of March 12, 2024, among Company and its stockholders named therein (as amended from time to time, the "**Investor Rights Agreement**"), subject to and contingent upon both Holder's compliance with Section 4.7 and the Investors' Rights Agreement being in effect at the time of such exercise.

3.4.Information Rights. So long as Holder holds this Warrant and/or any of the Shares, Company shall deliver to Holder (a) before August 31 of each fiscal year of Company, the annual audited financial statements of Company, and (b) within forty-five (45) days after the end of each fiscal quarter, Company's quarterly, unaudited financial statements. This Section 3.4 shall terminate in its entirety and be of no further force and effect immediately prior to earliest to occur of: (i) the consummation of an initial public offering by the Company (or its successor) or (ii) such time as the Company (or its successor) is required to file reports pursuant to Section 13 or 15(d) of the Securities and Exchange Act of 1934, as amended.

SECTION 4. REPRESENTATIONS AND COVENANTS OF HOLDER.

Holder represents and warrants to Company and agrees as follows:

4.1.Purchase for Own Account. This Warrant and the securities to be acquired upon exercise of this Warrant by Holder are being acquired for investment for Holder's account, not as a nominee or agent, and not with a view to their public resale or distribution within the meaning of the Act. Holder also represents that it has not been formed for the specific purpose of acquiring this Warrant or the Shares.

4.2.Disclosure of Information. Holder is aware of Company's business affairs and financial condition and has received or has had full access to all the information it considers necessary or appropriate to make an informed investment decision with respect to the acquisition of this Warrant and its underlying securities. Holder further has had an opportunity to ask questions and receive answers from Company regarding the terms and conditions of the offering of this Warrant and its underlying securities and to obtain additional information (to the extent Company possessed such information or could acquire it without unreasonable effort or expense) necessary to verify any information furnished to Holder or to which Holder has access.

4.3.Investment Experience. Holder understands that the purchase of this Warrant and its underlying securities involves substantial risk. Holder has experience as an investor in securities of companies in the development stage and acknowledges that Holder can bear the economic risk of Holder's investment in this Warrant and its underlying securities and has such knowledge and experience in financial or business matters that Holder is capable of evaluating the merits and risks of its investment in this Warrant and its underlying securities and/or has a preexisting personal or business relationship with Company and certain of its officers, directors or controlling persons of a nature and duration that enables Holder to be aware of the character, business acumen and financial circumstances of such persons.

4.4.Accredited Investor Status. Holder is an "accredited investor" within the meaning of Regulation D promulgated under the Act.

4.5.The Act. Holder understands that this Warrant and the Shares issuable upon exercise hereof have not been registered under the Act in reliance upon a specific exemption therefrom, which exemption depends upon, among other things, the bona fide nature of Holder's investment intent as expressed herein. Holder understands that this Warrant and the Shares issued upon any exercise hereof must be held indefinitely unless subsequently registered under the Act and qualified under applicable state securities laws, or unless exemption from such registration and qualification are otherwise available. Holder is aware of the provisions of Rule 144 promulgated under the Act.

4.6.Market Standoff. Holder agrees to be bound by the Market Standoff provision set forth in Section 2.11 of the Investor Rights Agreement so long as all other holders of the same class of shares as the Shares are also bound by that provision.

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4.7.Holder's Obligation to Execute Investors Rights Agreement and Voting Agreement. Upon or after any exercise of this Warrant, at the request of the Company, Holder, to the extent not already a party thereto, agrees to promptly take such actions as requested by the Company to become a party to each of (i) the Investors Rights Agreement and (ii) that certain Amended and Restated Voting Agreement, dated March 12, 2024, by and among the Company and certain other parties thereto, in each case as the same may be amended, modified or restated from time to time.

SECTION 5. MISCELLANEOUS.

5.1.Term and Automatic Conversion Upon Expiration.

(a)Term. Subject to the provisions of Section 1.6 above, this Warrant is exercisable in whole or in part at any time and from time to time on or before 6:00 PM, Eastern Time, on the Expiration Date and shall be void thereafter.

(b)Automatic Cashless Exercise Upon Expiration. In the event that, upon the Expiration Date, the fair market value of one (1) Share (or other security issuable upon the exercise hereof) as determined in accordance with Section 1.3 above is greater than the Warrant Price in effect on such date, then this Warrant shall automatically be deemed on and as of such date to be exercised pursuant to Section 1.2 above as to all Shares (or such other securities) for which it has not previously been exercised, and Company shall, within a reasonable time, deliver a certificate representing the Shares (or such other securities) issued upon such exercise to Holder.

5.2.Legends. The Shares (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) shall be imprinted with a legend in substantially the following form, together with any additional legends required by the Company's Bylaws or any agreement to which the Holder, this Warrant or the Shares is then subject:

> THE SHARES EVIDENCED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "ACT"), OR THE SECURITIES LAWS OF ANY STATE AND, EXCEPT AS SET FORTH IN THAT CERTAIN AMENDED AND RESTATED WARRANT TO PURCHASE STOCK ISSUED BY THE ISSUER TO CUSTOMERS BANK DATED AS OF DECEMBER 30, 2024, MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT IN ACCORDANCE WITH APPLICABLE LAW.

5.3.Compliance with Securities Laws on Transfer. This Warrant and the Shares issuable upon exercise of this Warrant (and the securities issuable, directly or indirectly, upon conversion of the Shares, if any) may not be transferred or assigned in whole or in part except in compliance with applicable federal and state securities laws by the transferor and the transferee. Customers Bank may transfer this Warrant or the Shares issuable upon exercise of this Warrant to a parent, subsidiary, or other affiliate, and any such transferee may make subsequent assignments to its parent, subsidiary, or other affiliate, so long as, in each case, (i) Holder gives Company notice of the portion of this Warrant or Shares being transferred and the identity of the transferee, (ii) such transferee is an "accredited investor" pursuant to Rule 501 under the Act and (iii) transferee agrees in writing to be bound by all of the terms and conditions of this Warrant and any agreement to which the Holder, this Warrant or the Shares is then subject (any such transfer, an "Affiliate Transfer"). In addition, Holder may transfer all or part of this Warrant or the Shares issuable upon exercise of this Warrant (or the securities issuable directly or indirectly, upon conversion of the Shares, if any) to any transferee that is an "accredited investor" pursuant to Rule 501 under the Act, so long as (a) in connection with such transfer, Holder gives Company notice of the portion of this Warrant or Shares being transferred and surrenders this Warrant to Company for reissuance to the transferee(s), and (b) such transfer complies with the Company's Bylaws and any agreement to which the Holder, this Warrant or the Shares is then subject. By acceptance of this Warrant, any subsequent transferee shall agree in writing with Company to be bound by all of the terms and conditions of this Warrant and to the extent requested by the Company, any agreement to which the Holder, this Warrant or the Shares is then subject. Company shall not require Holder to provide an opinion of counsel for a transfer to any parent, subsidiary, or other affiliate of Holder or if there is no material question as to the availability of Rule 144 promulgated under the Act. Notwithstanding any contrary provision herein, at all times prior to the IPO, Holder may not, without the Company's prior written consent, transfer this Warrant or any portion hereof, or any Shares issued upon any

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exercise hereof, or any shares or other securities issued upon any conversion of any Shares issued upon any exercise hereof, to any person or entity who competes with the Company, except in connection with an Acquisition of the Company by such a competitor.

5.4.Notices. All notices shall be deemed delivered and effective (a) when given personally, (b) upon actual receipt if given by electronic mail, or (c) on the first Business Day following delivery to a reliable overnight courier service, in any case at such address as may have been furnished to Company or Holder, as the case may be, in writing by Company or Holder from time to time in accordance with the provisions of this Section. All notices to Holder shall be addressed as follows until Company receives notice of a change of address in connection with a transfer or otherwise:

Customers Bank
701 Reading Avenue
West Reading, PA 19611
Attn: Matt Jacobs
[***]

Notice to Company shall be addressed as follows until Holder receives notice of a change in address:

Carlsmed, Inc.
1800 Aston Avenue, Suite 100
Carlsbad, CA 92008
Attn: Michael Cordonnier, Chief Executive Officer
[***]

5.5.Amendment. This Warrant and any term hereof may be changed, waived, discharged or terminated (either generally or in a particular instance and either retroactively or prospectively) only by an instrument in writing signed by the party against which enforcement of such change, waiver, discharge or termination is sought.

5.6.Attorney's Fees. In the event of any dispute between the parties concerning the terms and provisions of this Warrant, the party prevailing in such dispute shall be entitled to collect from the other party all costs incurred in such dispute, including reasonable attorneys' fees.

5.7.Counterparts; Electronic Signatures. This Warrant may be executed in counterparts, all of which together shall constitute one and the same agreement. Any signature page delivered electronically shall be binding to the same extent as an original signature page.

5.8.Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of New York, without giving effect to its principles regarding conflicts of law.

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IN WITNESS WHEREOF, the parties have caused this Amended and Restated Warrant to Purchase Stock to be executed by their duly authorized representatives effective as of the Issue Date written above.

"COMPANY"

Carlsmed, Inc.

By:	/s/ Michael Cordonnier
Name:	Michael J. Cordonnier
Title:	Chief Financial Officer

"HOLDER"

Customers Bank

By:	/s/ Matthew K. Jacobs
Name:	Matthew K. Jacobs
Title:	Managing Director

[Signature Page to Amended and Restated Warrant to Purchase Stock]

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APPENDIX 1

NOTICE OF EXERCISE

1.The undersigned Holder hereby exercises its right purchase _____ shares of the _____ of Carlsmed, Inc. ("Company") in accordance with the attached Amended and Restated Warrant to Purchase Stock and tenders payment of the aggregate Warrant Price for such shares as follows:

[ ]	check in the amount of $_____ payable to order of Company enclosed herewith
[ ]	Wire transfer of immediately available funds to Company's account
[ ]	Cashless Exercise pursuant to Section 1.2 of the Warrant
[ ]	Other [Describe] _____

2.Please issue a certificate or certificates representing the Shares in the name specified below:

_____
Holder's Name

_____

_____
(Address)

3.By its execution below and for the benefit of Company, Holder hereby restates each of the representations and warranties in Section 4 of the Amended and Restated Warrant to Purchase Stock as of the date hereof.

HOLDER:

_____

By:

Name:

Title:

Date:

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SCHEDULE 1

COMPANY CAPITALIZATION TABLE

See Attached

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EXHIBIT 4.5

AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT

THIS AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this "**Agreement**"), is made as of March 12, 2024, by and among Carlsmed, Inc., a Delaware corporation (the "**Company**"), and each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**", and each of the stockholders listed on Schedule B hereto, each of whom is referred to herein as a "**Key Holder**".

RECITALS

WHEREAS, certain of the Investors (the "**Existing Investors**") hold shares of Preferred Stock (as defined below) and/or shares of Common Stock (as defined below) issued upon conversion thereof and possess registration rights, information rights, rights of first offer, and other rights pursuant to that certain Amended and Restated Investors' Rights Agreement dated as of April 18, 2022, by and among the Company, the Key Holders, and such Existing Investors (the "**Prior Agreement**").

WHEREAS, the Existing Investors are holders of at least a majority of the Registrable Securities (as defined in the Prior Agreement), and desire to amend and restate the Prior Agreement in its entirety and to accept the rights created pursuant to this Agreement in lieu of the rights granted to them under the Prior Agreement.

WHEREAS, certain of the Investors are parties to that certain Series C Preferred Stock Purchase Agreement of even date herewith, by and among the Company and such Investors (the "**Purchase Agreement**"), under which certain of the Company's and such Investors' obligations are conditioned upon the execution and delivery of this Agreement by such Investors, the Existing Investors holding at least a majority of the Registrable Securities, the Key Holders, and the Company.

NOW, THEREFORE, the Existing Investors, the Key Holders, and the Company hereby agree that the Prior Agreement is hereby amended and restated in its entirety by this Agreement and the parties to this Agreement further agree as follows:

1.Definitions. For purposes of this Agreement:

1.1"**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including, without limitation, any general partner, managing member, officer, director or trustee of such Person, or any venture capital fund or other investment fund now or hereafter existing that is controlled by one (1) or more general partners, managing members or investment adviser of, or shares the same management company or investment adviser with, such Person.

1.2"**Board of Directors**" means the board of directors of the Company.

1.3"**Certificate of Incorporation**" means the Company's Amended and Restated Certificate of Incorporation, as amended and/or restated from time to time.

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1.4“**Common Stock**” means shares of the Company’s common stock, par value $0.00001 per share.

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1.5"**Competitor**" means, in the reasonable determination of the Board of Directors, including the determination of a majority of the Preferred Directors (as defined below) if any is disinterested and then serving, a Person that, directly or indirectly (including through any Affiliate, partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)), is a competitor of the Company or any of its subsidiaries, but shall not include any financial investment firm or collective investment vehicle that, together with its Affiliates, holds less than twenty percent (20)% of the outstanding equity of any Competitor and does not, nor do any of its Affiliates, have a right to designate any members of the board of directors of any Competitor; provided that none of U.S. Venture Partners XII, L.P., U.S. Venture Partners XII-A, L.P., U.S. Venture Partners Select Fund I, L.P., Vertical GP-11, LLC, B Capital Global Growth III, L.P., B Capital Healthcare I, L.P., Hornet Co-Invest, L.P. or any of their respective Affiliates that is a financial investment firm or collective investment vehicle shall be deemed a Competitor hereunder.

1.6"**CTA**" shall mean the Corporate Transparency Act, 31 U.S.C § 5336, and all rules and regulations promulgated thereunder, as each may be amended or replaced from time to time.

1.7"**Damages**" means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon: (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.8"**Derivative Securities**" means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.9"**DPA**" means Section 721 of the Defense Production Act, as amended, including all implementing regulations thereof.

1.10"**DPA Triggering Rights**" means (i) "control" (as defined in the DPA); (ii) access to any "material non-public technical information" (as defined in the DPA) in the possession of the Company; (iii) membership or observer rights on the Board of Directors or equivalent governing body of the Company or the right to nominate an individual to a position on the Board of Directors or equivalent governing body of the Company; (iv) any involvement, other than through the voting of shares, in substantive decision-making of the Company regarding (x) the use, development, acquisition or release of any Company "critical technology" (as defined in the DPA); (y) the use, development, acquisition, safekeeping, or release of "sensitive personal data" (as defined in the DPA) of U.S. citizens maintained or collected by the Company, or (z) the management, operation, manufacture, or supply of "covered investment critical infrastructure" (as defined in the DPA).

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1.11"**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.12"**Excluded Registration**" means (i) a registration relating to the sale or grant of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, equity incentive or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.13"**FOIA Party**" means a Person that, in the reasonable determination of the Board of Directors, may be subject to, and thereby required to disclose non-public information furnished by or relating to the Company under, the Freedom of Information Act, 5 U.S.C. 552 ("**FOIA**"), any state public records access law, any state or other jurisdiction's laws similar in intent or effect to FOIA, or any other similar statutory or regulatory requirement.

1.14"**Foreign Person**" means either (i) a Person or government that is a "foreign person" within the meaning of the DPA or (ii) a Person through whose investment a "foreign person" within the meaning of the DPA would obtain any DPA Triggering Rights.

1.15"**Form S-1**" means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.16"**Form S-3**" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits forward incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.17"**GAAP**" means generally accepted accounting principles in the United States as in effect from time to time.

1.18"**Holder**" means any holder of Registrable Securities who is a party to this Agreement.

1.19"**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, life partner or similar statutorily-recognized domestic partner, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships of a natural person referred to herein.

1.20"**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.21"**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

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1.22"**Key Holder Registrable Securities**" means (i) the shares of Common Stock held by the Key Holders (other than shares of Common Stock issuable or issued upon conversion of the Preferred Stock), and (ii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of such shares. For clarity, and notwithstanding anything else set forth herein, in no event may any Investor that is also a Key Holder aggregate such Key Holder's Key Holder Registrable Securities with other Registrable Securities held by such Investor to determine the availability of rights hereunder; in no event may any Investor and any Affiliate of such Investor that is a Key Holder aggregate such Key Holder's Key Holder Registrable Securities with such Investor's Registrable Securities (that are not Key Holder Registrable Securities) to determine the availability of rights hereunder, and in no event may any Investor who receives a transfer of Key Holder Registrable Securities from its Affiliate, other than pursuant to the Secondary Refusal Right as defined that certain Right of First Refusal and Co-Sale Agreement entered into by the Company and the other parties named therein as of even date herewith as may be amended or restated from time to time, aggregate such transferred Key Holder Registrable Securities with such Investor's Registrable Securities to determine the availability of rights hereunder, including but not limited to, in each case, to determine whether any Investor is a Major Investor or for any purpose in Section 4.

1.23"**Major Investor**" means any Investor that, individually or together with such Investor's Affiliates, holds at least 4,000,000 shares of Registrable Securities (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof).

1.24"**New Securities**" means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever (including but not limited to convertible debt securities) that are, or may become, convertible or exchangeable into or exercisable for such equity securities.

1.25"**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.26"**Preferred Directors**" means, collectively, the Series A Directors and the Series B Director.

1.27"**Preferred Stock**" means, collectively, shares of the Series A Preferred Stock, the Series B Preferred Stock and the Series C Preferred Stock.

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1.28"**Registrable Securities**" means (i) the Common Stock issuable or issued upon conversion of the Preferred Stock, (ii) any shares of Common Stock, or any shares of Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, in each case, acquired by the Investors after the date hereof, other than shares of Common Stock issued or issuable to employees, officers, directors or consultants under any Company equity incentive plan, or (iii) the Key Holder Registrable Securities, provided, however, that such Key Holder Registrable Securities shall not be deemed Registrable Securities and the Key Holders shall not be deemed Holders for the purposes of Sections 2.1 (and any other applicable Section or Section with respect to registrations under Section 2.1), 2.10, 3.1, 3.2, 4, 6.6 and 6.8; and (iv) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i), (ii) or (iii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Section 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Section 2.12(d).

1.29"**Registrable Securities then outstanding**" means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.30"**Restricted Securities**" means the securities of the Company required to be notated with the legend set forth in Section 2.12(b) hereof.

1.31"**SEC**" means the Securities and Exchange Commission.

1.32"**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.33"**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

1.34"**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.35"**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

1.36"**Series A Director**" shall have the meaning set forth in the Certificate of Incorporation.

1.37"**Series B Director**" shall have the meaning set forth in the Certificate of Incorporation.

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1.38"**Series A Preferred Stock**" means shares of the Company's Series A Preferred Stock, par value $0.00001 per share.

1.39"**Series B Preferred Stock**" means shares of the Company's Series B Preferred Stock, par value $0.00001 per share.

1.40"**Series C Preferred Stock**" means shares of the Company's Series C Preferred Stock, par value $0.00001 per share.

2.Registration Rights. The Company covenants and agrees as follows:

2.1Demand Registration.

(a)Form S-1 Demand. If at any time after the earlier of (i) five (5) years after the date of this Agreement or (ii) one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from Holders of at least a majority the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to at least twenty-five percent (25%) of the Registrable Securities then outstanding, then the Company shall: (x) within ten (10) days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within sixty (60) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Sections 2.1(c) and 2.3; provided, however, that this right to request the filing of a Form S-1 registration statement shall in no event be made available to any Holder that is a Foreign Person.

(b)Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of at least thirty percent (30%) of the Registrable Securities then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least $2 million, then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Sections 2.1(c) and 2.3.

(c)Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Board of Directors it would be materially detrimental to the Company

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and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise

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would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing, and any time periods with respect to filing or effectiveness thereof shall be tolled correspondingly, for a period of not more than sixty (60) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12) month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such sixty (60) day period other than an Excluded Registration.

(d)The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(a), (i) during the period that is sixty (60) days before the Company's good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (ii) after the Company has effected one (1) registration pursuant to Section 2.1(a); or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b), (i) during the period that is thirty (30) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two (2) registrations pursuant to Section 2.1(b) within the twelve (12) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Section 2.1(d); provided, that if such withdrawal is during a period the Company has deferred taking action pursuant to Section 2.1(c), then the Initiating Holders may withdraw their request for registration and such registration will not be counted as "effected" for purposes of this Section 2.1(d).

2.2Company Registration. If the Company proposes to register (including for this purpose a registration effected by the Company for stockholders other than the Holders) any of its Common Stock under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such

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registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Section 2.6.

2.3Underwriting Requirements.

(a)If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.

(b)In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or

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the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. Notwithstanding the

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foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, or (ii) the number of Registrable Securities included in the offering be reduced below twenty percent (20%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering. For purposes of the provision in this Section 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c)For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Section 2.3(a), fewer than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a)prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that (i) such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration, and (ii) in the case of any registration of Registrable Securities on Form S-3 that are intended to be offered on a continuous or delayed basis, subject to compliance with applicable SEC rules, such one hundred twenty (120) day period shall be extended for up to ninety (90) days, if necessary, to keep the registration statement effective until all such Registrable Securities are sold, provided that Rule 415, or any successor rule under the Securities Act, permits an offering on a continuous or delayed basis;

(b)prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

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(c)furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d)use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e)in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f)use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g)provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h)promptly make available for inspection by the selling Holders, any managing underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i)notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j)after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus.

In addition, the Company shall ensure that, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, its insider trading policy shall provide that the Company's directors may implement a trading program under Rule 10b5-1 of the Exchange Act.

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2.5Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements, not to exceed $30,000 per registration, of one counsel for the selling Holders selected by Holders of a majority of the Registrable Securities to be registered ("**Selling Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders shall have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b). All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 (other than fees and disbursements of counsel to any Holder, other than the Selling Holder Counsel, which shall be borne solely by the Holder engaging such counsel) shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a)To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(a) shall not apply

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to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be

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unreasonably withheld, nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration except to the extent such information has been corrected in a subsequent writing prior to or concurrently with the sale of Registrable Securities to the Person asserting the claim.

(b)To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration and has not been corrected in a subsequent writing prior to or concurrently with the sale of Registrable Securities to the Person asserting the claim; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under Section 2.8(b) and 2.8(d) exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

(c)Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party within a reasonable time of the commencement of any such action shall relieve such indemnifying party of any liability to the indemnified party under this Section 2.8, only to the extent that such failure materially prejudices the indemnifying party's ability to defend such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

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(d)To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either: (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case (x) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e)Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with the underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control; provided, however, that any matter expressly provided for or addressed by the foregoing provisions that is not expressly provided for or addressed by the underwriting agreement shall be controlled by the foregoing provisions.

(f)Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement or any provision(s) of this Agreement.

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2.9Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a)make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b)use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c)furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); and (ii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of a majority of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company that would provide to such holder or prospective holder the right to include securities in any registration; provided that this limitation shall not apply to Registrable Securities acquired by any additional Investor that becomes a party to this Agreement in accordance with Section 6.9 or for issuances to banks or other financial institutions in connection with a debt financing.

2.11“Market Stand-off” Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the registration by the Company of shares of its Common Stock or any other equity securities under the Securities Act on a registration statement on Form S-1, and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days in the case of the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in applicable FINRA rules, or any successor provisions or amendments thereto), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock

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or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock held immediately before the effective date of the registration statement for such offering or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 shall only apply to the IPO, shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement or to the establishment of a trading plan pursuant to Rule 10b5-1, provided that such plan does not permit transfers during the restricted period, or the transfer of any shares to any trust for the direct or indirect benefit of the Holder or the immediate family of the Holder, provided that the trustee of the trust agrees to be bound in writing by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, and shall be applicable to the Holders only if all officers and directors are subject to the same restrictions and the Company uses commercially reasonable efforts to obtain a similar agreement from all stockholders individually owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Preferred Stock). The underwriters in connection with such registration are intended third-party beneficiaries of this Section 2.11 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Section 2.11 or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Company stockholders that are subject to such agreements, based on the number of shares subject to such agreements.

2.12Restrictions on Transfer.

(a)The Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b)Each certificate, instrument, or book entry representing (i) the Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Section 2.12(c)) be notated with a legend substantially in the following form:

THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.

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THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.12.

(c)The holder of such Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction or following the IPO, the transfer is made pursuant to SEC Rule 144, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer, provided that no such notice shall be required in connection if the intended sale, pledge or transfer complies with SEC Rule 144. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a notice, legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that with respect to transfers under the foregoing clause (y), each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate, instrument, or book entry representing the Restricted Securities transferred as above provided shall be notated with, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate instrument, or book entry shall not be notated with such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

(d)Without the prior written consent of the Board of Directors, including a majority of the Preferred Directors if any is then serving, no Holder shall sell, transfer, assign or otherwise dispose of, whether voluntarily or involuntarily, by operation of law or otherwise, all or any portion of the Preferred Stock or Registrable Securities (or any rights or obligations relating to the foregoing, whether under this Agreement or otherwise), other than to the acquiring entity or entities in a Deemed Liquidation Event, as such term is defined in the Certificate of Incorporation, to: (i) any Competitor or (ii) any customer, distributor or supplier (or affiliate thereof) of the Company, if the Board of Directors, including at a majority of the Preferred Directors if any is

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disinterested and then serving, should reasonably determine that such assignment would result in such competitor, customer, distributor or supplier (or affiliate thereof) receiving information that would place the Company or its subsidiaries at a competitive disadvantage with respect to such Competitor, customer, distributor or supplier (or affiliate thereof). The covenants set forth in this Section 2.12(d) shall terminate and be of no further force or effect immediately prior to the consummation of an IPO, at such time as the Company is required to file reports pursuant to Section 13 or 15(d) of the 1934 Act or the closing of a Deemed Liquidation Event.

(e)Nothing set forth in this Section 2.12 shall constitute a waiver or termination of any other restriction on transfer of Registrable Securities in any other agreement between the holder thereof and the Company.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Sections 2.1 or 2.2 shall terminate upon the earliest to occur of:

(a)the closing of a Deemed Liquidation Event in which all of the consideration received by the Investors in such Deemed Liquidation Event is in the form of cash and/or publicly traded securities, or if the Investors receive registration rights from the acquiring company or other successor to the Company reasonably comparable to those set forth in this Section 2, as determined by the holders of a majority of the Registrable Securities then outstanding;

(b)such time after consummation of the IPO as SEC Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such Holder's shares without limitation, during a three (3)-month period without registration (and without the requirement for the Company to be in compliance with the current public information required under subsection (c)(1) of SEC Rule 144) and such Holder (together with its "affiliates" determined under SEC Rule 144) holds less than one percent (1%) of the outstanding capital stock of the Company;

(c)the fourth (4th) anniversary of the IPO (or such later date that is one hundred eighty (180) days following the expiration of all deferrals of the Company's obligations pursuant to Section 2 that remain in effect as of the fourth (4th) anniversary of the consummation of the IPO).

3.Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor, provided that the Board of Directors has not reasonably determined that either such Major Investor or any of its Affiliates is a Competitor:

(a)as soon as practicable, but in any event within one hundred fifty (150) days after the end of each fiscal year of the Company (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and (iii) a statement of stockholders' equity as of the end of such year, all such financial statements audited and certified by independent public accountants of regionally recognized standing selected by the Board of Directors, including a majority of the Preferred Directors if any is then serving,

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unless the requirement for an audit is waived by the Board of Directors (including the approval of a majority of the Preferred Directors);

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provided, however, that if such audit requirement is so waived, the Company shall provide unaudited financial statements listed above prepared in accordance with GAAP to Major Investors within sixty (60) days after the end of such fiscal year of the Company;

(b)as soon as practicable, but in any event within forty-five (45) days after the end of each quarter of each fiscal year of the Company, unaudited statements of income and cash flows for such fiscal quarter, and an unaudited balance sheet as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments; and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c)as soon as practicable, but in any event within thirty (30) days after the end of each month, an unaudited income statement and statement of cash flows for such month, and an unaudited balance sheet as of the end of such month, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(d)as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year, prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company (such budget and business plan that is approved by the Board of Directors is collectively referred to herein as the "**Budget**");

(e)as soon as practicable, but in any event within thirty (30) days after the end of each fiscal year of the Company, (i) a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the fiscal year, the Common Stock issuable upon conversion of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit the Major Investors to calculate their respective percentage equity ownership in the Company (such statement, a "**Capitalization Table**") and (ii) a statement showing the existing debt holders of the Company;

(f)additional Capitalization Tables promptly upon the request of each Major Investor, but no more frequently than once per fiscal quarter for each Major Investor, with the report set forth in Section 3.1(c) above to count as a quarterly request;

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provided, however, that the Company shall not be obligated under this Section 3.1 to provide information (A) that the Company reasonably determines in good faith to be a technology trade secret; (B) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest, (C) despite any non-disclosure or similar agreement between such Major Investor and the Company, the disclosure of which would violate applicable law, rule, regulation or court order or the Company's legally enforceable obligations with respect to confidential or proprietary information of third parties or (D) that is "material non-public technical information" (as defined in the DPA) or "sensitive personal data" (as defined in the DPA) of U.S. citizens to any Foreign Person.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Section 3.1 to the contrary, the Company may cease providing the information set forth in this Section 3.1 during the period starting with the date forty-five (45) days before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Section 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Major Investor (provided that the Board of Directors has not reasonably determined that either such Major Investor or any of its Affiliates is a Competitor), at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that (a) the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information (i) that the Company reasonably determines in good faith to be a technology trade secret; (ii) the provision of access to which would adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest, (iii) despite any non-disclosure or similar agreement between such Major Investor and the Company, the provision of access to which would violate applicable law, rule, regulation or court order or the Company's legally enforceable obligations with respect to confidential or proprietary information of third parties or (iv) that is "material non-public technical information" (as defined in the DPA) or "sensitive personal data" (as defined in the DPA) of U.S. citizens to any Foreign Person and (b) the Company may require any Major Investor to execute a confidentiality and nondisclosure agreement prior to provision of access to any such information.

3.3 Termination of Information Rights. The covenants set forth in Section 3.1 and Section 3.2 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, or (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon the closing of a Deemed Liquidation Event, except that such covenants shall not terminate upon the consummation of a Deemed Liquidation Event referred to in Article Fourth, Section

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B.2.3.1(a)(ii) or Article Fourth, Section B.2.3.1(b) of the Certificate of Incorporation in which consideration is received by the

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Company, if the Company does not effect a distribution of the proceeds thereof within 150 days after such Deemed Liquidation Event, and the Company shall continue to comply with such covenants until the Company effects a distribution of the proceeds therefrom or all outstanding shares of Preferred Stock are redeemed, in each case pursuant to the terms set forth in Article Fourth, Section B.2.3 of the Certificate of Incorporation.

3.4 Observer Rights. The Company shall invite a representative selected by B Capital Global Growth III, L.P., B Capital Healthcare I, L.P. and Hornet Co-Invest, L.P. (such funds, "**B Capital**" and such observer, the "**B Capital Observer**"), who shall initially be Jason Grosz, to attend all meetings of the Board of Directors in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, and other materials that it provides to its directors in connection with such meetings; provided, however, that such representative shall agree to and shall enter into a written agreement agreeing to hold in confidence all information so provided; and provided further, that (a) the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if (i) the Board of Directors has reasonably determined that such B Capital Observer or any of the foregoing's Affiliates is a Competitor or a Foreign Person or (ii) access to such information or attendance at such meeting could (A) result in the disclosure of trade secrets or highly sensitive confidential information; (B) adversely affect the attorney-client privilege between the Company and its counsel or result in a conflict of interest, or (C) despite any non-disclosure or similar agreement between such observer and the Company, violate applicable law, rule, regulation or court order or the Company's legally enforceable obligations with respect to confidential or proprietary information of third parties and (b) the Company may require such observer to execute a confidentiality and nondisclosure agreement prior to provision of such information or access. Notwithstanding the above, the Chief Executive Officer of the Company, at her or his discretion, may prohibit the B Capital Observer from attending all, or any portion of, any meeting of the Board of Directors (or receiving related materials). In the event that Jason Grosz or Robert Mittendorff, MD is not the representative selected by B Capital, any replacement representative is subject to the approval of the Board of Directors, including the approval of a majority of the Preferred Directors if any is then serving such approval not to be unreasonably withheld. All rights contained in this Section 3.4 shall terminate and be of no further force or effect upon the earliest to occur of (1) such time as B Capital and its Affiliates no longer continue to own beneficially an aggregate of at least a majority of the shares of Series B Preferred Stock originally purchased by B Capital pursuant to the Purchase Agreement, (2) immediately before the consummation of the IPO, (3) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act or (4) a upon the closing of a Deemed Liquidation Event.

3.5 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor or make decisions with respect to its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.5 by such Investor or one of its Permitted Disclosees (as defined below)),(b) is or has been independently developed or conceived by such Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to such Investor by a third party without a breach

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of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor

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may disclose confidential information: (i) to its attorneys, accountants, consultants, and other professionals to the extent reasonably necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Section 3.5; (iii) to any existing Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business (each of the foregoing Persons in (i)-(iii), a "**Permitted Disclosee**"), provided that (A) such Permitted Disclosee is not a Competitor and (B) such Investor (1) informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information and (2) shall be responsible for any breach of this Section 3.5 caused by any such Permitted Disclosee; or (iv) as may otherwise be required by law, regulation, rule, court order or subpoena, provided that such Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

3.6 Waiver of Statutory Information Rights. Each Key Holder hereby acknowledges and agrees that until the consummation of the IPO, such Key Holder shall hereby be deemed to have unconditionally and irrevocably, to the fullest extent permitted by law, on behalf of such Key Holder and all beneficial owners of the shares of Common Stock or Preferred Stock owned by such Key Holder (a "**Beneficial Owner**"), waived any rights such Investor or a Beneficial Owner might otherwise have had under Section 220 of the Delaware General Corporation Law (or under similar rights under other applicable law) to inspect for any proper purpose and to make copies and extracts from the Company's stock ledger, a list of its stockholders and its other books and records or the books and records of any subsidiary. Each Key Holder hereby further warrants and represents that such Key Holder has reviewed this waiver with its legal counsel, and that such Key Holder knowingly and voluntarily waives its rights otherwise provided by Section 220 of the Delaware General Corporation Law (or under similar rights under other applicable law).

4.Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Major Investor. A Major Investor shall be entitled to apportion the right of first offer hereby granted to it in such proportions as it deems appropriate, among (i) itself, (ii) its Affiliates and (iii) its beneficial interest holders, such as limited partners, members or any other Person having "beneficial ownership," as such term is defined in Rule 13d-3 promulgated under the Exchange Act, of such Major Investor ("**Investor Beneficial Owners**"); provided that each such Affiliate or Investor Beneficial Owner (x) is not a Competitor or FOIA Party, unless such party's purchase of New Securities is otherwise consented to by the Board of Directors, including the consent of a majority of the Preferred Directors if any is then serving, (y) agrees to enter into this Agreement and the Voting Agreement of even date herewith among the Company, the Investors and the other parties named therein (the "**Voting Agreement**"), as an "**Investor**" under each such agreement (provided that any Competitor or FOIA Party shall not be entitled to any rights as a Major Investor under Sections 3.1, 3.2 and 4.1 hereof), and (z)

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agrees to purchase at least such number of New Securities as are allocable hereunder to the Major Investor holding the fewest number of Preferred Stock and any other Derivative Securities.

(a)The Company shall give notice (the "**Offer Notice**") to each Major Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b)By notification to the Company within twenty (20) days after the Offer Notice is given, each Major Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the capital stock of the Company and all Derivative Securities of the Company then held by such Major Investor on an as converted, as exchanged and as exercised basis (such "**Major Investor's Securities**"), bears to the total Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Preferred Stock and any other Derivative Securities then outstanding) (such Major Investor's "**Pro Rata Amount**"). At the expiration of such twenty (20) day period, the Company shall promptly notify each Major Investor that elects to purchase or acquire all of the New Securities available to it pursuant to the Offer Notice (each, a "**Fully Exercising Investor**") of any other Major Investor's failure to do likewise. During the five (5) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Major Investors were entitled to subscribe but that were not subscribed for by the Major Investors which is equal to the proportion that such Major Investor's Securities then held by such Fully Exercising Investor bears to the Major Investor's Securities then held by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of thirty (30) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).

(c)If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the ninety (90) day period following the expiration of the periods provided in Section 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within sixty (60) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Major Investors in accordance with this Section 4.1.

(d)The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Certificate of Incorporation), (ii) shares of Common Stock issued in the IPO and (iii) the issuance of shares of Series C Preferred Stock to Additional Purchasers pursuant to Section 1.3 of the Purchase Agreement.

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4.2 Waiver and Transfer. The rights of first offer granted under this Section 4, including notice with respect thereto, may be waived by the holders of a majority of the Registrable Securities then outstanding held by the Major Investors. Notwithstanding the foregoing, if any of the waiving Major Investors purchases New Securities covered by such waiver (each a "**Participating Investor**"), then each other Major Investor shall have the right to purchase up to the same percentage of its Pro Rata Amount of the New Securities purchased by the Participating Investor who purchased the highest percentage of its respective Pro Rata Amount of the New Securities. The rights of first refusal of a Major Investor under this Section 4 may be transferred subject to the same restrictions as any transfer of registration rights pursuant to Section 2.12.

4.3 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act or (iii) upon the closing of a Deemed Liquidation Event, except if such Deemed Liquidation Event is a sale of all or substantially all of the assets or intellectual property assets of the Company unless agreed to by the holders of at least a majority of the Preferred Stock outstanding immediately prior to the closing of such Deemed Liquidation Event, whichever event occurs first.

5.Additional Covenants.

5.1 Insurance. The Company shall use commercially reasonable efforts to cause its Directors and Officers liability insurance policies, in the amount and on terms and conditions satisfactory to the Board of Directors, including a majority of the Preferred Directors, to be maintained, until such time as the Board of Directors, including a majority of the Preferred Directors, determines that such insurance should be discontinued.

5.2 Employee Agreements. Unless otherwise approved by the Board of Directors, the Company will cause each Person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) to enter into a nondisclosure and proprietary rights assignment agreement or agreement containing provisions regarding non-disclosure and proprietary rights. In addition, the Company shall not amend, modify, terminate, waive, or otherwise alter, in whole or in part, any of the provisions in the above-referenced agreements regarding non-disclosure and proprietary rights, without the consent of the Board of Directors, including a majority of the Preferred Directors if any is then serving.

5.3 Employee Stock. Unless otherwise approved by the Board of Directors, including a majority of the Preferred Directors if any is then serving, all employees of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a four (4) year period, with the first twenty-five percent (25%) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal monthly installments over the following thirty-six (36) months, and (ii) a market stand-off provision substantially similar to that in Section 2.11. Notwithstanding the foregoing, any equity award granted to an employee after his or her initial award shall have a vesting commencement date as of the date of grant, unless otherwise approved by the Board of Directors, including a majority of the Preferred Directors if any is then serving.

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Without the prior approval by the Board of Directors, including a majority of the Preferred Directors if any is then serving, the Company shall not amend, modify, terminate, waive or otherwise alter, in whole or in part, any stock purchase, stock restriction or option agreement with any existing employee or service provider if such amendment would cause it to be inconsistent with this Section 5.3. In addition, unless otherwise approved by the Board of Directors, including a majority of the Preferred Directors if any is then serving, the Company shall retain (and not waive) a "right of first refusal" on employee transfers of Common Stock pursuant to the Bylaws or applicable issuance agreements until an IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.4 Qualified Small Business Stock. The Company shall use commercially reasonable efforts to cause the shares of Series B Preferred Stock issued pursuant to the Series B Preferred Stock Purchase Agreement, dated April 18, 2022, by and between the Company and certain investors party thereto, as well as any shares into which such shares are converted, within the meaning of Section 1202(f) of the Internal Revenue Code (the "**Code**"), to constitute "qualified small business stock" as defined in Section 1202(c) of the Code; *provided, however*, that such requirement shall not be applicable if the Board of Directors determines, in its good-faith business judgment, that such qualification is inconsistent with the best interests of the Company.

5.5 Board Matters. The Company shall reimburse the nonemployee directors for all reasonable out-of-pocket travel expenses incurred (consistent with the Company's travel policy) in connection with attending meetings of the Board of Directors. Each Preferred Director shall be entitled in such person's discretion to be a member of each committee of the Board of Directors, if applicable, absent a conflict of interest.

5.6 Successor Indemnification. If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board of Directors as in effect immediately before such transaction, whether such obligations are contained in the Company's Bylaws, the Certificate of Incorporation, or elsewhere, as the case may be.

5.7 Expenses of Counsel. In the event of a transaction which is a Sale of the Company (as defined in the Voting Agreement, the Company and the other parties named therein), the reasonable fees and disbursements, not to exceed $35,000, of one counsel for the Major Investors ("**Investor Counsel**"), in their capacities as stockholders, shall be borne and paid by the Company upon the closing of the Sale of the Company (and contingent upon the closing thereof) and will, subject to any restrictions under applicable law, rule, regulation or contract, provide such Investor Counsel with drafts of definitive agreements and other information reasonably requested by such counsel at least ten (10) days prior to the earlier of Company's entering into a transaction or the Company's entering into a definitive acquisition agreement with respect to a transaction which, in either case, if consummated would constitute a Sale of the Company. Investor Counsel shall, subject to any restrictions under applicable law, rule, regulation or contract, have a reasonable opportunity to comment on any of the definitive acquisition agreements with respect to such Sale of the Company.

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5.8 Right to Conduct Activities. The Company hereby agrees and acknowledges that each of U.S. Venture Partner XII, L.P., U.S. Venture Partner XII-A, L.P., U.S. Venture Partners Select Fund I, L.P., Wavemaker Three-Sixty Health, LP, Cove Fund II, LLC, Vertical GP-11, LLC and B Capital (together with each of their respective Affiliates) (each a "**Fund Investor**") is a professional investment organization or collective investment vehicle, and as such reviews the business plans and related proprietary information of many enterprises, some of which may compete directly or indirectly with the Company's business (as currently conducted or as currently propose to be conducted). Nothing in this Agreement shall preclude or in any way restrict such Fund Investors from evaluating or purchasing securities, including publicly traded securities, of a particular enterprise, or investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company; and the Company hereby agrees that, to the extent permitted under applicable law, each Fund Investor (and its Affiliates) shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by such Fund Investor (or its Affiliates) in any entity competitive with the Company, or (ii) actions taken by any partner, officer, employee or other representative of such Fund Investor (or its Affiliates) to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing shall not relieve (x) any party from liability associated with any breach of any confidentiality or other contractual obligations with the Company (including under this Agreement), (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company or (z) any party from any other obligations under applicable law.

5.9 CFIUS and Foreign Person Limitations. The Company shall promptly notify each Investor that, to the Company's knowledge, is a Foreign Person, in the event the Company becomes a "TID U.S. business" as defined under 31 C.F.R. 800.248. Notwithstanding anything to the contrary, each Investor covenants that (i) such Investor will notify the Company in advance of permitting any Foreign Person affiliated with such Investor, whether affiliated as a limited partner or otherwise, to obtain through Investor any DPA Triggering Rights, and (ii) if such Investor is a Foreign Person, (A) the Company shall not be obligated to provide any DPA Triggering Rights to such Investor (whether under this Agreement or otherwise) and (B) such Investor will not acquire a voting equity interest in the Company that exceeds nine and nine-tenths percent (9.9%) of the Company's total voting securities pursuant to the Purchase Agreement, Section 4 of this Agreement, or otherwise, including by way of any secondary transaction(s), without the approval of the Board of Directors, including the approval of a majority of the Preferred Directors if any is then serving. If the Company becomes a TID U.S. business, the Company may take reasonable measures to ensure that any Foreign Person affiliated with an Investor does not obtain or retain DPA Triggering Rights that would require the parties to notify CFIUS, as required under 31 C.F.R. 800.401.

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5.10 Corporate Transparency Act. Each Investor agrees to provide the Company with any such information solely as is reasonably necessary to enable the Company to comply with its reporting and disclosure requirements under the CTA. An Investor may satisfy the requirements in the previous sentence by providing a "FinCEN identifier" (as defined in the CTA) to the Company in lieu of other required information to the extent permitted by the CTA and authorized by FinCEN. The Company shall establish a confidential, private, and secure method of requesting, storing, and transmitting any information to be provided by such Investor (or on behalf of any of its Affiliates) consistent with the physical, technical, organizational and administrative security measures and policies the Company has in place to protect all of the Company's confidential business information, trade secrets, and any information about identified or identifiable natural persons maintained, disclosed, or otherwise processed by or on behalf of the Company. Any information provided by an Investor pursuant to this Section 5.10 may be used by the Company only in connection with complying with its obligations under the CTA. The Company shall timely file any reports required by the CTA.

5.11 Termination of Covenants. The covenants set forth in this Section 5, except for Section 5.6, shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act or (iii) upon the closing of a Deemed Liquidation Event, except that such covenants shall not terminate upon the consummation of a sale of all or substantially all of the assets or intellectual property assets of the Company unless agreed to by the holders of at least a majority of the Preferred Stock outstanding immediately prior to the closing of such Deemed Liquidation Event, whichever event occurs first.

6.Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; (ii) is a Holder's Immediate Family Member or trust for the benefit of an individual Holder or one (1) or more of such Holder's Immediate Family Members; provided, however, that (x) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section2.11. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by the internal law of the State of Delaware, without regard to conflict of law principles that would result in the application of any law other than the law of the State of Delaware.

6.3 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the

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same instrument. Counterparts may be delivered via electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, *e.g.*, www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices.

(a)All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (i) personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule A or Schedule B (as applicable) hereto, or (as to the Company) as set forth on the Company's signature page hereto, or in any case to such email address or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, a copy (which copy shall not constitute notice) shall also be sent to Morrison & Foerster LLP, 12531 High Bluff Drive, Suite 100, San Diego, CA, 92011, Attn: James M. Krenn, **[***]**

(b)Consent to Electronic Notice. Each Investor and Key Holder consents to the delivery of any stockholder notice pursuant to the Delaware General Corporation Law (the "**DGCL**"), as amended or superseded from time to time, by electronic transmission pursuant to Section 232 of the DGCL (or any successor thereto) at the electronic mail address set forth below such Investor's or Key Holder's name on the Schedules hereto, as updated from time to time by notice to the Company, or as on the books of the Company. To the extent that any notice given by means of electronic transmission is returned or undeliverable for any reason, the foregoing consent shall be deemed to have been revoked until a new or corrected electronic mail address has been provided, and such attempted electronic notice shall be ineffective and deemed to not have been given. Each Investor and Key Holder agrees to promptly notify the Company of any change in such stockholder's electronic mail address, and that failure to do so shall not affect the foregoing.

6.6 Amendments and Waivers.

(a)Any term of this Agreement may be amended, modified or terminated and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the holders of at least a majority of the Registrable Securities then outstanding; provided that the Company may in its sole discretion waive compliance with Section 2.12(c); and provided further that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Notwithstanding the

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foregoing, Sections 3.1 and 3.2, any provision of Section 4 and any other section of this Agreement applicable to the Major Investors

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(including this sentence of this Section 6.6(a)) may be amended, modified, terminated or waived with only the written consent of the Company and the holders of at least a majority of the Registrable Securities then outstanding held by the Major Investors.

(b)Further, Section 2 (other than Sections 2.1 and 2.10) and this Section 6.6(b) of this Agreement may not be amended, modified or terminated, and no provision hereof may be waived, in each case, in any way which on its face would materially and adversely affect the rights of the Key Holders hereunder in a manner disproportionate to any adverse effect such amendment, modification, termination or waiver would have on the rights of the Investors hereunder, without also the written consent of the holders of at least a majority of the Registrable Securities held by the Key Holders then in service to the Company or its subsidiaries as employees, officers, advisors or consultants; it being acknowledged that the addition of other holders of Registrable Securities and their Registrable Securities to this Agreement shall not be deemed to be an amendment that materially or adversely affects the rights of the Key Holders hereunder.

(c)Notwithstanding anything set forth herein, no amendment, termination or waiver of any term under this Agreement shall be effective with respect to any Investor or group of Investors to the extent, on its face, such amendment, termination or waiver would materially and adversely affect such Investor or group of Investors in a manner that is disproportionate to its holdings of stock relative to the other Investors of the same class or series unless such amendment, termination or waiver is agreed to in writing by holders of a majority of the shares of capital stock of the disproportionately affected Investors. For the avoidance of doubt, (i) the addition to this Agreement of any new holder of shares of capital stock of the Company ("**Capital Stock**") pursuant to the Company's issuance of such Capital Stock regardless of whether such Capital Stock has rights, preferences or privileges that are junior, pari passu or senior to the Capital Stock then held by then current Investors, as long as such shares of Capital Stock have been authorized and issued in accordance with the Company's then current Certificate of Incorporation and applicable law, and as long as the addition of such new holder of Capital Stock of the Company (or inclusion of such shares of Capital Stock) has been approved as may be required pursuant to Section 2.10 or (ii) any modification of the approval or consent threshold of the holders of a specified percentage of all shares of Preferred Stock, of the holders of a specified percentage of all Registrable Securities then outstanding or of the holders of a specified percentage of the Registrable Securities then outstanding held by the Major Investors, each as set forth herein, agreed to by the holders of such specified percentage of all shares of Preferred Stock, the holders of such specified percentage of all Registrable Securities then outstanding or the holders of such specified percentage of Registrable Securities then outstanding held by the Major Investors, respectively, to a new approval or consent threshold set forth in any amendment or restatement of this Agreement executed in connection with a bona fide equity financing of the Company, shall not, in and of itself, be deemed to constitute an amendment or waiver that adversely affects one Investor in a manner that is disproportionate to any other Investor.

(d)Notwithstanding anything set forth herein, the proviso with respect to B Capital, U.S. Venture Partner XII, L.P., U.S. Venture Partner XII-A, L.P. and U.S. Venture Partners Select Fund I, L.P., in Section 1.5, Section 5.8 and this clause (d) of Section 6.6 may not be amended, modified or terminated, and no provision thereof or hereof may be waived without the written consent of U.S. Venture Partner XII, L.P., U.S. Venture Partner XII-A, L.P. and, to the extent a party to this Agreement, U.S. Venture Partners Select Fund I, L.P., or B Capital (as

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applicable) to the extent such amendment, modification, termination or waiver in on its face would materially and adversely affect the rights of B Capital, U.S. Venture Partner XII, L.P., U.S. Venture Partner XII-A, L.P. or U.S. Venture Partners Select Fund I, L.P. thereunder in a manner disproportionate to any adverse effect such amendment, modification, termination or waiver on the rights of the other Investors.

(e)Notwithstanding the foregoing, Schedule A hereto may be amended by the Company from time to time to add transferees of any Registrable Securities in compliance with the terms of this Agreement without the consent of the other parties; and Schedule A hereto may also be amended by the Company after the date of this Agreement without the consent of the other parties to add information regarding any additional Investor who becomes a party to this Agreement in accordance with Section 6.9. The Company shall give prompt notice of any amendment, modification or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, modification, termination, or waiver. Any amendment, modification, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one (1) or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one (1) or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Aggregation of Stock; Apportionment. All shares of Registrable Securities held or acquired by Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement and such Affiliated Persons may apportion such rights as among themselves in any manner they deem appropriate.

6.9 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares Preferred Stock after the date hereof, pursuant to the Purchase Agreement or the exercise of that certain Warrant to Purchase Stock, dated as of March 7, 2024, by and among the Company and Customers Bank (the "**Warrant**"), any purchaser of such shares of Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "Investor" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "Investor" hereunder.

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6.10 Entire Agreement. This Agreement (including any Schedules hereto) together with the other Transaction Documents (as defined in the Purchase Agreement), constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled.

6.11 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the federal and state courts located within the geographical boundaries the United States District Court for the District of Delaware for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the federal and state courts located within the geographical boundaries the United States District Court for the District of Delaware and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

6.12 Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or non-defaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

[Signature Page Follows]

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

COMPANY:

CARLSMED, INC.

By:	/s/ Michael Cordonnier
Name:	Michael Cordonnier
Title:	Chief Executive Officer
Address:	1800 Aston Avenue Suite 100 Carlsbad, California 92008
Attention:	Chief Executive Officer

[***]

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

KEY HOLDER:

MICHAEL CORDONNIER

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

KEY HOLDER:

NIALL CASEY

By: /s/ Niall Casey

Name: Niall Casey

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

KEY HOLDER:

JEFFREY ROH

By: /s/ Jeffrey Roh

Name: Jeffrey Roh

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

KEY HOLDER:

JUSTIN ESTERBERG

By: /s/ Justin Esterberg

Name: Justin Esterberg

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

U.S. VENTURE PARTNERS XII, L.P.
U.S. VENTURE PARTNERS XII-A, L.P.

By: Presidio Management Group XII, L.L.C.
The General Partner of Each

By: /s/ Dale Holladay
Dale Holladay,
Attorney-In-Fact

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

BRENDAN T. CASEY

By: /s/ Brendan T. Casey

Name: Brendan T. Casey

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

MICHAEL CORDONNIER

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

KEVIN SIDOW

By: /s/ Kevin Sidow

Name: Kevin Sidow

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INVESTOR:

NIALL CASEY

By: /s/ Niall Casey

Name: Niall Casey

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INVESTOR:

DENNIS DUCHENE

By: /s/ Dennis Duchene

Name: Dennis Duchene

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

AÉCIO RUBENS DIAS PEREIRA FILHO

By: /s/ Aécio Rubens Dias Pereira Filho

Name: Aécio Rubens Dias Pereira Filho

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

KENNETH CASEY

By: /s/ Kenneth Casey

Name: Kenneth Casey

CARI CASEY

By: /s/ Cari Casey

Name: Cari Casey

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

SHANE RESSIE

By: /s/ Shane Ressie

Name: Shane Ressie

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INVESTOR:

JAMES MURDICA

By: /s/ James Murdica

Name: James Murdica

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INVESTOR:

DANTSKER FAMILY TRUST

By: /s/ Gene Dantsker

Name: Gene Dantsker

Title: Trustee

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INVESTOR:

KENDIS M MOORE DRAKE

By: /s/ Kendis M Moore Drake

Name: Kendis M Moore Drake

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INVESTOR:

LEGACY HOLDINGS NW, LLC

By:	/s/ Michael Isaacson
Name:	Michael Isaacson
Title:	Owner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

FIFTH FLOOR INVESTMENTS, LLC

By:	/s/ John P. Griffin
Name:	John P. Griffin
Title:	Authorized Signer

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

PROVIDENT TRUST GROUP, LLC
FBO:
MILTON SIGELMANN ROTH IRA

By:	/s/ Gloria Viel
Name:	Gloria Viel
Title:	Authorized Signer

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INVESTOR:

CARLA FOWLER

By: /s/ Carla Fowler

Name: Carla Fowler

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INVESTOR:

SALEM EMARA

By: /s/ Salem Emara

Name: Salem Emara

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

DAVID LITWACK

By: /s/ David Litwack

Name: David Litwack

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INVESTOR:

WILLAMETTE ANGEL FUND, LLC

By:	/s/ Michael L. Hand
Name:	Michael L. Hand
Title:	Dean

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INVESTOR:

DAVID RICKEY

By: /s/ David Rickey
Name: David Rickey
Title: Trustee, Brenda and Dave Rickey Family Foundation

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

RICH STEWART

By: /s/ Rich Stewart

Name: Rich Stewart

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

TIMOTHY MICHAEL MINETTE

By: /s/ Timothy Michael Minette

Name: Timothy Michael Minette

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

ALEXANDER ARROW

By: /s/ Alexander Arrow

Name: Alexander Arrow

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

SACCHARO VENTURE FUND LLC

By: /s/ Mark Han

Name: Mark Han

Title: Manager

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

THOMAS A. KAUFFMAN JR.

By: /s/ Thomas A. Kauffman Jr.

Name: Thomas A. Kauffman Jr.

HEATHER T. KAUFFMAN

By: /s/ Heather T. Kauffman

Name: Heather T. Kauffman

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

ROBERT BECKER

By: /s/ Robert Becker

Name: Robert Becker

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

MICHAEL PAOLINO

By: /s/ Michael Paolino

Name: Michael Paolino

DIANE PAOLINO

By: /s/ Diane Paolino

Name: Diane Paolino

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Please Consider the Environment Before Printing This Document

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

JAY LI

By: /s/ Jay Li

Name: Jay Li

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

JADE LIN AND CONNIE YEH, TRUSTEES OF THE LIN YEH FAMILY TRUST DATED JUNE 16, 2020

By: /s/ Jade Lin

Name: Jade Lin

Title: Co-Trustee

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

GEORGE CHRISIKOS

By: /s/ George Chrisikos

Name: George Chrisikos

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Please Consider the Environment Before Printing This Document

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

Cove Fund II, LLC

By: /s/ Michael Benvenuti

Name: Michael Benvenuti, Co-Manager of Cove II Fund Management, LLC, Manager of Cove Fund II, LLC

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INVESTOR:

COVE III MANAGEMENT, LLC

By:	/s/ Paul Voois
Name:	Paul Voois
Title:	Member

By:	/s/ Michael Benvenuti
Name:	Michael Benvenuti
Title:	Member

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INVESTOR:

SEAN MCCLOSKEY

By: /s/ Sean McCloskey

Name: Sean McCloskey

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INVESTOR:

MINH N. HONG

By: /s/ Minh N. Hong

Name: Minh N. Hong

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INVESTOR:

DEANNA CONHEENY

By: /s/ Deanna Conheeny

Name: Deanna Conheeny

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

COAST 2 COAST LOGISTICS, LLC

By: /s/ Denis Hickey

Name: Denis Hickey

Title: CEO

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

JOHN CASEY

By: /s/ John Casey

Name: John Casey

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INVESTOR:

SYED SHARIQ HUSSAIN

By: /s/ Syed Shariq Hussain

Name: Syed Shariq Hussain

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INVESTOR:

KDI Partners, a California General Partnership

By:	/s/ Kenneth W. Guchereau
Name:	Kenneth W. Guchereau
Title:	Managing Partner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

K. BRIAN HORTON

By: /s/ K. Brian Horton

Name: K. Brian Horton

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

PROVIDENT TRUST GROUP FBO JEFF MANLEY IRA

By: /s/ Nicholas Vanderberg

Name: Nicholas Vanderberg

Title: Authorized Signatory

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INVESTOR:

THE UHL AND CASEY REVOCABLE TRUST DATE 6/18/96

By:	/s/ Larry Uhl
Name:	Larry Uhl
Title:	Trustee

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INVESTOR:

MICHAEL TEMPLEMAN

By: /s/ Michael Templeman

Name: Michael Templeman

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INVESTOR:

THE CAPITALISTS PARTNERSHIP

By:	/s/ Calvin Chen
Name:	Calvin Chen
Title:	General Partner

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INVESTOR:

M COLOMBATTO TRUST

By:	/s/ Martin Colombatto
Name:	Martin Colombatto
Title:	Trustee

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

DEVICE OF TOMORROW CAPITAL

By:	/s/ Henry Yan
Name:	Henry Yan
Title:	Managing Partner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

MMM Profit Sharing Plan

By:	/s/ Stender Sweeney
Name:	Stender Sweeney
Title:	Trustee

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INVESTOR:

SWEENEY FAMILY INVESTMENTS LLC

By:	/s/ Stender Sweeney
Name:	Stender Sweeney
Title:	Managing Member

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

WAVEMAKER THREE-SIXTY HEALTH, LP

By:	/s/ John G. Nackel
Name:	John G. Nackel
Title:	Founder and General Partner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

WAVEMAKER THREE-SIXTY HEALTH A, LP

By:	/s/ John G. Nackel
Name:	John G. Nackel
Title:	Founder and General Partner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

WAVEMAKER THREE-SIXTY HEALTH II, LP

By:	/s/ John G. Nackel
Name:	John G. Nackel
Title:	Founder and General Partner

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INVESTOR:

WAVEMAKER THREE-SIXTY HEALTH II-A, LP

By:	/s/ John G. Nackel
Name:	John G. Nackel
Title:	Founder and General Partner

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY (DAPER I)

By: /s/ Brian Talbott

Name: Brian Talbott

Title: Authorized Signatory

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY (SBST)

By: /s/ Rajkumar Chellaraj

Name: Rajkumar Chellaraj

Title: Authorized Signatory

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

VERTICAL GP-11, LLC

By:	/s/ Jack Lasersohn
Name:	Jack Lasersohn
Title:	Managing Member

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

B Capital Global Growth III, L.P.

By:	/s/ Raj Ganguly
Name:	Raj Ganguly
Title:	Authorized Signatory

By:	/s/ Robert Mittendorff
Name:	Robert Mittendorff
Title:	Authorized Signatory

B Capital Healthcare I, L.P.

By:	/s/ Raj Ganguly
Name:	Raj Ganguly
Title:	Authorized Signatory

By:	/s/ Robert Mittendorff
Name:	Robert Mittendorff
Title:	Authorized Signatory

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INVESTOR:

HORNET CO-INVEST, L.P.

By: Hornet Co-Invest GP, L.P., its general partner
By: Hornet Co-Invest Investors, Ltd., its general partner

By:	/s/ Raj Ganguly
Name:	Raj Ganguly
Title:	Authorized Signatory

By:	/s/ Robert Mittendorff
Name:	Robert Mittendorff
Title:	Authorized Signatory

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INVESTOR:

U.S. Venture Partners Select Fund I, L.P.,
on its own behalf and as nominee for
U.S. Venture Partners Select Fund I-A, L.P.

By: Presidio Management Group Select Fund I, L.L.C.
Their: General Partner

By: /s/ Dale Holladay

Name: Dale Holladay
Title: Attorney-In-Fact

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IN WITNESS WHEREOF, the parties have executed this Amended and Restated Investors' Rights Agreement as of the date first written above.

INVESTOR:

PMY Partners LP

By:	/s/ Philip M. Young
Name:	Philip M. Young
Title:	General Partner

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SCHEDULE A

Signature Page to Carlsmed, Inc.
Amended and Restated Investors' Rights Agreement

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Exhibit 10.1

INDEMNIFICATION AGREEMENT

This Indemnification Agreement (this "Agreement") is made as of the ____ day of _____, 2025 by and between Carlsmed, Inc., a Delaware corporation, (the "Company") and _____ (the "Indemnitee"), a director or officer of the Company.

WHEREAS, the Board of Directors of the Company ("Board of Directors") has determined that the increasing difficulty in attracting and retaining qualified persons as directors and officers is detrimental to the best interests of the Company's stockholders and that the Company should act to assure such persons that there will be adequate certainty of protection through insurance and indemnification against risks of claims and actions against them arising out of their service to and activities on behalf of the Company; and

WHEREAS, Section 145 of the General Corporation Law of the State of Delaware empowers the Company to indemnify and advance expenses to its officers, directors, employees and agents by agreement and to indemnify and advance expenses to persons who serve, at the request of the Company, as directors, officers, employees, or agents of other corporations or enterprises, and expressly provides that the indemnification provided by Section 145 is not exclusive;

WHEREAS, the Company has adopted provisions in its Certificate of Incorporation and Bylaws providing for mandatory indemnification of its officers and directors to the fullest extent permitted by applicable law, subject to certain limitations specified in the Certificate of Incorporation and Bylaws, and the Company wishes to clarify and enhance the rights and obligations of the Company and the Indemnitee with respect to indemnification;

WHEREAS, in order to induce and encourage highly experienced and capable persons such as the Indemnitee to serve and continue to serve as directors and officers of the Company and in other capacities with respect to the Company and its affiliates, and to otherwise promote the desirable end that such persons will resist what they consider unjustified lawsuits and claims made against them in connection with the good faith performance of their duties to the Company, with the knowledge that certain costs, judgments, liabilities and expenses incurred by them in their defense of such litigation are to be borne by the Company, the Board of Directors has determined that the following Agreement is reasonable and prudent to promote and ensure the best interests of the Company and its stockholders; and

WHEREAS, this Agreement is a supplement to, and in furtherance of, the Bylaws, the Certificate of Incorporation and any resolutions adopted pursuant thereto, as well as any rights of Indemnitee under any directors' and officers' liability insurance policy, and is not a substitute therefor, and does not diminish or abrogate any rights of Indemnitee thereunder.

NOW, THEREFORE, in consideration of the Indemnitee's service as a director or officer of the Company, or service at the Company's request as a director, officer, employee, or agent of other enterprises or entities, after the date hereof, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

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Section 1. Service by Indemnitee. The Indemnitee will serve and/or continue to serve as a director or officer of the Company faithfully and to the best of the Indemnitee's ability so long as the Indemnitee is duly elected or appointed and until such time as the Indemnitee is removed, terminated, or tenders a resignation. This Agreement does not create any obligation on the Company to continue Indemnitee in such position and is not an employment contract between the Company (or any of its subsidiaries or any Enterprise) and Indemnitee

Section 2. Indemnification.

(a)General. The Company shall indemnify the Indemnitee (i) as provided in this Agreement and (ii) subject to the provisions of this Agreement, to the full extent permitted by applicable law and in a manner permitted by such law.

(b)Proceedings Other Than Proceedings by or in the Right of the Company. Except as provided in Section 4 hereof, the Indemnitee shall be entitled to the rights of indemnification provided in this Section 2(b) if, by reason of the Indemnitee's Corporate Status, the Indemnitee is or was, or is or was threatened to be made, a party to or is or was otherwise involved in a Proceeding, other than a Proceeding by or in the right of the Company to procure a judgment in its favor. The Indemnitee shall be indemnified pursuant to and in accordance with this Section 2(b) against all Losses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf in connection with such a Proceeding or any claim, issue, or matter therein, but only if the Indemnitee acted in good faith and in a manner that the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

(c)Proceedings by or in the Right of the Company. Except as provided in Section 4 hereof, the Indemnitee shall be entitled to the rights of indemnification provided in this Section 2(c) if, by reason of the Indemnitee's Corporate Status, the Indemnitee is or was, or is or was threatened to be made, a party to or is or was otherwise involved in a Proceeding brought by or in the right of the Company to procure a judgment in its favor. The Indemnitee shall be indemnified pursuant to and in accordance with this Section 2(c) against all Expenses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf in connection with such a Proceeding or any claim, issue, or matter therein, but only if the Indemnitee acted in good faith and in a manner that the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company; provided, however, that no indemnification for such Expenses shall be made in respect of any claim, issue, or matter in such Proceeding as to which the Indemnitee shall have been adjudged liable to the Company unless (and only to the extent that) the Court of Chancery of the State of Delaware or the court in which such Proceeding was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, the Indemnitee is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or such other court shall deem proper. Anything in this Agreement to the contrary notwithstanding, if the Indemnitee, by reason of the Indemnitee's Corporate Status, is or was, or is or was threatened to be made, a party to any Proceeding by or in the right of the Company to procure a judgment in its favor, then the Company shall not indemnify the Indemnitee for any judgment, fines, or amounts paid in settlement to the Company in connection with such Proceeding.

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(d)Indemnification for Expenses if Indemnitee is Wholly or Partly Successful. Anything in this Agreement to the contrary notwithstanding, to the extent that the Indemnitee, by reason of the Indemnitee's Corporate Status, is or was, or is or was threatened to be made, a party to any Proceeding and is successful, on the merits or otherwise, in defending such Proceeding (including dismissal without prejudice), the Indemnitee shall be indemnified to the maximum extent permitted by law against all Expenses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf in connection with the defense of such Proceeding. If the Indemnitee is not wholly successful in defending any such Proceeding but is successful, on the merits or otherwise, in defending one or more but less than all claims, issues, or matters in such Proceeding (including dismissal without prejudice of certain claims), the Company shall indemnify the Indemnitee against all Expenses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf in defending each such successfully resolved claim, issue, or matter. To the extent the Indemnitee has been successful, on the merits or otherwise, in defending any Proceeding, or in defending any claim, issue, or matter therein, the Indemnitee shall be entitled to indemnification as provided in this Section 2(d) regardless of whether the Indemnitee met the standards of conduct set forth in Sections 2(b) and 2(c) hereof.

(e)Indemnification for Expenses as a Witness. Anything in this Agreement to the contrary notwithstanding, to the fullest extent permitted by applicable law, to the extent that the Indemnitee, by reason of the Indemnitee's Corporate Status, is or was, or is or was threatened to be made, a witness in any Proceeding to which the Indemnitee is not a party, the Indemnitee shall be indemnified against all Expenses actually and reasonably incurred by the Indemnitee or on the Indemnitee's behalf in connection therewith. To the extent permitted by applicable law, the Indemnitee shall be entitled to indemnification for Expenses incurred in connection with being or threatened to be made a witness, as provided in this Section 2(e), regardless of whether the Indemnitee met the standards of conduct set forth in Sections 2(b) and 2(c) hereof.

(f)Partial Indemnification. If the Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for some or a portion of the Losses actually and reasonably incurred by the Indemnitee in a Proceeding, but not for the total amount thereof, the Company shall indemnify the Indemnitee for the portion of such Losses to which the Indemnitee is entitled.

(g)Additional Indemnification. Notwithstanding any limitation in this Section 2 of this Agreement, the Company will indemnify Indemnitee to the fullest extent permitted by applicable law (including but not limited to, the General Corporation Law of the State of Delaware (the "DGCL") and any amendments to or replacements of the DGCL adopted after the date of this Agreement that expand the Company's ability to indemnify its officers, directors, employees or Agents) if Indemnitee is a party to, or threatened to be made a party to, any Proceeding (including a Proceeding by or in the right of the Company to procure a judgment in its favor).

Section 3. Advancement of Expenses. Anything in this Agreement to the contrary notwithstanding, but subject to Section 4 hereof, if, by reason of the Indemnitee's Corporate Status, the Indemnitee is or was, or is or was threatened to be made, a party to, or is or was otherwise involved in, or is or was, or is or was threatened to be made, a witness to any Proceeding (including, without limitation, a Proceeding brought by or in the right of the Company to procure a judgment in its favor), then the Company shall advance all Expenses

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actually and reasonably incurred by or on behalf of the Indemnitee in connection with any such Proceeding in advance of the final

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disposition of such Proceeding within thirty (30) calendar days after the receipt by the Company of a written request for such advance or advances from time to time. Such written request shall include or be accompanied by a statement or statements reasonably evidencing the Expenses incurred by or on behalf of the Indemnitee and for which advancement is requested, and shall include or be preceded or accompanied by an undertaking by or on behalf of the Indemnitee to repay any Expenses advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that the Indemnitee is not entitled to be indemnified against such Expenses under this Agreement or otherwise. Such undertaking shall be sufficient for purposes of this Section 3 if it is in substantially the form attached hereto as Exhibit A. Any advances and undertakings to repay pursuant to this Section 3 shall be unsecured and interest free. The Indemnitee shall be entitled to advancement of Expenses as provided in this Section 3 regardless of any determination by or on behalf of the Company that the Indemnitee has not met the standards of conduct set forth in Sections 2(b) and 2(c) hereof.

Section 4. Proceedings Against the Company; Certain Securities Laws Claims.

(a)Anything in Section 2 or Section 3 hereof to the contrary notwithstanding, except as provided in Section 7(d) hereof, with respect to a Proceeding initiated against the Company by the Indemnitee (whether initiated by the Indemnitee in or by reason of such person's capacity as an officer or director of the Company or in or by reason of any other capacity, including, without limitation, as an employee or agent of the Company or a director, officer, employee, or agent of Another Enterprise), the Company shall not be required to indemnify or to advance Expenses to the Indemnitee in connection with prosecuting such Proceeding (or any part thereof) or in defending any counterclaim, cross-claim, affirmative defense, or like claim of the Company in such Proceeding (or part thereof) unless such Proceeding was authorized by the Board of Directors. For purposes of this Section 4, a compulsory counterclaim by the Indemnitee against the Company in connection with a Proceeding initiated against the Indemnitee by the Company shall not be considered a Proceeding (or part thereof) initiated against the Company by the Indemnitee, and the Indemnitee shall have all rights of indemnification and advancement with respect to any such compulsory counterclaim in accordance with and subject to the terms of this Agreement.

(b)Anything in Section 2 (other than Section 2(d)) or Section 3 hereof to the contrary notwithstanding, except as provided in Section 2(d) hereof with respect to indemnification of Expenses in connection with whole or partial success on the merits or otherwise in defending any Proceeding, the Company shall not be required to indemnify the Indemnitee in connection with any claim made against Indemnitee for (i) an accounting of profits made from the purchase and sale (or sale and purchase) by Indemnitee of securities of the Company within the meaning of Section 16(b) of the Securities Exchange Act of 1934 or similar provisions of state statutory law or common law; (ii) any reimbursement of the Company by the Indemnitee of any bonus or other incentive-based or equity-based compensation or of any profits realized by the Indemnitee from the sale of securities of the Company, as required in each case under the Securities Exchange Act of 1934 (including any such reimbursements that arise from an accounting restatement of the Company pursuant to Section 304 of the Sarbanes-Oxley Act of 2002 (the "Sarbanes-Oxley Act"), or the payment to the Company of profits arising from the purchase and sale by Indemnitee of securities in violation of Section 306 of the Sarbanes-Oxley Act); or (iii) any reimbursement to the Company by the Indemnitee, withholding of any bonus or other incentive-based compensation by

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the Company or clawback by the Company of any bonus or other incentive-based compensation, pursuant to a Clawback Policy adopted by the Board of Directors, as such Clawback Policy may currently exist or be amended in the future.

Section 5. Procedure for Determination of Entitlement to Indemnification; Independent Counsel.

(a)To obtain indemnification under this Agreement, the Indemnitee shall submit to the Company (following the final disposition of the applicable Proceeding) a written request for indemnification, including therein or therewith, except to the extent previously provided to the Company in connection with a request or requests for advancement pursuant to Section 3 hereof, a statement or statements reasonably evidencing all Losses incurred or paid by or on behalf of the Indemnitee and for which indemnification is requested. The Secretary of the Company shall, promptly upon receipt of such a request for indemnification, advise the Board of Directors in writing that the Indemnitee has requested indemnification.

(b)Upon written request by the Indemnitee for indemnification pursuant to the first sentence of Section 5(a) hereof, if required by applicable law and to the extent not otherwise provided pursuant to the terms of this Agreement, a determination with respect to the Indemnitee's entitlement to indemnification shall be made in the specific case as follows: (i) if a Change in Control shall have occurred and if so requested in writing by the Indemnitee, by Independent Counsel in a written opinion to the Board of Directors; or (ii) if a Change in Control shall not have occurred (or if a Change in Control shall have occurred but the Indemnitee shall not have requested that indemnification be determined by Independent Counsel as provided in subpart (i) of this Section 5(b)), (A) by a majority vote of the Disinterested Directors, even though less than a quorum of the Board of Directors, or (B) by a committee of Disinterested Directors designated by majority vote of the Disinterested Directors, even though less than a quorum of the Board of Directors, or (C) if there are no such Disinterested Directors or, if such Disinterested Directors so direct, by Independent Counsel in a written opinion to the Board of Directors, or (D) by the Company's stockholders in accordance with applicable law. Notice in writing of any determination as to the Indemnitee's entitlement to indemnification shall be delivered to the Indemnitee promptly after such determination is made, and if such determination of entitlement to indemnification has been made by Independent Counsel in a written opinion to the Board of Directors, then such notice shall be accompanied by a copy of such written opinion. If it is determined that the Indemnitee is entitled to indemnification, then payment to the Indemnitee of all amounts to which the Indemnitee is determined to be entitled shall be made within thirty (30) calendar days after such determination. If it is determined that the Indemnitee is not entitled to indemnification, then the written notice to the Indemnitee (or, if such determination has been made by Independent Counsel in a written opinion, the copy of such written opinion delivered to the Indemnitee) shall disclose the basis upon which such determination is based. The Indemnitee shall cooperate with the person, persons, or entity making the determination with respect to the Indemnitee's entitlement to indemnification, including providing to such person, persons, or entity upon reasonable advance request any documentation or information that is not privileged or otherwise protected from disclosure and that

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is reasonably available to the Indemnitee and reasonably necessary to determine whether and to what extent the Indemnitee is entitled to indemnification.

(c)If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 5(b) hereof, the Independent Counsel shall be selected as provided in this Section 5(c). If a Change in Control shall not have occurred (or if a Change in Control shall have occurred but the Indemnitee shall not have requested that indemnification be determined by Independent Counsel as provided in subpart (i) of Section 5(b)), then the Independent Counsel shall be selected by the Board of Directors, and the Company shall give written notice to the Indemnitee advising the Indemnitee of the identity of the Independent Counsel so selected. If a Change in Control shall have occurred and the Indemnitee shall have requested that indemnification be determined by Independent Counsel, then the Independent Counsel shall be selected by the Indemnitee (unless the Indemnitee shall request that such selection be made by the Board of Directors, in which event the preceding sentence shall apply), and the Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either event, the Indemnitee or the Company, as the case may be, may, within 10 calendar days after such written notice of selection has been given, deliver to the Company or to the Indemnitee, as the case may be, a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the law firm or person so selected does not meet the requirements of "Independent Counsel" as defined in Section 23 of this Agreement, and the objection shall set forth the basis of such assertion. Absent a proper and timely objection, the person so selected shall act as Independent Counsel. If such written objection is so made and substantiated, the law firm or person so selected may not serve as Independent Counsel unless and until such objection is withdrawn or the Court of Chancery of the State of Delaware or another court of competent jurisdiction in the State of Delaware has determined that such objection is without merit. If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 5(b) hereof and, following the expiration of thirty (30) calendar days after submission by the Indemnitee of a written request for indemnification pursuant to Section 5(a) hereof, Independent Counsel shall not have been selected, or an objection thereto has been made and not withdrawn, then either the Company or the Indemnitee may petition the Court of Chancery of the State of Delaware or another court of competent jurisdiction in the State of Delaware for resolution of any objection that shall have been made by the Company or the Indemnitee to the other's selection of Independent Counsel and/or for appointment as Independent Counsel of a law firm or person selected by such court (or selected by such person as the court shall designate), and the law firm or person with respect to whom all objections are so resolved or the law firm or person so appointed shall act as Independent Counsel under Section 5(b) hereof. Upon the due commencement of any judicial proceeding or arbitration pursuant to Section 7(a) of this Agreement, Independent Counsel shall be discharged and relieved of any further responsibility in such capacity (subject to the applicable standards of professional conduct then prevailing). If the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 5(b) hereof, then the Company agrees to pay the reasonable fees and expenses of such Independent Counsel and to fully indemnify and hold harmless such Independent Counsel against any and all Expenses, claims, liabilities, and damages arising out of or relating to this Agreement or its engagement pursuant hereto.

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Section 6. Burden of Proof; Defenses; and Presumptions.

(a)In any judicial proceeding or arbitration pursuant to Section 7 hereof brought by the Indemnitee to enforce rights to indemnification or to an advancement of expenses hereunder, or in any action, suit, or proceeding brought by the Company to recover an advancement of expenses (whether pursuant to the terms of an undertaking or otherwise), the burden shall be on the Company to prove that the Indemnitee is not entitled to be indemnified, or to such an advancement of expenses, as the case may be.

(b)It shall be a defense in any judicial proceeding or arbitration pursuant to Section 7 hereof to enforce rights to indemnification under Section 2(b) or Section 2(c) hereof (but not in any judicial proceeding or arbitration pursuant to Section 7 hereof to enforce a right to an advancement of expenses under Section 3 hereof) that the Indemnitee has not met the standards of conduct set forth in Section 2(b) or Section 2(c), as the case may be, but the burden of proving such defense shall be on the Company. With respect to any judicial proceeding or arbitration pursuant to Section 7 hereof brought by the Indemnitee to enforce a right to indemnification hereunder, or any action, suit, or proceeding brought by the Company to recover an advancement of expenses (whether pursuant to the terms of an undertaking or otherwise), neither (i) the failure of the Company (including by its directors or Independent Counsel) to have made a determination prior to the commencement of such action, suit, proceeding, or arbitration that indemnification is proper in the circumstances because the Indemnitee has met the applicable standards of conduct, nor (ii) an actual determination by the Company (including by its directors or Independent Counsel) that the Indemnitee has not met such applicable standards of conduct, shall create a presumption that the Indemnitee has not met the applicable standards of conduct or, in the case of a judicial proceeding or arbitration pursuant to Section 7 hereof brought by the Indemnitee seeking to enforce a right to indemnification, be a defense to such proceeding or arbitration.

(c)The termination of any Proceeding by judgment, order, settlement, conviction, or upon a plea of *nolo contendre* or its equivalent, shall not, of itself, adversely affect the right of the Indemnitee to indemnification hereunder or create a presumption that the Indemnitee did not act in good faith and in a manner the Indemnitee reasonably believed to be in or not opposed to the best interests of the Company, and, with respect to any criminal Proceeding, that the Indemnitee had reasonable cause to believe that his or her conduct was unlawful.

(d)For purposes of any determination of good faith, Indemnitee shall be deemed to have acted in good faith if Indemnitee's action is based on the records or books of account of the Company or Other Enterprise, including financial statements, or on information supplied to Indemnitee by the officers of the Company or Other Enterprise in the course of their duties, or on the advice of legal counsel for the Company or Other Enterprise or on information or records given or reports made to the Company or Other Enterprise by an independent certified public accountant or by an appraiser or other expert selected by the Company or Other Enterprise. The provisions of this Section 6(d) shall not be deemed to be exclusive or to limit in any way the other circumstances in which the Indemnitee may be deemed or found to have met the applicable standard of conduct set forth in this Agreement.

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(e)The knowledge and/or actions, or failure to act, of any other director, officer, agent, or employee of the Company or of Another Enterprise shall not be imputed to the Indemnitee for purposes of determining the Indemnitee's right to indemnification under this Agreement.

Section 7. Remedies of Indemnitee.

(a)In the event that (i) a determination is made pursuant to Section 5 of this Agreement that the Indemnitee is not entitled to indemnification under this Agreement, (ii) advancement of Expenses is not timely made pursuant to Section 3 of this Agreement, (iii) except when the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 5(b) hereof, no determination of entitlement to indemnification shall have been made pursuant to Section 5(b) of this Agreement within sixty (60) calendar days after receipt by the Company of the Indemnitee's written request for indemnification, (iv) under circumstances in which the determination of entitlement to indemnification is to be made by Independent Counsel pursuant to Section 5(b) hereof, no determination of entitlement to indemnification shall have been made pursuant to Section 5(b) hereof within eighty (80) calendar days after receipt by the Company of the Indemnitee's written request for indemnification (unless an objection to the selection of such Independent Counsel has been made and substantiated and not withdrawn, in which case the applicable time period shall be seventy (70) calendar days after the Court of Chancery of the State of Delaware or another court of competent jurisdiction in the State of Delaware (or such person appointed by such court to make such determination) has determined or appointed the person to act as Independent Counsel pursuant to Section 5(b) hereof), (v) payment of indemnification is not made pursuant to Section 2(d) or Section 2(e) of this Agreement within thirty (30) calendar days after receipt by the Company of a written request therefor, or (vi) payment of indemnification pursuant to Section 2(b) or Section 2(c) of this Agreement is not made within thirty (30) calendar days after a determination has been made pursuant to Section 5(b) that the Indemnitee is entitled to indemnification, then the Indemnitee shall be entitled to seek an adjudication by the Court of Chancery of the State of Delaware of the Indemnitee's entitlement to such indemnification or advancement of Expenses. Alternatively, if the foregoing conditions have been satisfied, the Indemnitee, at his or her option, may seek an award in arbitration to be conducted by a single arbitrator pursuant to the Commercial Arbitration Rules of the American Arbitration Association. The Indemnitee shall commence such proceeding seeking an adjudication or an award in arbitration within one hundred and eighty (180) calendar days following the date on which the Indemnitee first has the right to commence such proceeding pursuant to this Section 7(a); provided, however, that the foregoing clause shall not apply in respect of a proceeding brought by the Indemnitee to enforce his or her rights to indemnification under Section 2(d) of this Agreement.

(b)In the event that a determination shall have been made pursuant to Section 5(b) of this Agreement that the Indemnitee is not entitled to indemnification, any judicial proceeding or arbitration commenced pursuant to this Section 7 shall be conducted in all respects as a *de novo* trial, or arbitration, on the merits and the Indemnitee shall not be prejudiced by reason of that adverse determination.

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(c)If a determination shall have been made pursuant to Section 5(b) of this Agreement that the Indemnitee is entitled to indemnification, the Company shall be bound by such determination in any judicial proceeding or arbitration commenced pursuant to this Section 7, absent (i) a misstatement or misrepresentation by the Indemnitee (or anyone acting on the Indemnitee's behalf) of a material fact, or an omission of a material fact necessary to make the Indemnitee's statement (or statements of persons acting on behalf of the Indemnitee) not materially misleading, in connection with the request for indemnification or in connection with the provision of information or documentation pursuant to the last sentence of Section 5(b), or (ii) a prohibition of such indemnification under applicable law.

(d)In the event that the Indemnitee, pursuant to this Section 7, seeks a judicial adjudication of or an award in arbitration to enforce the Indemnitee's rights under, or to recover damages for breach of, this Agreement, then the Indemnitee shall be entitled to recover from the Company, and shall be indemnified by the Company against, any and all Expenses actually and reasonably incurred by or on behalf of such Indemnitee in such judicial adjudication or arbitration, but only if (and only to the extent) the Indemnitee prevails therein. If it shall be determined in said judicial adjudication or arbitration that the Indemnitee is entitled to receive part but not all of the indemnification or advancement of Expenses sought, the expenses incurred by the Indemnitee in connection with such judicial adjudication or arbitration shall be appropriately prorated.

Section 8. Non-Exclusivity. Except to the extent expressly provided herein, and only to such extent, the rights of indemnification and to receive advancement of Expenses as provided by this Agreement shall not be deemed exclusive of any other rights to which the Indemnitee may at any time be entitled under applicable law, the Company's Certificate of Incorporation, the Company's Bylaws, any agreement, a vote of stockholders, a resolution of directors, or otherwise, both as to action in or by reason of the Indemnitee's Corporate Status and as to action in or by reason of any other capacity of the Indemnitee while serving as a director or officer of the Company. No right or remedy herein conferred is intended to be exclusive of any other right or remedy, and every other right and remedy shall be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. In the event of any change after the date of this Agreement in any applicable law, statute, or rule that expands the power of a Delaware corporation to indemnify a member of its board of directors or an officer, employee, agent, or fiduciary, it is the intent of the parties hereto that Indemnitee shall enjoy by this Agreement the greatest benefits afforded by such change. Anything in this Section 8 to the contrary notwithstanding, to the extent the time periods specified in Section 3 and Section 7(a) hereof with respect to the time at which the Indemnitee shall be entitled to seek an adjudication or an award in arbitration as to the Indemnitee's entitlement to indemnification or advancement differ from similar time periods specified in the Company's Certificate of Incorporation or Bylaws, the time periods set forth in Section 3 and Section 7(a) hereof shall control and be binding on the Indemnitee and the Company and shall be deemed a waiver of any contrary right specified in the Company's Certificate of Incorporation or Bylaws. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other right or remedy.

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Section 9. Insurance; Subrogation; Other Sources of Payment.

(a)To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents of the Company or Another Enterprise, Indemnitee shall be covered by such policy or policies in accordance with its or their terms to the maximum extent of the coverage available for any such director, officer, employee or agent under such policy or policies. If, at the time of the receipt of a notice of a claim pursuant to the terms hereof, the Company has director and officer liability insurance in effect, the Company shall give prompt notice of the commencement of such proceeding to the insurers in accordance with the procedures set forth in the respective policies. The Company shall thereafter take all necessary or desirable action to cause such insurers to pay, on behalf of the Indemnitee, all amounts payable as a result of such proceeding in accordance with the terms of such policies. To the extent that the Company maintains an insurance policy or policies providing liability insurance for directors, officers, employees, or agents of the Company or Another Enterprise, the provision of directors' and officers' liability insurance as provided in this Section 9(a) shall be in addition to the Company's obligations under Sections 2 and 3 hereof and shall not be deemed to be in satisfaction of those obligations.

(b)In the event of any payment to or on behalf of the Indemnitee under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of the Indemnitee, who shall execute all papers required and take all action necessary to secure such rights, including execution of such documents as are necessary to enable the Company to bring suit to enforce such rights.

(c)Except to the extent required by applicable law, the Company shall not be liable under this Agreement to make any payment to Indemnitee with respect to amounts otherwise indemnifiable hereunder (or for which advancement is otherwise provided hereunder) if and to the extent that the Indemnitee has otherwise actually received such payment under any insurance policy, contract, agreement, or otherwise. Nothing hereunder is intended to affect any right of contribution of or against the Company in the event the Company and any other person or persons have co-equal obligations to indemnify or advance expenses to Indemnitee.

(d)The Company's obligation to indemnify or advance Expenses hereunder to the Indemnitee, in connection with or by reason of Indemnitee's service at the request of the Company as a director, officer, employee, agent, or fiduciary of Another Enterprise, shall be reduced by any amount that the Indemnitee has actually received as indemnification or advancement of Expenses from such Other Enterprise with respect to the Proceeding for which indemnification or advancement of Expenses is sought.

Section 10. Contribution. To the fullest extent permitted by applicable law, if the indemnification provided for in this Agreement is unavailable to Indemnitee for any reason whatsoever, the Company, in lieu of indemnifying Indemnitee, shall contribute to the amount incurred by Indemnitee, for any and all Losses, in connection with any claim relating to an indemnifiable event under this Agreement, in such proportion as is deemed fair and reasonable in light of all of the circumstances of such Proceeding in order to reflect (i) the relative benefits received by the Company, on the one hand, and Indemnitee, on the other hand, as a result of the event(s) and/or transaction(s) giving cause to such Proceeding; and/or (ii) the relative fault of the

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Company (and its directors, officers, employees and agents), on the one hand, and Indemnitee, on the other hand, in connection with such event(s) and/or transaction(s).

Section 11. Settlements. Anything in this Agreement or the Company's Certificate of Incorporation or Bylaws to the contrary notwithstanding, the Company shall have no obligation to indemnify the Indemnitee for any amounts paid by or on behalf of the Indemnitee in settlement of any Proceeding, unless the Company has consented in writing to such settlement, which consent shall not be unreasonably withheld. The Company shall not settle any claim in any manner that would impose any fine or any obligation on the Indemnitee without the Indemnitee's prior written consent, which consent shall not be unreasonably withheld.

Section 12. Survival of Rights; Binding Effect; Successors and Assigns.

(a)The indemnification and advancement of Expenses and other rights provided by, or granted pursuant to, this Agreement shall continue during the period that the Indemnitee is a director or officer of the Company and shall continue through and after the Termination Date so long as Indemnitee shall be subject to any possible Proceeding (including any appeal thereto), by reason of Indemnitee's Corporate Status, with respect to claims arising from any action taken or omitted (or that are alleged to have been taken or omitted) by the Indemnitee, or from any facts or events that occurred (or that are alleged to have occurred), on or before the Termination Date, and shall further continue for such period of time following the conclusion of any such Proceeding as may be reasonably necessary for Indemnitee to enforce rights and remedies pursuant to this Agreement as provided in Section 7 of this Agreement.

(b)This Agreement shall be binding upon the Indemnitee and upon the Company and its successors and assigns, and shall inure to the benefit of the Indemnitee, the Indemnitee's heirs, personal representatives, executors, administrators, and assigns and to the benefit of the Company and its successors and assigns.

(c)The Company further agrees that in the event the Company or any of its successors or assigns (i) consolidates with or merges into any other corporation or entity and shall not be the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers or conveys all or substantially all of its properties and assets to any corporation or entity, then, and in each such case, to the extent necessary, proper provision shall be made so that the successors and assigns of the Company as a result of such transaction assume the obligations of the Company set forth in this Agreement, including, without limitations, the requirements with respect to directors' and officers' liability insurance set forth in Section 9.

Section 13. Severability. If any provision or provisions of this Agreement shall be held to be invalid, illegal, or unenforceable for any reason whatsoever: (a) the validity, legality, and enforceability of the remaining provisions of this Agreement (including without limitation, each portion of any Section of this Agreement containing any such provision held to be invalid, illegal, or unenforceable, that is not itself invalid, illegal, or unenforceable) shall not in any way be affected or impaired thereby and shall remain enforceable to the fullest extent permitted by law; (b) such provision or provisions shall be deemed reformed to the extent necessary to conform to applicable law and to give the maximum effect to the intent of the parties hereto; and

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(c) to the fullest extent possible, the provisions of this Agreement (including, without limitation, each portion of any

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Section of this Agreement containing any such provision held to be invalid, illegal, or unenforceable, that it not itself invalid, illegal, or unenforceable) shall be construed so as to give effect to the intent manifested thereby.

Section 14. Acknowledgement. The Company expressly acknowledges, confirms, and agrees that it has entered into this Agreement and has assumed the obligations imposed on the Company hereby in order to induce the Indemnitee to serve or continue to serve as a director or officer of the Company, and the Company acknowledges that the Indemnitee is relying upon this Agreement in serving and continuing to serve in such capacity. In addition, both the Company and Indemnitee acknowledge that in certain instances, federal law or applicable public policy may prohibit the Company from indemnifying its directors, officers, employees, agents or fiduciaries under this Agreement or otherwise. Indemnitee understands and acknowledges that the Company may be required in the future to undertake with the Securities and Exchange Commission to submit the question of indemnification to a court in certain circumstances for a determination of the Company's rights under public policy to indemnify Indemnitee.

Section 15. Notice by Indemnitee. The Indemnitee agrees to notify the Company promptly and in writing upon being served with any summons, citation, subpoena, complaint, petition, indictment, information, or other document relating to the commencement or threatened commencement of any Proceeding or matter that may be subject to indemnification or advancement of Expenses covered hereunder. The failure of the Indemnitee to so notify the Company shall not relieve the Company of any obligation that it may have to the Indemnitee under this Agreement or otherwise, except to the extent the Company is materially prejudiced by such failure.

Section 16. Notices. All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given (i) if delivered by hand to the party to whom said notice or other communication shall have been directed, on the date so delivered, or (ii) if mailed by certified or registered mail with postage prepaid, on the third business day after the date on which it is so mailed. All such notices, requests, demands, and other communications shall be delivered to the Indemnitee or to the Company, as the case may be, at the following addresses:

(a)If to the Indemnitee, to the address set forth on the signature page hereto.

(b)If to the Company, to:

Carlsmed, Inc.
1800 Aston Ave, Suite 100
Carlsbad, California 92008
Attention: Chief Executive Officer

or to such other address as may have been furnished to the Indemnitee by the Company or to the Company by the Indemnitee, as the case may be, by like notice.

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Section 17. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original but all of which together shall constitute one and the same Agreement.

Section 18. Headings. The headings of the paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction thereof.

Section 19. Entire Agreement. This Agreement constitutes the entire agreement between the parties hereto with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral, written, and implied, between the parties hereto with respect to the subject matter hereof.

Section 20. Modification and Waiver.

(a)No amendment, modification, supplementation, or repeal of this Agreement or any provision hereof shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be deemed or shall constitute a waiver of any other provisions hereof (whether or not similar) nor shall such waiver constitute a continuing waiver.

(b)No amendment, modification, supplementation, or repeal of this Agreement or of any provision hereof shall limit or restrict any rights of the Indemnitee under this Agreement in respect of any action taken or omitted by the Indemnitee in or by reason of the Indemnitee's Corporate Status prior to such amendment, modification, supplementation, or repeal.

Section 21. Governing Law; Submission to Jurisdiction; Service of Process.

(a)This Agreement and the legal relations among the parties with respect to the matters addressed hereby shall be governed by, and construed and enforced in accordance with, the laws of the State of Delaware, without regard to its conflict of laws rules.

(b)Except with respect to any arbitration commenced by the Indemnitee pursuant to Section 7(a) of this Agreement and except to the extent permitted by Section 2(c) hereof with respect to a determination by a court in which an underlying Proceeding was brought that the Indemnitee is entitled to indemnification of Expenses notwithstanding an adjudication of liability to the Company, the Company and the Indemnitee each hereby irrevocably and unconditionally (i) agrees and consents to the jurisdiction of the courts of the State of Delaware for all purposes in connection with any action, suit, or proceeding that arises out of or relates to this Agreement and agrees that any such action instituted under this Agreement shall be brought only in the Court of Chancery of the State of Delaware (or in any other state court of the State of Delaware if the Court of Chancery does not have subject matter jurisdiction over such action), and not in any other state or federal court in the United States of America or any court or tribunal in any other country; (ii) consents to submit to the exclusive jurisdiction of the courts of the State of Delaware for purposes of any action or proceeding arising out of or in connection with this Agreement; (iii) waives any objection to the laying of venue of any such action or proceeding in the courts of the State of Delaware; and (iv) waives, and agrees not to plead or to make, any claim

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that any such action or proceeding brought in the courts of the State of Delaware has been brought in an improper or otherwise inconvenient forum.

(c)Each of the Company and the Indemnitee hereby consents to service of any summons and complaint and any other process that may be served in any action, suit, or proceeding arising out of or relating to this Agreement in any court of the State of Delaware by mailing by certified or registered mail, with postage prepaid, copies of such process to such party at its address for receiving notice pursuant to Section 16 hereof. Nothing herein shall preclude service of process by any other means permitted by applicable law.

Section 22. Nature of Agreement. This Agreement shall not be deemed an employment contract between the Company and the Indemnitee, and, if Indemnitee is an officer or employee of the Company, Indemnitee specifically acknowledges that Indemnitee may be discharged as an officer or employee of the Company at any time for any reason, with or without cause, and with or without severance compensation, except as may be otherwise provided in a separate written contract between the Company and the Indemnitee.

Section 23. Definitions. For purposes of this Agreement:

(a)"Another Enterprise" and "Other Enterprise" refer to a corporation, partnership, limited liability company, joint venture, trust, employee benefit plan, or any other form of enterprise, other than the Company.

(b)"Change in Control" means, and shall be deemed to have occurred if, (i) any "person" (as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended), other than a trustee or other fiduciary holding securities under an employee benefit plan of the Company acting in such capacity or a corporation owned directly or indirectly by the stockholders of the Company in substantially the same proportions as their ownership of stock of the Company, becomes the "beneficial owner" (as defined in Rule 13d-3 under said Act), directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the total voting power represented by the Company's then outstanding voting stock, (ii) during any period of two (2) consecutive years (not including any period prior to the execution of this Agreement), individuals who at the beginning of such period constitute the Board of Directors and any new director whose election by the Board of Directors or nomination for election by the Company's stockholders was approved by a vote of at least a majority of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved, cease for any reason to constitute a majority thereof, (iii) the stockholders of the Company approve a merger or consolidation of the Company with any other corporation other than a merger or consolidation that would result in the voting stock of the Company outstanding immediately prior thereto continuing to represent (either by remaining outstanding or by being converted into voting stock of the surviving entity) at least fifty percent (50%) of the total voting power represented by the voting stock of the Company or such surviving entity outstanding immediately after such merger or consolidation, or (iv) the stockholders of the Company approve a plan of complete liquidation of the Company or an agreement for the sale or disposition by the Company (in one transaction or a series of related transactions) of all or substantially all of the Company's assets.

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(c)“Corporate Status” describes (1) the Indemnitee’s status as a present or former director or officer of the Company, (2) the Indemnitee’s present or former status, at any time while serving as a director or officer of the Company, as a director, officer, employee, agent, or fiduciary of Another Enterprise to the extent the Indemnitee is or was serving in such capacity with respect to such Other Enterprise at the request of Company, and (3) the Indemnitee’s present or former status as a director, officer, employee, agent, or fiduciary of Another Enterprise to the extent the Indemnitee served in such capacity with respect to such Other Enterprise while serving as a director or officer of the Company, continued serving in such capacity with respect to such Other Enterprise after ceasing to be a director or officer of the Company, and is or was serving in such capacity with respect to such Other Enterprise at the request of Company.

(d)“Expenses” includes, without limitation, reasonable attorneys’ fees; retainers; disbursements of counsel; court costs; filing fees; transcript costs; fees and expenses of experts; fees and expenses of witnesses; fees and expenses of accountants and other consultants (excluding public relations consultants unless approved in advance by the Company); travel expenses; duplicating and imaging costs; printing and binding costs; telephone charges; facsimile transmission charges; computer legal research costs; postage; delivery service fees; fees and expenses of third-party vendors; the premium, security for, and other costs associated with any bond (including supersedeas or appeal bonds, injunction bonds, cost bonds, appraisal bonds or their equivalents), in each case actually and reasonably incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, a Proceeding (including, without limitation, any judicial or arbitration Proceeding brought to enforce the Indemnitee’s rights under, or to recover damages for breach of, this Agreement), as well as all other “expenses” within the meaning of that term as used in Section 145 of the General Corporation Law of the State of Delaware and all other disbursements or expenses of types customarily and reasonably incurred in connection with prosecuting, defending, preparing to prosecute or defend, investigating, being or preparing to be a witness in, or otherwise participating in, actions, suits, or proceedings similar to or of the same type as the Proceeding with respect to which such disbursements or expenses were incurred; but, notwithstanding anything in the foregoing to the contrary, “Expenses” shall not include amounts of judgments, penalties, or fines actually levied against the Indemnitee in connection with any Proceeding.

(e)“Disinterested Director” means a director of the Company who is not and was not a party to the Proceeding in respect of which indemnification is sought by the Indemnitee.

(f)“Independent Counsel” means a law firm, or a person admitted to practice law in any State of the United States, that is experienced in matters of corporation law and neither presently is, nor in the past three years has been, retained to represent: (i) the Company or the Indemnitee in any matter material to either such party (other than with respect to serving as Independent Counsel (or similar independent legal counsel position) as to matters concerning the rights of Indemnitee under this Agreement, the rights of other indemnitees under similar indemnification agreements, or the rights of Indemnitee or other indemnitees to indemnification under the Company’s Certificate of Incorporation or Bylaws), or (ii) any other party to the Proceeding giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any law firm or person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or the Indemnitee in an action to determine the Indemnitee’s rights under this

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Agreement. For the avoidance of doubt, the term "Independent Counsel" shall not include any law firm or person who represented or advised any entity or person in connection with a Change in Control of the Company.

(g)"Losses" means all Expenses, judgments, penalties, fines, liabilities, and amounts paid in settlement in connection with a Proceeding.

(h)"Proceeding" means any threatened, pending, or completed action, suit, arbitration, alternative dispute resolution mechanism, investigation (including any internal investigation), inquiry, administrative hearing, or any other threatened, pending, or completed proceeding, whether brought by or in the right of the Company or otherwise, and whether civil, criminal, administrative, or investigative.

(i)"Termination Date" shall mean the date on which the Indemnitee is no longer a director or officer of the Company; provided, however, that if (1) the Indemnitee continues to serve as a director, officer, employee, agent, or fiduciary of Another Enterprise after the date on which the Indemnitee is no longer a director or officer of the Company, (2) the Indemnitee is serving in such capacity with respect to such Other Enterprise at the request of the Company, and (3) the Indemnitee served in such capacity with respect to such Other Enterprise while serving as a director or officer of the Company, then "Termination Date" shall mean such later date after the Indemnitee is no longer a director or officer of the Company or which the Indemnitee is no longer serving in such capacity with respect to such Other Enterprise.

(j)References herein to "fines" shall include any excise tax assessed with respect to any employee benefit plan.

(k)References herein to a director of Another Enterprise or a director of an Other Enterprise shall include, in the case of any entity that is not managed by a board of directors, such other position, such as manager or trustee or member of the governing body of such entity, that entails responsibility for the management and direction of such entity's affairs, including, without limitation, the general partner of any partnership (general or limited) and the manager or managing member of any limited liability company.

(l)(i) References herein to serving at the request of the Company as a director, officer, employee, agent, or fiduciary of Another Enterprise shall include any service as a director, officer, employee, or agent of the Company that imposes duties on, or involves services by, such director or officer with respect to an employee benefit plan of the Company or any of its affiliates, other than solely as a participant or beneficiary of such a plan; and (ii) if the Indemnitee has acted in good faith and in a manner the Indemnitee reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan, the Indemnitee shall be deemed to have acted in a manner not opposed to the best interests of the Company for purposes of this Agreement.

(Signature page follows.)

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IN WITNESS WHEREOF, the Company and the Indemnitee have executed this Agreement on and as of the day and year first above written.

CARLSMED, INC.

By: _____
Name:
Title:

[*Signature Page to Indeminification Agreement*]

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IN WITNESS WHEREOF, the Company and the Indemnitee have executed this Agreement on and as of the day and year first above written.

INDEMNITEE

By: _____
Name:

Address: **[Address]**

[*Signature Page to Indeminification Agreement*]

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Exhibit A

UNDERTAKING

I _____, agree to reimburse the Company for all expenses paid to me or on my behalf by the Company in connection with my involvement in **[name or description of proceeding or proceedings]**, in the event, and to the extent, that it shall ultimately be determined that I am not entitled to be indemnified by the Company for such expenses.

Signature

Typed Name

)
ss:

Before me _____, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, and who, after being duly sworn, stated that the contents of said instrument is to the best of his/her knowledge and belief true and correct and who acknowledged that he/she executed the same for the purpose and consideration therein expressed.

GIVEN under my hand and official seal at _____, this _____ day of _____, 20___.

Notary Public

My commission expires:

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Exhibit 10.2

CARLSMED, INC.

2019 STOCK INCENTIVE PLAN

1.Purposes of the Plan. The purposes of this Plan are to attract and retain the best available personnel, to provide additional incentives to Employees, Directors and Consultants and to promote the success of the Company's business.

2.Definitions. The following definitions shall apply as used herein and in the individual Award Agreements except as defined otherwise in an individual Award Agreement. In the event a term is separately defined in an individual Award Agreement, such definition shall supersede the definition contained in this Section 2.

(a)"Administrator" means the Board or any of the Committees appointed to administer the Plan.

(b)"Applicable Laws" means the legal requirements relating to the Plan and the Awards under applicable provisions of federal and state securities laws, the corporate laws of California and, to the extent other than California, the corporate law of the state of the Company's incorporation, the Code, the rules of any applicable stock exchange or national market system, and the rules of any non-U.S. jurisdiction applicable to Awards granted to residents therein.

(c)"Assumed" means that pursuant to a Corporate Transaction either (i) the Award is expressly affirmed by the Company or (ii) the contractual obligations represented by the Award are expressly assumed (and not simply by operation of law) by the successor entity or its Parent in connection with the Corporate Transaction with appropriate adjustments to the number and type of securities of the successor entity or its Parent subject to the Award and the exercise or purchase price thereof which at least preserves the compensation element of the Award existing at the time of the Corporate Transaction as determined in accordance with the instruments evidencing the agreement to assume the Award.

(d)"Award" means the grant of an Option, SAR, Dividend Equivalent Right, Restricted Stock, Restricted Stock Unit or other right or benefit under the Plan.

(e)"Award Agreement" means the written agreement evidencing the grant of an Award executed by the Company and the Grantee, including any amendments thereto.

(f)"Board" means the Board of Directors of the Company.

(g)"Cause" means, with respect to the termination by the Company or a Related Entity of the Grantee's Continuous Service, that such termination is for "Cause" as such term (or word of like import) is expressly defined in a then-effective written agreement between the Grantee and the Company or such Related Entity, or in the absence of such then-effective written agreement and definition, is based on, in the determination of the Administrator, the Grantee's: (i) performance of any act or failure to perform any act in bad faith and to the detriment of the Company or a Related Entity; (ii) dishonesty, intentional misconduct or

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material breach of any agreement with the Company or a Related Entity; or (iii) commission of a crime involving dishonesty, breach of trust, or physical or emotional harm to any person; provided, however, that

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with regard to any agreement that defines "Cause" on the occurrence of or in connection with a Corporate Transaction, such definition of "Cause" shall not apply until a Corporate Transaction actually occurs.

(h)"Code" means the Internal Revenue Code of 1986, as amended.

(i)"Committee" means any committee composed of members of the Board appointed by the Board to administer the Plan.

(j)"Common Stock" means the common stock of the Company.

(k)"Company" means Carlsmed, Inc., a Delaware corporation, or any successor entity that adopts the Plan in connection with a Corporate Transaction.

(l)"Consultant" means any person (other than an Employee or a Director, solely with respect to rendering services in such person's capacity as a Director) who is engaged by the Company or any Related Entity to render consulting or advisory services to the Company or such Related Entity.

(m)"Continuous Service" means that the provision of services to the Company or a Related Entity in any capacity of Employee, Director or Consultant is not interrupted or terminated. In jurisdictions requiring notice in advance of an effective termination as an Employee, Director or Consultant, Continuous Service shall be deemed terminated upon the actual cessation of providing services to the Company or a Related Entity notwithstanding any required notice period that must be fulfilled before a termination as an Employee, Director or Consultant can be effective under Applicable Laws. A Grantee's Continuous Service shall be deemed to have terminated either upon an actual termination of Continuous Service or upon the entity for which the Grantee provides services ceasing to be a Related Entity. Continuous Service shall not be considered interrupted in the case of (i) any approved leave of absence, (ii) transfers among the Company, any Related Entity, or any successor, in any capacity of Employee, Director or Consultant, or (iii) any change in status as long as the individual remains in the service of the Company or a Related Entity in any capacity of Employee, Director or Consultant (in each case, except as otherwise provided in the Award Agreement). Notwithstanding the foregoing, except as otherwise determined by the Administrator, in the event of any spin-off of a Related Entity, service as an Employee, Director or Consultant for such Related Entity following such spin-off shall be deemed to be Continuous Service for purposes of the Plan and any Award under the Plan. An approved leave of absence shall include sick leave, military leave, or any other authorized personal leave. For purposes of each Incentive Stock Option granted under the Plan, if such leave exceeds three (3) months, and reemployment upon expiration of such leave is not guaranteed by statute or contract, then the Incentive Stock Option shall be treated as a Non-Qualified Stock Option on the day three (3) months and one (1) day following the expiration of such three (3) month period.

(n)"Corporate Transaction" means any of the following transactions, provided, however, that the Administrator shall determine under parts (iv) and (v) whether multiple transactions are related, and its determination shall be final, binding and conclusive:

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(i)a merger or consolidation in which the Company is not the surviving entity, except for a transaction the principal purpose of which is to change the state in which the Company is incorporated;

(ii)the sale, transfer or other disposition of all or substantially all of the assets of the Company;

(iii)the complete liquidation or dissolution of the Company;

(iv)any reverse merger or series of related transactions culminating in a reverse merger (including, but not limited to, a tender offer followed by a reverse merger) in which the Company is the surviving entity but (A) the shares of Common Stock outstanding immediately prior to such merger are converted or exchanged by virtue of the merger into other property, whether in the form of securities, cash or otherwise, or (B) in which securities possessing more than fifty percent (50%) of the total combined voting power of the Company's outstanding securities are transferred to a person or persons different from those who held such securities immediately prior to such merger or the initial transaction culminating in such merger, but excluding any such transaction or series of related transactions that the Administrator determines shall not be a Corporate Transaction; or

(v)acquisition in a single or series of related transactions by any person or related group of persons (other than the Company or by a Company-sponsored employee benefit plan) of beneficial ownership (within the meaning of Rule 13d-3 of the Exchange Act) of securities possessing more than fifty percent (50%) of the total combined voting power of the Company's outstanding securities but excluding any such transaction or series of related transactions that the Administrator determines shall not be a Corporate Transaction.

(o)"Director" means a member of the Board or the board of directors of any Related Entity.

(p)"Disability" means as defined under the long-term disability policy of the Company or the Related Entity to which the Grantee provides services regardless of whether the Grantee is covered by such policy. If the Company or the Related Entity to which the Grantee provides service does not have a long-term disability plan in place, "Disability" means that a Grantee is unable to carry out the responsibilities and functions of the position held by the Grantee by reason of any medically determinable physical or mental impairment for a period of not less than ninety (90) consecutive days. A Grantee will not be considered to have incurred a Disability unless he or she furnishes proof of such impairment sufficient to satisfy the Administrator in its discretion.

(q)"Dividend Equivalent Right" means a right entitling the Grantee to compensation measured by dividends paid with respect to Common Stock.

(r)"Employee" means any person, including an Officer or Director, who is in the employ of the Company or any Related Entity, subject to the control and direction of the Company or any Related Entity as to both the work to be performed and the manner and method of performance. The payment of a director's fee by the Company or a Related Entity shall not be sufficient to constitute "employment" by the Company.

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(s)“Exchange Act” means the Securities Exchange Act of 1934, as amended.

(t)“Fair Market Value” means, as of any date, the value of Common Stock determined as follows:

(i)If the Common Stock is listed on one or more established stock exchanges or national market systems, including without limitation The NASDAQ Global Select Market, The NASDAQ Global Market or The NASDAQ Capital Market of The NASDAQ Stock Market LLC, its Fair Market Value shall be the closing sales price for such stock (or the closing bid, if no sales were reported) as quoted on the principal exchange or system on which the Common Stock is listed (as determined by the Administrator) on the date of determination (or, if no closing sales price or closing bid was reported on that date, as applicable, on the last trading date such closing sales price or closing bid was reported), as reported in The Wall Street Journal or such other source as the Administrator deems reliable;

(ii)If the Common Stock is regularly quoted on an automated quotation system (including the OTC Bulletin Board) or by a recognized securities dealer, its Fair Market Value shall be the closing sales price for such stock as quoted on such system or by such securities dealer on the date of determination, but if selling prices are not reported, the Fair Market Value of a share of Common Stock shall be the mean between the high bid and low asked prices for the Common Stock on the date of determination (or, if no such prices were reported on that date, on the last date such prices were reported), as reported in The Wall Street Journal or such other source as the Administrator deems reliable; or

(iii)In the absence of an established market for the Common Stock of the type described in (i) and (ii), above, the Fair Market Value thereof shall be determined by the Administrator in good faith and in a manner consistent with Applicable Laws.

(u)“Good Reason” means, with respect to the termination by the Grantee of the Grantee’s Continuous Service, that such termination is for “Good Reason” as such term (or word of like import) is expressly defined in a then-effective written agreement between the Grantee and the Company or a Related Entity, or in the absence of such then-effective written agreement and definition, means the occurrence of any of the following events or conditions unless consented to by the Grantee (and the Grantee shall be deemed to have consented to any such event or condition unless the Grantee provides written notice of the Grantee’s non-acquiescence within 30 days of the effective time of such event or condition): (i) a change in the Grantee’s responsibilities or duties which represents a material and substantial diminution in the Grantee’s responsibilities; (ii) a material reduction in the Grantee’s base salary; provided that an across-the-board reduction in the salary level of substantially all other individuals in positions similar to the Grantee’s by the same percentage amount shall not constitute such a salary reduction; or (iii) requiring the Grantee to be based at any place outside a 50 mile radius from the Grantee’s job location or residence except for reasonably required travel on business.

(v)“Grantee” means an Employee, Director or Consultant who receives an Award under the Plan.

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(w) “Immediate Family” means any child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, any person sharing the Grantee’s household (other than a tenant or employee), a trust in which these persons (or the Grantee) have more than fifty percent (50%) of the beneficial interest, a foundation in which these persons (or the Grantee) control the management of assets, and any other entity in which these persons (or the Grantee) own more than fifty percent (50%) of the voting interests.

(x)“Incentive Stock Option” means an Option intended to qualify as an incentive stock option within the meaning of Section 422 of the Code.

(y)“Non-Qualified Stock Option” means an Option not intended to qualify as an Incentive Stock Option.

(z)“Officer” means a person who is an officer of the Company or a Related Entity within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(aa)“Option” means an option to purchase Shares pursuant to an Award Agreement granted under the Plan.

(bb)“Parent” means a “parent corporation”, whether now or hereafter existing, as defined in Section 424(e) of the Code.

(cc)“Plan” means this 2019 Stock Incentive Plan, as amended, modified or restated from time to time.

(dd)“Post-Termination Exercise Period” means the period specified in the Award Agreement of not less than thirty (30) days commencing on the date of termination (other than termination by the Company or any Related Entity for Cause) of the Grantee’s Continuous Service, or such longer period as may be applicable upon death or Disability.

(ee)“Registration Date” means the first to occur of: (i) the closing of the first sale to the general public pursuant to a registration statement filed with and declared effective by the Securities and Exchange Commission under the Securities Act of 1933, as amended, of (A) the Common Stock or (B) the same class of securities of a successor corporation (or its Parent) issued pursuant to a Corporate Transaction in exchange for or in substitution of the Common Stock; or (ii) in the event of a Corporate Transaction, the date of the consummation of the Corporate Transaction if the same class of securities of the successor corporation (or its Parent) issuable in such Corporate Transaction shall have been sold to the general public pursuant to a registration statement filed with and declared effective by the Securities and Exchange Commission under the Securities Act of 1933, as amended, on or prior to the date of consummation of such Corporate Transaction.

(ff)“Related Entity” means any Parent or Subsidiary of the Company.

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(gg)"Replaced" means that pursuant to a Corporate Transaction the Award is replaced with a comparable stock award or a cash incentive program of the Company, the successor entity (if applicable) or Parent of either of them which preserves the compensation element of such Award existing at the time of the Corporate Transaction and provides for subsequent payout in accordance with the same (or a more favorable) vesting schedule applicable to such Award. The determination of Award comparability shall be made by the Administrator and its determination shall be final, binding and conclusive.

(hh)"Restricted Stock" means Shares issued under the Plan to the Grantee for such consideration, if any, and subject to such restrictions on transfer, rights of first refusal, repurchase provisions, forfeiture provisions, and other terms and conditions as established by the Administrator. Dividends payable with respect to Restricted Stock that is subject to performance vesting shall be held subject to the vesting of the underlying Shares.

(ii)"Restricted Stock Units" means an Award which may be earned in whole or in part upon the passage of time or the attainment of performance criteria established by the Administrator and which may be settled for cash, Shares or other securities or a combination of cash, Shares or other securities as established by the Administrator.

(jj)"Rule 16b-3" means Rule 16b-3 promulgated under the Exchange Act or any successor thereto.

(kk)"SAR" means a stock appreciation right entitling the Grantee to Shares or cash compensation, as established by the Administrator, measured by appreciation in the value of Common Stock.

(ll)"Share" means a share of the Common Stock.

(mm)"Subsidiary" means a "subsidiary corporation", whether now or hereafter existing, as defined in Section 424(f) of the Code.

3.Stock Subject to the Plan.

(a)Subject to the provisions of Section 10 below, the maximum aggregate number of Shares which may be issued pursuant to all Awards (including Incentive Stock Options) is 22,629,288 Shares. The Shares may be authorized, but unissued, or reacquired Common Stock.

(b)Any Shares covered by an Award (or portion of an Award) which is forfeited, canceled or expires (whether voluntarily or involuntarily) shall be deemed not to have been issued for purposes of determining the maximum aggregate number of Shares which may be issued under the Plan. Shares that actually have been issued under the Plan pursuant to an Award shall not be returned to the Plan and shall not become available for future issuance under the Plan, except that if unvested Shares are forfeited or repurchased by the Company, such Shares shall become available for future grant under the Plan. To the extent not prohibited by the listing requirements of The NASDAQ Stock Market LLC (or other established stock exchange or national market system on which the Common Stock is traded) or Applicable Laws, any

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Shares covered by an Award which are surrendered or withheld: (i) in payment of the Award exercise or purchase

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price (including pursuant to the "net exercise" of an option pursuant to Section 7(b)(vi)); or (ii) in satisfaction of tax withholding obligations incident to the receipt, exercise or vesting of an Award shall be deemed not to have been issued for purposes of determining the maximum number of Shares which may be issued pursuant to all Awards under the Plan, unless otherwise determined by the Administrator.

4.Administration of the Plan.

(a)Plan Administrator.

(i)Administration with Respect to Directors and Officers. Prior to the Registration Date, with respect to grants of Awards to Directors or Employees who are also Officers or Directors of the Company, the Plan shall be administered by (A) the Board or (B) a Committee designated by the Board, which Committee shall be constituted in such a manner as to satisfy the Applicable Laws. On or after the Registration Date, with respect to grants of Awards to Directors or Employees who are also Officers or Directors of the Company, the Plan shall be administered by (A) the Board or (B) a Committee designated by the Board, which Committee shall be constituted in such a manner as to satisfy the Applicable Laws and to permit such grants and related transactions under the Plan to be exempt from Section 16(b) of the Exchange Act in accordance with Rule 16b-3. Once appointed, such Committee shall continue to serve in its designated capacity until otherwise directed by the Board.

(ii)Administration With Respect to Consultants and Other Employees. With respect to grants of Awards to Employees or Consultants who are neither Directors nor Officers of the Company, the Plan shall be administered by (A) the Board or (B) a Committee designated by the Board, which Committee shall be constituted in such a manner as to satisfy the Applicable Laws. Once appointed, such Committee shall continue to serve in its designated capacity until otherwise directed by the Board.

(b)Multiple Administrative Bodies. The Plan may be administered by different bodies with respect to Directors, Officers, Consultants, and Employees who are neither Directors nor Officers.

(c)Powers of the Administrator. Subject to Applicable Laws and the provisions of the Plan (including any other powers given to the Administrator hereunder), and except as otherwise provided by the Board, the Administrator shall have the authority, in its discretion:

(i)to select the Employees, Directors and Consultants to whom Awards may be granted from time to time hereunder;

(ii)to determine whether and to what extent Awards are granted hereunder;

(iii)to determine the number of Shares or the amount of other consideration to be covered by each Award granted hereunder;

(iv)to approve forms of Award Agreements for use under the Plan;

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(v)to determine the terms and conditions of any Award granted hereunder;

(vi)to establish additional terms, conditions, rules or procedures to accommodate the rules or laws of applicable non-U.S. jurisdictions and to afford Grantees favorable treatment under such rules or laws;

(vii)to amend the terms of any outstanding Award granted under the Plan, provided that any amendment that would adversely affect the Grantee's rights under an outstanding Award shall not be made without the Grantee's written consent, provided, however, that an amendment or modification that may cause an Incentive Stock Option to become a Non-Qualified Stock Option shall not be treated as adversely affecting the rights of the Grantee. Notwithstanding the foregoing, (A) the reduction or increase of the exercise price of any Option awarded under the Plan and the base appreciation amount of any SAR awarded under the Plan and (B) canceling an Option or SAR at a time when its exercise price or base appreciation amount (as applicable) exceeds the Fair Market Value of the underlying Shares, in exchange for another Option, SAR, Restricted Stock, or other Award or for cash, in each case, shall not be subject to stockholder approval;

(viii)to construe and interpret the terms of the Plan and Awards, including without limitation, any notice of award or Award Agreement, granted pursuant to the Plan; and

(ix)to take such other action, not inconsistent with the terms of the Plan, as the Administrator deems appropriate.

The express grant in the Plan of any specific power to the Administrator shall not be construed as limiting any power or authority of the Administrator; provided that the Administrator may not exercise any right or power reserved to the Board. Any decision made, or action taken, by the Administrator or in connection with the administration of this Plan shall be final, conclusive and binding on all persons having an interest in the Plan.

(d)Indemnification. In addition to such other rights of indemnification as they may have as members of the Board or as Officers or Employees of the Company or a Related Entity, members of the Board and any Officers or Employees of the Company or a Related Entity to whom authority to act for the Board, the Administrator or the Company is delegated shall be defended and indemnified by the Company to the extent permitted by law on an after-tax basis against all reasonable expenses, including attorneys' fees, actually and necessarily incurred in connection with the defense of any claim, investigation, action, suit or proceeding, or in connection with any appeal therein, to which they or any of them may be a party by reason of any action taken or failure to act under or in connection with the Plan, or any Award granted hereunder, and against all amounts paid by them in settlement thereof (provided such settlement is approved by the Company) or paid by them in satisfaction of a judgment in any such claim, investigation, action, suit or proceeding, except in relation to matters as to which it shall be adjudged in such claim, investigation, action, suit or proceeding that such person is liable for gross negligence, bad faith or intentional misconduct; provided, however, that within thirty (30) days after the institution of such claim, investigation, action, suit or proceeding, such person shall offer to the Company, in writing, the opportunity at the Company's expense to defend the same.

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5.Eligibility. Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants. Incentive Stock Options may be granted only to Employees of the Company or a Parent or a Subsidiary of the Company. An Employee, Director or Consultant who has been granted an Award may, if otherwise eligible, be granted additional Awards. Awards may be granted to such Employees, Directors or Consultants who are residing in non-U.S. jurisdictions as the Administrator may determine from time to time.

6.Terms and Conditions of Awards.

(a)Types of Awards. The Administrator is authorized under the Plan to award any type of arrangement to an Employee, Director or Consultant that is not inconsistent with the provisions of the Plan and that by its terms involves or might involve the issuance of (i) Shares, (ii) cash or (iii) an Option, a SAR, or similar right with a fixed or variable price related to the Fair Market Value of the Shares and with an exercise or conversion privilege related to the passage of time, the occurrence of one or more events, or the satisfaction of performance criteria or other conditions. Such awards include, without limitation, Options, SARs, sales or bonuses of Restricted Stock, Restricted Stock Units or Dividend Equivalent Rights, and an Award may consist of one such security or benefit, or two (2) or more of them in any combination or alternative.

(b)Designation of Award. Each Award shall be designated in the Award Agreement. In the case of an Option, the Option shall be designated as either an Incentive Stock Option or a Non-Qualified Stock Option. However, notwithstanding such designation, an Option will qualify as an Incentive Stock Option under the Code only to the extent the $100,000 limitation of Section 422(d) of the Code is not exceeded. The $100,000 limitation of Section 422(d) of the Code is calculated based on the aggregate Fair Market Value of the Shares subject to Options designated as Incentive Stock Options which become exercisable for the first time by a Grantee during any calendar year (under all plans of the Company or any Parent or Subsidiary of the Company). For purposes of this calculation, Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of the Shares shall be determined as of the grant date of the relevant Option. In the event that the Code or the regulations promulgated thereunder are amended after the date the Plan becomes effective to provide for a different limit on the Fair Market Value of Shares permitted to be subject to Incentive Stock Options, then such different limit will be automatically incorporated herein and will apply to any Options granted after the effective date of such amendment.

(c)Conditions of Award. Subject to the terms of the Plan, the Administrator shall determine the provisions, terms, and conditions of each Award including, but not limited to, the Award vesting schedule, repurchase provisions, rights of first refusal, forfeiture provisions, form of payment (cash, Shares, or other consideration) upon settlement of the Award, payment contingencies, and satisfaction of any performance criteria.

(d)Acquisitions and Other Transactions. The Administrator may issue Awards under the Plan in settlement, assumption or substitution for, outstanding awards or obligations to grant future awards in connection with the Company or a Related Entity acquiring another entity, an interest in another entity or an additional interest in a Related Entity whether by merger, stock purchase, asset purchase or other form of transaction.

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(e)Deferral of Award Payment. The Administrator may establish one or more programs under the Plan to permit selected Grantees the opportunity to elect to defer receipt of consideration upon exercise of an Award, satisfaction of performance criteria, or other event that absent the election would entitle the Grantee to payment or receipt of Shares or other consideration under an Award. The Administrator may establish the election procedures, the timing of such elections, the mechanisms for payments of, and accrual of interest or other earnings, if any, on amounts, Shares or other consideration so deferred, and such other terms, conditions, rules and procedures that the Administrator deems advisable for the administration of any such deferral program.

(f)Separate Programs. The Administrator may establish one or more separate programs under the Plan for the purpose of issuing particular forms of Awards to one or more classes of Grantees on such terms and conditions as determined by the Administrator from time to time.

(g)Early Exercise. The Award Agreement may, but need not, include a provision whereby the Grantee may elect at any time while an Employee, Director or Consultant to exercise any part or all of the Award prior to full vesting of the Award. Any unvested Shares received pursuant to such exercise may be subject to a repurchase right in favor of the Company or a Related Entity or to any other restriction the Administrator determines to be appropriate.

(h)Term of Award. The term of each Award shall be the term stated in the Award Agreement, provided, however, that the term shall be no more than ten (10) years from the date of grant thereof. However, in the case of an Incentive Stock Option granted to a Grantee who, at the time the Option is granted, owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary of the Company, the term of the Incentive Stock Option shall be five (5) years from the date of grant thereof or such shorter term as may be provided in the Award Agreement. Notwithstanding the foregoing, the specified term of any Award shall not include any period for which the Grantee has elected to defer the receipt of the Shares or cash issuable pursuant to the Award.

(i)Transferability of Awards. Incentive Stock Options may not be sold, pledged, assigned, hypothecated, transferred, or disposed of in any manner other than by will or by the laws of descent or distribution and may be exercised, during the lifetime of the Grantee, only by the Grantee. Other Awards shall be transferable (i) by will or by the laws of descent and distribution and (ii) during the lifetime of the Grantee, to the extent and in the manner authorized by the Administrator by gift or pursuant to a domestic relations order to members of the Grantee's Immediate Family. Notwithstanding the foregoing, the Grantee may designate one or more beneficiaries of the Grantee's Award in the event of the Grantee's death on a beneficiary designation form provided by the Administrator.

(j)Time of Granting Awards. The date of grant of an Award shall for all purposes be the date on which the Administrator makes the determination to grant such Award, or such other later date as is determined by the Administrator.

(k)Award Exchange Programs. The Administrator may establish one or more programs under the Plan to permit selected Grantees to exchange an Award under the Plan for one

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or more other types of Awards under the Plan on such terms and conditions as determined by the Administrator from time to time.

7.Award Exercise or Purchase Price, Consideration and Taxes.

(a)Exercise or Purchase Price. The exercise or purchase price, if any, for an Award shall be as follows:

(i)In the case of an Incentive Stock Option:

(A)granted to an Employee who, at the time of the grant of such Incentive Stock Option owns stock representing more than ten percent (10%) of the voting power of all classes of stock of the Company or any Parent or Subsidiary of the Company, the per Share exercise price shall be not less than one hundred ten percent (110%) of the Fair Market Value per Share on the date of grant; or

(B)granted to any Employee other than an Employee described in the preceding paragraph, the per Share exercise price shall be not less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(ii)In the case of a Non-Qualified Stock Option, the per Share exercise price shall be such price as is determined by the Administrator.

(iii)In the case of SARs, the base appreciation amount shall not be less than one hundred percent (100%) of the Fair Market Value per Share on the date of grant.

(iv)In the case of the sale of Shares, the per Share purchase price, if any, shall be such price as is determined by the Administrator.

(v)In the case of other Awards, such price as is determined by the Administrator.

(vi)Notwithstanding the foregoing provisions of this Section 7(a), in the case of an Award issued pursuant to Section 6(d), above, the exercise or purchase price for the Award shall be determined in accordance with the provisions of the relevant instrument evidencing the agreement to issue such Award.

(b)Consideration. Subject to Applicable Laws, the consideration to be paid for the Shares to be issued upon exercise or purchase of an Award including the method of payment, shall be determined by the Administrator. In addition to any other types of consideration the Administrator may determine, the Administrator is authorized to accept as consideration for Shares issued under the Plan the following provided that the portion of the consideration equal to the par value of the Shares must be paid in cash or other legal consideration permitted by Applicable Law:

(i)cash;

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(ii)check;

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(iii)delivery of the Grantee's promissory note with such recourse, interest, security, and redemption provisions as the Administrator determines as appropriate (but only to the extent that the acceptance or terms of the promissory note would not violate an Applicable Law);

(iv)surrender of Shares held for the requisite period, if any, necessary to avoid a charge to the Company's earnings for financial reporting purposes, or delivery of a properly executed form of attestation of ownership of Shares as the Administrator may require which have a Fair Market Value on the date of surrender or attestation equal to the aggregate exercise price of the Shares as to which said Award shall be exercised;

(v)with respect to Options, if the exercise occurs on or after the Registration Date, payment through a broker-dealer sale and remittance procedure pursuant to which the Grantee (A) shall provide written instructions to a Company designated brokerage firm to effect the immediate sale of some or all of the purchased Shares and remit to the Company sufficient funds to cover the aggregate exercise price payable for the purchased Shares and (B) shall provide written directives to the Company to deliver the certificates for the purchased Shares directly to such brokerage firm in order to complete the sale transaction;

(vi)with respect to Options, payment through a "net exercise" such that, without the payment of any funds, the Grantee may exercise the Option and receive the net number of Shares equal to (i) the number of Shares as to which the Option is being exercised, multiplied by (ii) a fraction, the numerator of which is the Fair Market Value per Share (on such date as is determined by the Administrator) less the exercise price per Share, and the denominator of which is such Fair Market Value per Share (the number of net Shares to be received shall be rounded down to the nearest whole number of Shares); or

(vii)any combination of the foregoing methods of payment.

The Administrator may at any time or from time to time, by adoption of or by amendment to the standard forms of Award Agreement described in Section 4(c)(iv), or by other means, grant Awards which do not permit all of the foregoing forms of consideration to be used in payment for the Shares or which otherwise restrict one or more forms of consideration.

(c)Taxes. No Shares shall be delivered under the Plan to any Grantee or other person until such Grantee or other person has made arrangements acceptable to the Administrator for the satisfaction of any non-U.S., federal, state, or local income and employment tax withholding obligations, including, without limitation, obligations incident to the receipt of Shares. Upon exercise or vesting of an Award the Company shall withhold or collect from the Grantee an amount sufficient to satisfy such tax obligations, including, but not limited to, by surrender of the whole number of Shares covered by the Award sufficient to satisfy the applicable tax withholding obligations incident to the exercise or vesting of an Award (limited to avoid, as determined by the Administrator, financial accounting charges under applicable accounting guidance and reduced to the lowest whole number of Shares if such number of Shares withheld would result in withholding a fractional Share with any remaining tax withholding settled in cash).

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8.Exercise of Award.

(a)Procedure for Exercise; Rights as a Stockholder.

(i)Any Award granted hereunder shall be exercisable at such times and under such conditions as determined by the Administrator under the terms of the Plan and specified in the Award Agreement.

(ii)An Award shall be deemed to be exercised when written notice of such exercise has been given to the Company in accordance with the terms of the Award by the person entitled to exercise the Award and full payment for the Shares with respect to which the Award is exercised has been made, including, to the extent selected, use of the broker-dealer sale and remittance procedure to pay the purchase price as provided in Section 7(b)(v), and any other agreements required by the Company at the time of exercise (including any irrevocable proxy agreements or joinder agreements) have been delivered to the Company by the person entitled to exercise the Award.

(b)Exercise of Award Following Termination of Continuous Service. In the event of termination of a Grantee's Continuous Service for any reason other than Disability or death (but not in the event of a Grantee's change of status from Employee to Consultant or from Consultant to Employee), such Grantee may, but only during the Post-Termination Exercise Period (but in no event later than the expiration date of the term of such Award as set forth in the Award Agreement), exercise the portion of the Grantee's Award that was vested at the date of such termination or such other portion of the Grantee's Award as may be determined by the Administrator. The Grantee's Award Agreement may provide that upon the termination of the Grantee's Continuous Service for Cause, the Grantee's right to exercise the Award shall terminate concurrently with the termination of the Grantee's Continuous Service. In the event of a Grantee's change of status from Employee to Consultant, an Employee's Incentive Stock Option shall convert automatically to a Non-Qualified Stock Option on the day three (3) months and one day following such change of status. To the extent that the Grantee's Award was unvested at the date of termination, or if the Grantee does not exercise the vested portion of the Grantee's Award within the Post-Termination Exercise Period, the Award shall terminate.

(c)Disability of Grantee. In the event of termination of a Grantee's Continuous Service as a result of his or her Disability, such Grantee may, but only within twelve (12) months from the date of such termination (or such longer period as specified in the Award Agreement but in no event later than the expiration date of the term of such Award as set forth in the Award Agreement), exercise the portion of the Grantee's Award that was vested at the date of such termination; provided, however, that if such Disability is not a "disability" as such term is defined in Section 22(e)(3) of the Code, in the case of an Incentive Stock Option such Incentive Stock Option shall automatically convert to a Non-Qualified Stock Option on the day three (3) months and one day following such termination. To the extent that the Grantee's Award was unvested at the date of termination, or if Grantee does not exercise the vested portion of the Grantee's Award within the time specified herein, the Award shall terminate.

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(d)Death of Grantee. In the event of a termination of the Grantee's Continuous Service as a result of his or her death, or in the event of the death of the Grantee during the

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Post-Termination Exercise Period or during the twelve (12) month period following the Grantee's termination of Continuous Service as a result of his or her Disability, the Grantee's estate or a person who acquired the right to exercise the Award by bequest or inheritance may exercise the portion of the Grantee's Award that was vested as of the date of termination, within twelve (12) months from the date of death (or such longer period as specified in the Award Agreement but in no event later than the expiration of the term of such Award as set forth in the Award Agreement). To the extent that, at the time of death, the Grantee's Award was unvested, or if the Grantee's estate or a person who acquired the right to exercise the Award by bequest or inheritance does not exercise the vested portion of the Grantee's Award within the time specified herein, the Award shall terminate.

(e)Extension if Exercise Prevented by Law. Notwithstanding the foregoing, if the exercise of an Award within the applicable time periods set forth in this Section 8 is prevented by the provisions of Section 9 below, the Award shall remain exercisable until one (1) month after the date the Grantee is notified by the Company that the Award is exercisable, but in any event no later than the expiration of the term of such Award as set forth in the Award Agreement and only in a manner and to the extent permitted under Code Section 409A.

9.Conditions Upon Issuance of Shares.

(a)If at any time the Administrator determines that the delivery of Shares pursuant to the exercise, vesting or any other provision of an Award is or may be unlawful under Applicable Laws, the vesting or right to exercise an Award or to otherwise receive Shares pursuant to the terms of an Award shall be suspended until the Administrator determines that such delivery is lawful and shall be further subject to the approval of counsel for the Company with respect to such compliance. The Company shall have no obligation to effect any registration or qualification of the Shares under federal or state laws.

(b)As a condition to the exercise of an Award, the Company may require the person exercising such Award to represent and warrant at the time of any such exercise that the Shares are being purchased only for investment and without any present intention to sell or distribute such Shares if, in the opinion of counsel for the Company, such a representation is required by any Applicable Laws.

10.Adjustments Upon Changes in Capitalization. Subject to any required action by the stockholders of the Company and Section 11 below, the number of Shares covered by each outstanding Award, and the number of Shares which have been authorized for issuance under the Plan but as to which no Awards have yet been granted or which have been returned to the Plan, the exercise or purchase price of each such outstanding Award, the maximum number of Shares with respect to which Awards may be granted to any Grantee in any calendar year, as well as any other terms that the Administrator determines require adjustment shall be proportionately adjusted for: (i) any increase or decrease in the number of issued Shares resulting from a stock split, reverse stock split, stock dividend, recapitalization, combination or reclassification of the Shares, or similar transaction affecting the Shares; (ii) any other increase or decrease in the number of issued Shares effected without receipt of consideration by the Company; or (iii) any other transaction with respect to Common Stock including a corporate merger, consolidation, acquisition of property or stock, separation (including a spin-off or other distribution of stock or property), reorganization,

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liquidation (whether partial or complete) or any similar transaction; provided, however that conversion of any convertible securities of the Company shall not be deemed to have been "effected without receipt of consideration." In the event of any distribution of cash or other assets to stockholders other than a normal cash dividend, the Administrator shall also make such adjustments as provided in this Section 10 or substitute, exchange or grant Awards to effect such adjustments (collectively "adjustments"). Any such adjustments to outstanding Awards will be effected in a manner that precludes the enlargement of rights and benefits under such Awards. In connection with the foregoing adjustments, the Administrator may, in its discretion, prohibit the exercise of Awards or other issuance of Shares, cash or other consideration pursuant to Awards during certain periods of time. Except as the Administrator determines, no issuance by the Company of shares of any class, or securities convertible into shares of any class, shall affect, and no adjustment by reason hereof shall be made with respect to, the number or price of Shares subject to an Award.

11.Corporate Transactions.

(a)Termination of Award to Extent Not Assumed in Corporate Transaction. Effective upon the consummation of a Corporate Transaction, all outstanding Awards under the Plan shall terminate. However, all such Awards shall not terminate to the extent they are Assumed in connection with the Corporate Transaction.

(b)Acceleration of Award Upon Corporate Transaction. The Administrator shall have the authority, exercisable either in advance of any actual or anticipated Corporate Transaction or at the time of an actual Corporate Transaction and exercisable at the time of the grant of an Award under the Plan or any time while an Award remains outstanding, to provide for the full or partial automatic vesting and exercisability of one or more outstanding unvested Awards under the Plan and the release from restrictions on transfer and repurchase or forfeiture rights of such Awards in connection with a Corporate Transaction, on such terms and conditions as the Administrator may specify. The Administrator also shall have the authority to condition any such Award vesting and exercisability or release from such limitations upon the subsequent termination of the Continuous Service of the Grantee within a specified period following the effective date of the Corporate Transaction.

(c)Effect of Acceleration on Incentive Stock Options. Any Incentive Stock Option accelerated under this Section 11 in connection with a Corporate Transaction shall remain exercisable as an Incentive Stock Option under the Code only to the extent the $100,000 limitation of Section 422(d) of the Code is not exceeded.

12.Effective Date and Term of Plan. The Plan shall become effective upon the earlier to occur of its adoption by the Board or its approval by the stockholders of the Company. It shall continue in effect for a term of ten (10) years unless sooner terminated. Subject to Section 17 below, and Applicable Laws, Awards may be granted under the Plan upon its becoming effective.

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13.Amendment, Suspension or Termination of the Plan.

(a)The Board may at any time amend, suspend or terminate the Plan. To the extent necessary to comply with Applicable Laws, the Company shall obtain stockholder approval of any Plan amendment in such a manner and to such a degree as required.

(b)No Award may be granted during any suspension of the Plan or after termination of the Plan.

(c)No suspension or termination of the Plan (including termination of the Plan under Section 12, above) shall adversely affect any rights under Awards already granted to a Grantee.

14.Reservation of Shares.

(a)The Company, during the term of the Plan, will at all times reserve and keep available such number of Shares as shall be sufficient to satisfy the requirements of the Plan.

(b)The inability of the Company to obtain authority from any regulatory body having jurisdiction, which authority is deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares hereunder, shall relieve the Company of any liability in respect of the failure to issue or sell such Shares as to which such requisite authority shall not have been obtained.

15.No Effect on Terms of Employment/Consulting Relationship. The Plan shall not confer upon any Grantee any right with respect to the Grantee's Continuous Service, nor shall it interfere in any way with his or her right or the right of the Company or any Related Entity to terminate the Grantee's Continuous Service at any time, with or without cause including, but not limited to, Cause, and with or without notice. The ability of the Company or any Related Entity to terminate the employment of a Grantee who is employed at will is in no way affected by its determination that the Grantee's Continuous Service has been terminated for Cause for the purposes of this Plan.

16.No Effect on Retirement and Other Benefit Plans. Except as specifically provided in a retirement or other benefit plan of the Company or a Related Entity, Awards shall not be deemed compensation for purposes of computing benefits or contributions under any retirement plan of the Company or a Related Entity, and shall not affect any benefits under any other benefit plan of any kind or any benefit plan subsequently instituted under which the availability or amount of benefits is related to level of compensation. The Plan is not a "Pension Plan" or "Welfare Plan" under the Employee Retirement Income Security Act of 1974, as amended.

17.Stockholder Approval. Continuance of the Plan shall be subject to approval by the stockholders of the Company within twelve (12) months before or after the date the Plan is adopted. Such stockholder approval shall be obtained in the degree and manner required under Applicable Laws. Any Award exercised before stockholder approval is obtained shall be rescinded if stockholder approval is not obtained within the time prescribed, and Shares issued on the exercise of any such Award shall not be counted in determining whether stockholder approval is obtained.

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18.Information to Grantees. To the extent required by Applicable Laws, the Company shall provide to each Grantee, during the period for which such Grantee has one or more Awards outstanding, copies of financial statements at least annually. The Company shall not be required to provide such information to persons whose duties in connection with the Company assure them access to equivalent information.

19.Unfunded Obligation. Grantees shall have the status of general unsecured creditors of the Company. Any amounts payable to Grantees pursuant to the Plan shall be unfunded and unsecured obligations for all purposes, including, without limitation, Title I of the Employee Retirement Income Security Act of 1974, as amended. Neither the Company nor any Related Entity shall be required to segregate any monies from its general funds, or to create any trusts, or establish any special accounts with respect to such obligations. The Company shall retain at all times beneficial ownership of any investments, including trust investments, which the Company may make to fulfill its payment obligations hereunder. Any investments or the creation or maintenance of any trust or any Grantee account shall not create or constitute a trust or fiduciary relationship between the Administrator, the Company or any Related Entity and a Grantee, or otherwise create any vested or beneficial interest in any Grantee or the Grantee's creditors in any assets of the Company or a Related Entity. The Grantees shall have no claim against the Company or any Related Entity for any changes in the value of any assets that may be invested or reinvested by the Company with respect to the Plan.

20.Construction. Captions and titles contained herein are for convenience only and shall not affect the meaning or interpretation of any provision of the Plan. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

21.Nonexclusivity of the Plan. Neither the adoption of the Plan by the Board, the submission of the Plan to the stockholders of the Company for approval, nor any provision of the Plan will be construed as creating any limitations on the power of the Board to adopt such additional compensation arrangements as it may deem desirable, including, without limitation, the granting of Awards otherwise than under the Plan, and such arrangements may be either generally applicable or applicable only in specific cases.

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Exhibit 10.3

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

NOTICE OF STOCK OPTION AWARD

Grantee's Name and Address: _____

You (the "**Grantee**") have been granted an option to purchase shares of Common Stock, subject to the terms and conditions of this Notice of Stock Option Award (the "**Notice**"), the CARLSMED, Inc. 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**") and the Stock Option Award Agreement (the "**Option Agreement**") attached hereto, as follows. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Notice.

Award Number	_____
Date of Award	_____
Vesting Commencement Date	_____
Exercise Price per Share	_____
Total Number of Shares Subject to the Option (the "**Shares**")	_____
Total Exercise Price	_____
Type of Option:	_____
Expiration Date:	_____
Post-Termination Exercise Period:	_____

Vesting Schedule:

This Option is immediately exercisable although the Shares issued upon exercise of the Option will be subject to the restrictions on transfer and a right of repurchase at the Exercise Price per Share, in favor of the Company, as described in Section **16** of the Option Agreement (the "**Repurchase Right**"). For purposes of this Notice and the Option Agreement, the term "**vest**" shall mean, with respect to any Shares, that such Shares (whether subject to the Option or acquired upon exercise of the Option) are no longer subject to the Repurchase Right, provided, however, that such Shares shall remain subject to other restrictions on transfer set forth in the Option Agreement or the Plan. Shares that have not vested are deemed "**Restricted Shares**". If

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the Grantee would become vested in a fraction of a Share, such Share shall not vest until the Grantee becomes vested in the entire Share.

Subject to the Grantee's Continuous Service and the other limitations set forth in this Notice, the Plan and the Option Agreement, the Repurchase Right shall lapse in accordance with the following schedule:

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[ ]

During any authorized leave of absence, the vesting of the Shares shall be suspended after the leave of absence exceeds a period of three (3) months. Vesting of the Shares shall resume upon the Grantee's termination of the leave of absence and return to Continuous Service. The Vesting Schedule of the Shares shall be extended by the length of the suspension.

In the event of termination of the Grantee's Continuous Service for Cause, the Grantee's right to exercise the Option shall terminate concurrently with the termination of the Grantee's Continuous Service, except as otherwise determined by the Administrator.

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IN WITNESS WHEREOF, the Company and the Grantee have executed this Notice and agree that the Option is to be governed by the terms and conditions of this Notice, the Plan, and the Option Agreement.

CARLSMED, INC.,
a Delaware corporation

By: __

Name: __

Title: __

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THE GRANTEE ACKNOWLEDGES AND AGREES THAT THE SHARES SUBJECT TO THE OPTION SHALL VEST, IF AT ALL, ONLY DURING THE PERIOD OF THE GRANTEE'S CONTINUOUS SERVICE (NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THE OPTION OR ACQUIRING SHARES HEREUNDER). THE GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT NOTHING IN THIS NOTICE, THE OPTION AGREEMENT, OR THE PLAN SHALL CONFER UPON THE GRANTEE ANY RIGHT WITH RESPECT TO FUTURE AWARDS OR CONTINUATION OF THE GRANTEE'S CONTINUOUS SERVICE, NOR SHALL IT INTERFERE IN ANY WAY WITH THE GRANTEE'S RIGHT OR THE RIGHT OF THE COMPANY OR RELATED ENTITY TO WHICH THE GRANTEE PROVIDES SERVICES TO TERMINATE THE GRANTEE'S CONTINUOUS SERVICE, WITH OR WITHOUT CAUSE, AND WITH OR WITHOUT NOTICE. THE GRANTEE ACKNOWLEDGES THAT UNLESS THE GRANTEE HAS A WRITTEN EMPLOYMENT AGREEMENT WITH THE COMPANY TO THE CONTRARY, THE GRANTEE'S STATUS IS AT WILL.

The Grantee acknowledges receipt of a copy of the Plan and the Option Agreement, and represents that he or she is familiar with the terms and provisions thereof, and hereby accepts the Option subject to all of the terms and provisions hereof and thereof. The Grantee has reviewed this Notice, the Plan, and the Option Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Notice, and fully understands all provisions of this Notice, the Plan and the Option Agreement. The Grantee hereby agrees that all questions of interpretation and administration relating to this Notice, the Plan and the Option Agreement shall be resolved by the Administrator in accordance with Section 23 of the Option Agreement. The Grantee further agrees to the venue selection in accordance with Section 24 of the Option Agreement. The Grantee further agrees to notify the Company upon any change in the residence address indicated in this Notice.

Dated: _____ Signed: _____
Grantee

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Award Number: _____

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

STOCK OPTION AWARD AGREEMENT

1.Grant of Option. CARLSMED, Inc., a Delaware corporation (the "**Company**"), hereby grants to the Grantee (the "**Grantee**") named in the Notice of Stock Option Award (the "**Notice**"), an option (the "**Option**") to purchase the Total Number of Shares of Common Stock subject to the Option (the "**Shares**") set forth in the Notice, at the Exercise Price per Share set forth in the Notice (the "**Exercise Price**") subject to the terms and provisions of the Notice, this Stock Option Award Agreement (the "**Option Agreement**") and the Company's 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**"), which are incorporated herein by reference. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Option Agreement.

If designated in the Notice as an Incentive Stock Option, the Option is intended to qualify as an Incentive Stock Option as defined in Section 422 of the Code. However, notwithstanding such designation, the Option will qualify as an Incentive Stock Option under the Code only to the extent the $100,000 dollar limitation of Section 422(d) of the Code is not exceeded. The $100,000 limitation of Section 422(d) of the Code is calculated based on the aggregate Fair Market Value of the Shares subject to options designated as Incentive Stock Options which become exercisable for the first time by the Grantee during any calendar year (under all plans of the Company or any Parent or Subsidiary of the Company). For purposes of this calculation, Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of the shares subject to such options shall be determined as of the grant date of the relevant option.

2.Exercise of Option.

(a)Right to Exercise. The Option shall be immediately exercisable during its term in accordance with the applicable provisions of the Plan and this Option Agreement. The Option shall be subject to the provisions of Section 11 of the Plan relating to the exercisability or termination of the Option in the event of a Corporate Transaction. The Grantee shall be subject to reasonable limitations on the number of requested exercises during any monthly or weekly period as determined by the Administrator. In no event shall the Company issue fractional Shares.

(b)Method of Exercise. The Option shall be exercisable by delivery of an exercise notice (a form of which is attached as Exhibit A) or by such other procedure as specified from time to time by the Administrator which shall state the election to exercise the Option, the whole number of Shares in respect of which the Option is being exercised, and such other provisions as may be required by the Administrator. The exercise notice shall be delivered in person, by certified mail, or by such other method (including electronic transmission) as determined from time to time by the Administrator to the Company accompanied by payment of the Exercise Price and all applicable income and employment taxes required to be withheld. The Option shall be deemed to be exercised upon receipt by the Company of such notice accompanied by the Exercise Price and all applicable withholding taxes, which, to the extent selected, shall be deemed to be satisfied by use of the broker-dealer sale and remittance procedure to pay the

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Exercise Price provided in Section 4(d) below to the extent such procedure is available to the Grantee at the time of exercise and such an exercise would not violate any Applicable Law.

(c)Taxes. No Shares will be delivered to the Grantee or other person pursuant to the exercise of the Option until the Grantee or other person has made arrangements acceptable to the Administrator for the satisfaction of applicable income tax and employment tax withholding obligations, including, without limitation, such other tax obligations of the Grantee incident to the receipt of Shares. Upon exercise of the Option, the Company or the Grantee's employer may offset or withhold (from any amount owed by the Company or the Grantee's employer to the Grantee) or collect from the Grantee or other person an amount sufficient to satisfy such tax withholding obligations. Furthermore, in the event of any determination that the Company has failed to withhold a sum sufficient to pay all withholding taxes due in connection with the Option, the Grantee agrees to pay the Company the amount of such deficiency in cash within five (5) days after receiving a written demand from the Company to do so, whether or not the Grantee is an employee of the Company at that time.

3.Grantee's Representations. The Grantee understands that neither the Option nor the Shares exercisable pursuant to the Option have been registered under the Securities Act of 1933, as amended or any United States securities laws. In the event the Shares purchasable pursuant to the exercise of the Option have not been registered under the Securities Act of 1933, as amended, at the time the Option is exercised, the Grantee shall, if requested by the Company, concurrently with the exercise of all or any portion of the Option, deliver to the Company his or her Investment Representation Statement in the form attached hereto as Exhibit B.

4.Method of Payment. Payment of the Exercise Price shall be made by any of the following, or a combination thereof, at the election of the Grantee; provided, however, that such exercise method does not then violate any Applicable Law and, provided further, that the portion of the Exercise Price equal to the par value of the Shares must be paid in cash or other legal consideration permitted by Applicable Law:

(a)cash;

(b)check;

(c)if the exercise occurs on or after the Registration Date, surrender of Shares held for the requisite period, if any, necessary to avoid a charge to the Company's earnings for financial reporting purposes, or delivery of a properly executed form of attestation of ownership of Shares as the Administrator may require which have a Fair Market Value on the date of surrender or attestation equal to the aggregate Exercise Price of the Shares as to which the Option is being exercised;

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(d)if the exercise occurs on or after the Registration Date, payment through a broker-dealer sale and remittance procedure pursuant to which the Grantee (i) shall provide written instructions to a Company-designated brokerage firm to effect the immediate sale of some or all of the purchased Shares and remit to the Company sufficient funds to cover the aggregate exercise price payable for the purchased Shares and (ii) shall provide written directives to the Company to deliver the certificates for the purchased Shares directly to such brokerage firm in order to complete the sale transaction; or

(e)any combination of the foregoing methods of payment.

5.Restrictions on Exercise. The Option may not be exercised if the issuance of the Shares subject to the Option upon such exercise would constitute a violation of any Applicable Laws. In addition, the Option may not be exercised until such time as the Plan has been approved by the stockholders of the Company. If the exercise of the Option within the applicable time periods set forth in Sections 6, 7 and 8 of this Option Agreement is prevented by the provisions of this Section 5, the Option shall remain exercisable until one (1) month after the date the Grantee is notified by the Company that the Option is exercisable, but in any event no later than the Expiration Date set forth in the Notice.

6.Termination or Change of Continuous Service. In the event the Grantee's Continuous Service terminates, other than for Cause, the Grantee may, but only during the Post-Termination Exercise Period, exercise the portion of the Option that was vested at the date of such termination (the "**Termination Date**"). The Post-Termination Exercise Period shall commence on the Termination Date. In the event of termination of the Grantee's Continuous Service for Cause, the Grantee's right to exercise the Option shall, except as otherwise determined by the Administrator, terminate concurrently with the termination of the Grantee's Continuous Service (also the "**Termination Date**"). In no event, however, shall the Option be exercised later than the Expiration Date set forth in the Notice. In the event of the Grantee's change in status from Employee, Director or Consultant to any other status of Employee, Director or Consultant, the Option shall remain in effect and the Option shall continue to vest in accordance with the Vesting Schedule set forth in the Notice; provided, however, with respect to any Incentive Stock Option that shall remain in effect after a change in status from Employee to Director or Consultant, such Incentive Stock Option shall cease to be treated as an Incentive Stock Option and shall be treated as a Non-Qualified Stock Option on the day three (3) months and one (1) day following such change in status. Except as provided in Sections 7 and 8 below, to the extent that the Option was unvested on the Termination Date, or if the Grantee does not exercise the vested portion of the Option within the Post-Termination Exercise Period, the Option shall terminate.

7.Disability of Grantee. In the event the Grantee's Continuous Service terminates as a result of his or her Disability, the Grantee may, but only within twelve (12) months commencing on the Termination Date (but in no event later than the Expiration Date), exercise the portion of the Option that was vested on the Termination Date; provided, however, that if such Disability is not a "disability" as such term is defined in Section 22(e)(3) of the Code and the Option is an Incentive Stock Option, such Incentive Stock Option shall cease to be treated as an Incentive Stock Option and shall be treated as a Non-Qualified Stock Option on the day three (3) months and one (1) day following the Termination Date. To the extent that the Option was unvested on the

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Termination Date, or if the Grantee does not exercise the vested portion of the Option within the time specified herein, the Option shall terminate. Section 22(e)(3) of the Code provides that an individual is permanently and totally disabled if he or she is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than twelve (12) months.

8.Death of Grantee. In the event of the termination of the Grantee's Continuous Service as a result of his or her death, or in the event of the Grantee's death during the Post-Termination Exercise Period or during the twelve (12) month period following the Grantee's termination of Continuous Service as a result of his or her Disability, the person who acquired the right to exercise the Option pursuant to Section 9 may exercise the portion of the Option that was vested at the date of termination within twelve (12) months commencing on the date of death (but in no event later than the Expiration Date). To the extent that the Option was unvested on the date of death, or if the vested portion of the Option is not exercised within the time specified herein, the Option shall terminate.

9.Transferability of Option. The Option, if an Incentive Stock Option, may not be transferred in any manner other than by will or by the laws of descent and distribution and may be exercised during the lifetime of the Grantee only by the Grantee. The Option, if a Non-Qualified Stock Option, may not be transferred in any manner other than by will or by the laws of descent and distribution; provided, however, that a Non-Qualified Stock Option may be transferred during the lifetime of the Grantee by gift or pursuant to a domestic relations order to members of the Grantee's Immediate Family to the extent and in the manner determined by the Administrator. Notwithstanding the foregoing, the Grantee may designate one or more beneficiaries of the Grantee's Incentive Stock Option or Non-Qualified Stock Option in the event of the Grantee's death on a beneficiary designation form provided by the Administrator. Following the death of the Grantee, the Option, to the extent provided in Section 8, may be exercised (a) by the person or persons designated under the deceased Grantee's beneficiary designation or (b) in the absence of an effectively designated beneficiary, by the Grantee's legal representative or by any person empowered to do so under the deceased Grantee's will or under the then applicable laws of descent and distribution. The terms of the Option shall be binding upon the executors, administrators, heirs, successors and transferees of the Grantee.

10.Term of Option. The Option must be exercised no later than the Expiration Date set forth in the Notice or such earlier date as otherwise provided herein. After the Expiration Date or such earlier date, the Option shall be of no further force or effect and may not be exercised.

11.Transfer Restrictions for Unvested Shares. The Shares sold to the Grantee hereunder may not be sold, transferred by gift, pledged, hypothecated, or otherwise transferred or disposed of by the Grantee prior to the date that the Shares become vested pursuant to the Vesting Schedule set forth in the Notice. Any attempt to transfer Shares in violation of this Section 11 will be null and void and will be disregarded. After the Shares vest, the Shares will remain subject to the Company's Right of First Refusal as set forth in Section 12.

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12.Company's Right of First Refusal. The Grantee acknowledges and agrees that the Shares are subject to a right of first refusal ("**Right of First Refusal**") as set forth in the Bylaws of the Company, which Right of First Refusal is incorporated herein by reference irrespective of whether the Bylaws are amended at some future date to remove the Right of First Refusal therefrom, and that, except in compliance with such Right of First Refusal, neither the Grantee nor a transferee shall sell, hypothecate, encumber or otherwise transfer any Shares or any right or interest therein.

13.Escrow of Stock. For purposes of facilitating the enforcement of the provisions of this Option Agreement, the Grantee agrees, immediately upon receipt of the certificate(s) for the Shares, to deliver such certificate(s), together with an Assignment Separate from Certificate in the form attached hereto as Exhibit C, executed in blank by the Grantee with respect to each such stock certificate, to the Secretary or Assistant Secretary of the Company, or their designee, to hold in escrow for so long as such Shares have not vested pursuant to the Vesting Schedule set forth in the Notice or are subject to the Company's Right of First Refusal, with the authority to take all such actions and to effectuate all such transfers and/or releases as may be necessary or appropriate to accomplish the objectives of this Option Agreement in accordance with the terms hereof. The Grantee hereby acknowledges that the appointment of the Secretary or Assistant Secretary of the Company (or their designee) as the escrow holder hereunder with the stated authorities is a material inducement to the Company to make this Option Agreement and that such appointment is coupled with an interest and is accordingly irrevocable. The Grantee agrees that the Restricted Shares may be held electronically in a book entry system maintained by the Company's transfer agent or other third-party and that all the terms and conditions of this Section 13 applicable to certificated Restricted Shares will apply with the same force and effect to such electronic method for holding the Restricted Shares. The Grantee agrees that such escrow holder shall not be liable to any party hereto (or to any other party) for any actions or omissions unless such escrow holder is grossly negligent relative thereto. The escrow holder may rely upon any letter, notice or other document executed by any signature purported to be genuine and may resign at any time. Upon the vesting of all Shares and termination of the Company's Right of First Refusal, the escrow holder will, upon request, transmit to the Grantee the certificate evidencing such Shares.

14.Additional Securities. Any securities or cash received (other than a regular cash dividend) as the result of ownership of the Shares (the "**Additional Securities**"), including, but not by way of limitation, warrants, options and securities received as a stock dividend or stock split, or as a result of any transaction described in Section 10 or 11 of the Plan, shall be subject to the same conditions and restrictions as the Shares with respect to which they were issued, including, without limitation, the Vesting Schedule set forth in the Notice, Right of First Refusal and the Repurchase Right and retained in escrow in the same manner as the Shares with respect to which they relate. The Grantee shall be entitled to direct the Company to exercise any warrant or option received as Additional Securities upon supplying the funds necessary to do so, in which event the securities so purchased shall constitute Additional Securities, but the Grantee may not direct the Company to sell any such warrant or option. If Additional Securities consist of a convertible security, the Grantee may exercise any conversion right, and any securities so acquired shall constitute Additional Securities. Appropriate adjustments to reflect the distribution of Additional Securities shall be made to the price per share to be paid upon the exercise of the

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Repurchase Right in order to reflect the effect of any such transaction upon the Company's capital structure. In the event of any change in certificates evidencing the Shares or the Additional Securities by reason of any recapitalization, reorganization or other transaction that results in the creation of Additional Securities, the escrow holder is authorized to deliver to the issuer the certificates evidencing the Shares or the Additional Securities in exchange for the certificates of the replacement securities.

15.Distributions. Subject to Section 14 and Section 16(e), the Company shall disburse to the Grantee all regular cash dividends with respect to the Shares and Additional Securities (whether vested or not), less any applicable withholding obligations.

16.Company's Repurchase Right.

(a)Grant of Repurchase Right. The Company is hereby granted the right (the "**Repurchase Right**"), exercisable at any time during the nine (9) month period following the Termination Date, to repurchase all or any portion of the Shares that have not vested pursuant to the terms of the Vesting Schedule purchased upon exercise of the Option (the "**Share Repurchase Period**")**.**

(b)Exercise of the Repurchase Right. The Repurchase Right shall be exercisable by written notice delivered to the Grantee prior to the expiration of the Share Repurchase Period. The notice shall indicate the number of Shares to be repurchased and the date on which the repurchase is to be effected, such date to be not later than the last day of the Share Repurchase Period. On the date on which the repurchase is to be effected, the Company and/or its assigns shall pay to the Grantee in cash or cash equivalents (including the cancellation of any purchase-money indebtedness) an amount equal to the lesser of the Exercise Price per Share previously paid by the Grantee to the Company for such Shares and the Fair Market Value per Share on the date on which the repurchase is to be effected. Upon such payment or deposit into escrow for the benefit of the Grantee, the Company and/or its assigns shall become the legal and beneficial owner of the Shares being repurchased and all rights and interest thereon or related thereto, and the Company shall have the right to transfer to its own name or its assigns the number of Shares being repurchased, without further action by the Grantee.

(c)Assignment. Whenever the Company shall have the right to purchase Shares under this Repurchase Right, the Company may designate and assign one or more employees, officers, directors or stockholders of the Company or other persons or organizations, to exercise all or a part of the Company's Repurchase Right.

(d)Termination of the Repurchase Right. The Repurchase Right shall terminate with respect to any Shares for which it is not timely exercised.

(e)Additional Shares or Substituted Securities. In the event of any transaction described in Sections 10 or 11 of the Plan, the Repurchase Right shall apply to the new capital stock or other property (including cash paid other than as a regular cash dividend) received in exchange for the Shares in consummation of any such transaction and such stock or property shall be deemed Additional Securities for purposes of this Option Agreement, but only to the extent the

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Shares are at the time covered by such Repurchase Right. Appropriate adjustments shall be made to the price per share payable upon exercise of the Repurchase Right to reflect the effect of any such transaction.

17.Stop-Transfer Notices. In order to ensure compliance with the restrictions on transfer set forth in this Option Agreement, the Notice or the Plan, the Company may issue appropriate "stop transfer" instructions to its transfer agent, if any, and, if the Company transfers its own securities, it may make appropriate notations to the same effect in its own records.

18.Refusal to Transfer. The Company shall not be required (i) to transfer on its books any Shares that have been sold or otherwise transferred in violation of any of the provisions of this Option Agreement or (ii) to treat as owner of such Shares or to accord the right to vote or pay dividends to any purchaser or other transferee to whom such Shares shall have been so transferred.

19.Tax Consequences.

(a)The Grantee may incur tax liability as a result of the Grantee's purchase or disposition of the Shares. THE GRANTEE SHOULD CONSULT A TAX ADVISER BEFORE EXERCISING THE OPTION OR DISPOSING OF THE SHARES.

(b)Notwithstanding the Company's good faith determination of the Fair Market Value of the Common Stock for purposes of determining the Exercise Price Per Share of the Option as set forth in the Notice, the taxing authorities may assert that the Fair Market Value of the Common Stock on the Date of Award was greater than the Exercise Price Per Share. If designated in the Notice as an Incentive Stock Option, the Option may fail to qualify as an Incentive Stock Option if the Exercise Price Per Share of the Option is less than the Fair Market Value of the Common Stock on the Date of Award. In addition, under Section 409A of the Code, if the Exercise Price Per Share of the Option is less than the Fair Market Value of the Common Stock on the Date of Award, the Option may be treated as a form of deferred compensation and the Grantee may be subject to an acceleration of income recognition, an additional 20% tax, plus interest and possible penalties. The Company makes no representation that the Option will comply with (or be exempt from the application of) Section 409A of the Code and makes no undertaking to prevent Section 409A of the Code from applying to the Option or to mitigate its effects on any deferrals or payments made in respect of the Option. The Grantee is encouraged to consult a tax adviser regarding the potential impact of Section 409A of the Code.

20.Lock-Up Agreement.

(a)Agreement. The Grantee, if requested by the Company and the lead underwriter of any public offering of the Common Stock (the "**Lead Underwriter**"), hereby irrevocably agrees not to sell, contract to sell, grant any option to purchase, transfer the economic risk of ownership in, make any short sale of, pledge or otherwise transfer or dispose of any interest in any Common Stock or any securities convertible into or exchangeable or exercisable for or any other rights to purchase or acquire Common Stock (except Common Stock included in such public offering or acquired on the public market after such offering) during the 180-day period following the effective date of a registration statement of the Company filed under the Securities Act of 1933,

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as amended, or such shorter or longer period of time as the Lead Underwriter shall specify. The Grantee further agrees to sign such documents as may be requested by the Lead Underwriter to effect the foregoing and agrees that the Company may impose stop-transfer instructions with respect to such Common Stock subject to the lock-up period until the end of such period. The Company and the Grantee acknowledge that each Lead Underwriter of a public offering of the Company's stock, during the period of such offering and for the lock-up period thereafter, is an intended beneficiary of this Section 20.

(b)No Amendment Without Consent of Underwriter. During the period from identification of a Lead Underwriter in connection with any public offering of the Common Stock until the earlier of (i) the expiration of the lock-up period specified in Section 20(a) in connection with such offering or (ii) the abandonment of such offering by the Company and the Lead Underwriter, the provisions of this Section 20 may not be amended or waived except with the consent of the Lead Underwriter.

21.Entire Agreement: Governing Law. The Notice, the Plan and this Option Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Grantee with respect to the subject matter hereof, and may not be modified adversely to the Grantee's interest except by means of a writing signed by the Company and the Grantee. Nothing in the Notice, the Plan and this Option Agreement (except as expressly provided therein) is intended to confer any rights or remedies on any persons other than the parties. The Notice, the Plan and this Option Agreement are to be construed in accordance with and governed by the internal laws of the State of California without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of California to the rights and duties of the parties. Should any provision of the Notice, the Plan or this Option Agreement be determined to be illegal or unenforceable, such provision shall be enforced to the fullest extent allowed by law and the other provisions shall nevertheless remain effective and shall remain enforceable.

22.Construction. The captions used in the Notice and this Option Agreement are inserted for convenience and shall not be deemed a part of the Option for construction or interpretation. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

23.Administration and Interpretation. Any question or dispute regarding the administration or interpretation of the Notice, the Plan or this Option Agreement shall be submitted by the Grantee or by the Company to the Administrator. The resolution of such question or dispute by the Administrator shall be final and binding on all persons.

24.Venue. The Company, the Grantee, and the Grantee's assignees pursuant to Section 9 (the "**parties**") agree that any suit, action, or proceeding arising out of or relating to the Notice, the Plan or this Option Agreement shall be brought in the United States District Court for the Southern District of California (or should such court lack jurisdiction to hear such action, suit or proceeding, in a California state court in the County of San Diego, California) and that the parties

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shall submit to the jurisdiction of such court. The parties irrevocably waive, to the fullest extent permitted by law, any objection the party may have to the laying of venue for any such suit, action or proceeding brought in such court. If any one or more provisions of this Section 24 shall for any reason be held invalid or unenforceable, it is the specific intent of the parties that such provisions shall be modified to the minimum extent necessary to make it or its application valid and enforceable.

25.Notices. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery, upon deposit for delivery by an internationally recognized express mail courier service or upon deposit in the United States mail by certified mail (if the parties are within the United States), with postage and fees prepaid, addressed to the other party at its address as shown in these instruments, or to such other address as such party may designate in writing from time to time to the other party.

26.Confidentiality. To the extent required by Applicable Law, the Company shall provide to the Grantee, during the period the Option is outstanding, copies of financial statements of the Company at least annually. The Grantee understands and agrees that such financial statements are confidential and shall not be disclosed by the Grantee, to any entity or person, for any reason, at any time, without the prior written consent of the Company, unless required by law. If disclosure of such financial statements is required by law, whether through subpoena, request for production, deposition, or otherwise, the Grantee promptly shall provide written notice to Company, including copies of the subpoena, request for production, deposition, or otherwise, within five (5) business days of their receipt by the Grantee and prior to any disclosure so as to provide Company an opportunity to move to quash or otherwise to oppose the disclosure. Notwithstanding the foregoing, the Grantee may disclose the terms of such financial statements to his or her spouse or domestic partner, and for legitimate business reasons, to legal, financial, and tax advisors.

END OF AGREEMENT

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EXHIBIT A

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

EXERCISE NOTICE

[COMPANY ADDRESS]
Attention: Secretary

1.Effective as of today, _____, the undersigned (the "**Grantee**") hereby elects to exercise the Grantee's option to purchase _____ shares of the Common Stock (the "**Shares**") of CARLSMED, Inc. (the "**Company**") under and pursuant to the Company's 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**") and the [ ] Incentive [ ] Non-Qualified Stock Option Award Agreement (the "**Option Agreement**") and Notice of Stock Option Award (the "**Notice**") dated _____. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Exercise Notice.

2.Representations of the Grantee. The Grantee acknowledges that the Grantee has received, read and understood the Notice, the Plan and the Option Agreement and agrees to abide by and be bound by their terms and conditions.

3.Rights as Stockholder. Until the stock certificate evidencing such Shares is issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the Shares, notwithstanding the exercise of the Option. The Company shall issue (or cause to be issued) such stock certificate promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in Section 10 of the Plan.

The Grantee shall enjoy rights as a stockholder until such time as the Grantee disposes of the Shares or the Company and/or its assignee(s) exercises the Right of First Refusal or the Repurchase Right. Upon such exercise, the Grantee shall have no further rights as a holder of the Shares so purchased except the right to receive payment for the Shares so purchased in accordance with the provisions of the Option Agreement, and the Grantee shall forthwith cause the certificate(s) evidencing the Shares so purchased to be surrendered to the Company for transfer or cancellation.

4.Delivery of Payment. The Grantee herewith delivers to the Company the full Exercise Price for the Shares, which, to the extent selected, shall be deemed to be satisfied by use of the broker-dealer sale and remittance procedure to pay the Exercise Price provided in Section 4(d) of the Option Agreement.

5.Tax Consultation. The Grantee understands that the Grantee may suffer adverse tax consequences as a result of the Grantee's purchase or disposition of the Shares. The Grantee represents that the Grantee has consulted with any tax consultants the Grantee deems advisable in connection with the purchase or disposition of the Shares and that the Grantee is not relying on the Company for any tax advice.

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6.Tax Election; Taxes. The Grantee shall provide the Company with a copy of any timely filed 83(b) Election relating to the purchase of the Shares. If the Grantee makes a timely 83(b) Election, the Grantee shall immediately pay the Company (or the Related Entity that employs the Grantee) the amount necessary to satisfy any applicable federal, state, and local income and employment tax withholding obligations under the Applicable Laws. If the Grantee does not make a timely 83(b) Election, the Grantee shall, either at the time that the restrictions lapse under the Option Agreement and the Plan or at the time withholding is otherwise required by Applicable Law, pay the Company (or the Related Entity that employs the Grantee) the amount necessary to satisfy any applicable federal, state, and local income and employment tax withholding obligations under the Applicable Laws. In addition, the Grantee agrees to satisfy all other applicable federal, state and local income and employment tax withholding obligations under the Applicable Laws and herewith delivers to the Company the full amount of such obligations or has made arrangements acceptable to the Company to satisfy such obligations. In the case of an Incentive Stock Option, the Grantee also agrees, as partial consideration for the designation of the Option as an Incentive Stock Option, to notify the Company in writing within thirty (30) days of any disposition of any shares acquired by exercise of the Option if such disposition occurs within two (2) years from the Date of Award or within one (1) year from the date the Shares were transferred to the Grantee.

7.Restrictive Legends. The Grantee understands and agrees that the Company shall cause the legends set forth below or legends substantially equivalent thereto, to be placed upon any certificate(s) evidencing ownership of the Shares together with any other legends that may be required by the Company or by state or federal securities laws:

> THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 (THE "ACT") OR ANY STATE SECURITIES LAWS AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL REGISTERED UNDER THE ACT OR, IN THE OPINION OF COUNSEL SATISFACTORY TO THE ISSUER OF THESE SECURITIES, SUCH OFFER, SALE OR TRANSFER, PLEDGE OR HYPOTHECATION IS IN COMPLIANCE THEREWITH.
>
> THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO CERTAIN RESTRICTIONS ON TRANSFER, A RIGHT OF FIRST REFUSAL AND A REPURCHASE RIGHT HELD BY THE ISSUER OR ITS ASSIGNEE(S) AS SET FORTH IN THE OPTION AGREEMENT BETWEEN THE ISSUER AND THE ORIGINAL HOLDER OF THESE SHARES, A COPY OF WHICH MAY BE OBTAINED AT THE PRINCIPAL OFFICE OF THE ISSUER. SUCH TRANSFER RESTRICTIONS, RIGHT OF FIRST REFUSAL AND REPURCHASE RIGHT ARE BINDING ON TRANSFEREES OF THESE SHARES.

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8.Successors and Assigns. The Company may assign any of its rights under this Exercise Notice to single or multiple assignees, and this agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Exercise Notice shall be binding upon the Grantee and his or her heirs, executors, administrators, successors and assigns.

9.Construction. The captions used in this Exercise Notice are inserted for convenience and shall not be deemed a part of this agreement for construction or interpretation. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

10.Administration and Interpretation. The Grantee hereby agrees that any question or dispute regarding the administration or interpretation of this Exercise Notice shall be submitted by the Grantee or by the Company to the Administrator. The resolution of such question or dispute by the Administrator shall be final and binding on all persons.

11.Governing Law; Severability. This Exercise Notice is to be construed in accordance with and governed by the internal laws of the State of California without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of California to the rights and duties of the parties. Should any provision of this Exercise Notice be determined by a court of law to be illegal or unenforceable, such provision shall be enforced to the fullest extent allowed by law and the other provisions shall nevertheless remain effective and shall remain enforceable.

12.Notices. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery, upon deposit for delivery by an internationally recognized express mail courier service or upon deposit in the United States mail by certified mail (if the parties are within the United States), with postage and fees prepaid, addressed to the other party at its address as shown below beneath its signature, or to such other address as such party may designate in writing from time to time to the other party.

13.Further Instruments. The parties agree to execute such further instruments and to take such further action as may be reasonably necessary to carry out the purposes and intent of this agreement.

14.Entire Agreement. The Notice, the Plan and the Option Agreement are incorporated herein by reference and together with this Exercise Notice constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Grantee with respect to the subject matter hereof, and may not be modified adversely to the Grantee's interest except by means of a writing signed by the Company and the Grantee. Nothing in the Notice, the Plan, the Option Agreement and this Exercise Notice (except as expressly provided therein) is intended to confer any rights or remedies on any persons other than the parties.

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Submitted by:	Accepted by:
GRANTEE:	**CARLSMED, INC.**
By:	By:
Name:	Name:
	Title:
Address:	Address:
_____	_____
_____	_____
_____	_____

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EXHIBIT B

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

INVESTMENT REPRESENTATION STATEMENT

GRANTEE:	_____
COMPANY:	CARLSMED, INC.
SECURITY:	COMMON STOCK
NUMBER OF SHARES:	_____
DATE:	_____

In connection with the purchase of the above-listed Securities, the undersigned Grantee represents to the Company the following:

(a)Grantee is aware of the Company's business affairs and financial condition and has acquired sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Securities. Grantee is acquiring these Securities for investment for Grantee's own account only and not with a view to, or for resale in connection with, any "distribution" thereof within the meaning of the Securities Act of 1933, as amended (the "**Securities Act**").

(b)Grantee acknowledges and understands that the Securities constitute "restricted securities" under the Securities Act and have not been registered under the Securities Act in reliance upon a specific exemption therefrom, which exemption depends upon among other things, the bona fide nature of Grantee's investment intent as expressed herein. Grantee further understands that the Securities must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. Grantee further acknowledges and understands that the Company is under no obligation to register the Securities. Grantee understands that the certificate evidencing the Securities will be imprinted with a legend which prohibits the transfer of the Securities unless they are registered or such registration is not required in the opinion of counsel satisfactory to the Company.

(c)Grantee is familiar with the provisions of Rule 701 and Rule 144, each promulgated under the Securities Act, which, in substance, permit limited public resale of "restricted securities" acquired, directly or indirectly from the issuer thereof, in a non-public offering subject to the satisfaction of certain conditions. Rule 701 provides that if the issuer qualifies under Rule 701 at the time of the grant of the Option to the Grantee, the exercise will be exempt from registration under the Securities Act. In the event the Company becomes subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, ninety (90) days thereafter (or such longer period as any market stand-off agreement may require) the Securities exempt under Rule 701 may be resold, except in the case of affiliates, such Securities may be resold subject to the satisfaction of the applicable conditions specified by Rule 144, including: (1) the availability of certain public information about the Company, (2) the amount of

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Securities being sold during any three month period not exceeding specified limitations, (3) the resale being made in an unsolicited "broker's transaction," in transactions directly with a "market maker" or "riskless principal transactions" (as said terms are defined under the Securities Exchange Act of 1934) and (4) the timely filing of a Form 144, if applicable.

In the event that the Company does not qualify under Rule 701 at the time of the grant of the Option, then the Securities may be resold in certain limited circumstances subject to the provisions of Rule 144, which may require: the availability of current public information about the Company; the resale to occur more than a specified period after the purchase and full payment (within the meaning of Rule 144) for the Securities; and, in the case of the sale of Securities by an affiliate, the satisfaction of the conditions set forth in sections (2), (3) and (4) of the paragraph immediately above.

(d)Grantee further understands that in the event all of the applicable

requirements of Rule 701 or 144 are not satisfied, registration under the Securities Act, compliance with Regulation A, or some other registration exemption will be required; and that, notwithstanding the fact that Rules 144 and 701 are not exclusive, the Staff of the Securities and Exchange Commission has expressed its opinion that persons proposing to sell private placement securities other than in a registered offering and otherwise than pursuant to Rules 144 or 701 will have a substantial burden of proof in establishing that an exemption from registration is available for such offers or sales, and that such persons and their respective brokers who participate in such transactions do so at their own risk. Grantee understands that no assurances can be given that any such other registration exemption will be available in such event.

(e)Grantee represents that Grantee is a resident of the state of _____.

Signature of Grantee:

By: _____

Date: _____

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EXHIBIT C

STOCK ASSIGNMENT SEPARATE FROM CERTIFICATE

[Please sign this document but do not date it. The date and information of the transferee will be completed if and when the shares are assigned.]

FOR VALUE RECEIVED, _____ hereby sells,

assigns and transfers unto _____, _____ (____) shares of the Common Stock of CARLSMED, INC., a Delaware corporation (the "**Company**"), standing in his name on the books of, represented by Certificate No. ____ herewith, and does hereby irrevocably constitute and appoint the Secretary of the Company attorney to transfer the said stock in the books of the Company with full power of substitution.

DATED:

By: _____
(Signature)

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EXHIBIT D

ELECTION UNDER SECTION 83(b)
OF THE INTERNAL REVENUE CODE OF 1986

The undersigned taxpayer hereby elects, pursuant to the Internal Revenue Code, to include in gross income for calendar year_____ the amount of any compensation taxable in connection with the taxpayer's receipt of the property described below:

1.The name, address, taxpayer identification number and taxable year of the undersigned are:

TAXPAYER'S NAME	_____
TAXPAYER'S SOCIAL SECURITY NO.:	_____
TAXABLE YEAR:	Calendar Year _____
ADDRESS:	_____ _____ _____

2.The property which is the subject of this election is _____ shares of common stock of CARLSMED, INC.

3.The property was transferred to the undersigned on _____, ____.

4.The property is subject to the following restrictions: The property is subject to a repurchase right pursuant to which the issuer has the right to acquire the property at the lesser of the original purchase price or the fair market value of the property if for any reason taxpayer's employment or service with the issuer is terminated. The issuer's repurchase right lapses in a series of periodic installments.

5.The fair market value of the property at the time of transfer (determined without regard to any restriction other than a restriction which by its terms will never lapse) is: $_____ per share x _____ shares = $_____.

6.The undersigned paid $_____ per share x _____ shares for the property transferred or a total of $_____.

The undersigned has submitted a copy of this statement to the person for whom the services were performed in connection with the undersigned's receipt of the above-described property. The undersigned taxpayer is the person performing the services in connection with the transfer of said property.

The undersigned will file this election with the Internal Revenue Service office to which the undersigned files the undersigned's annual income tax return not later than 30 days after the date of transfer of the property. Additionally, the undersigned will include a copy of the election with the undersigned's income tax return for the taxable year in which the property is transferred.

Dated: _____ _____

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The property described in the above Section 83(b) election is comprised of shares of common stock acquired pursuant to the exercise of an incentive stock option under Section 422 of the Internal Revenue Code (the "**Code**"). Accordingly, the purpose of this election is to have the alternative minimum taxable income attributable to the purchased shares measured by the amount by which the fair market value of such shares at the time of their transfer to the Taxpayer exceeds the purchase price paid for the shares. In the absence of this election, such alternative minimum taxable income would be measured by the spread between the fair market value of the purchased shares and the purchase price which exists on the various lapse dates in effect for the forfeiture restrictions applicable to such shares.

THIS PAGE 2 IS TO BE ATTACHED TO ANY SECTION 83(b) ELECTION FILED IN CONNECTION WITH THE EXERCISE OF AN INCENTIVE STOCK OPTION.

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Exhibit 10.4

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN NOTICE OF STOCK OPTION AWARD

Grantee's Name and Address: _____

You (the "**Grantee**") have been granted an option to purchase shares of Common Stock, subject to the terms and conditions of this Notice of Stock Option Award (the "**Notice**"), the CARLSMED, Inc. 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**") and the Stock Option Award Agreement (the "**Option Agreement**") attached hereto, as follows. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Notice.

Award Number	_____
Date of Award	_____
Vesting Commencement Date	_____
Exercise Price per Share	_____
Total Number of Shares Subject to the Option (the "**Shares**")	_____
Total Exercise Price	_____
Type of Option:	_____
Expiration Date:	_____
Post-Termination Exercise Period:	_____

Vesting Schedule:

Subject to the Grantee's Continuous Service and the other limitations set forth in this Notice, the Plan and the Option Agreement, the Option may be exercised, in whole or in part, in accordance with the following schedule:

[ ]

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During any authorized leave of absence, the vesting of the Shares shall be suspended after the leave of absence exceeds a period of three (3) months. Vesting of the Shares shall resume upon the Grantee's termination of the leave of absence and return to Continuous Service. The Vesting Schedule of the Shares shall be extended by the length of the suspension.

In the event of termination of the Grantee's Continuous Service for Cause, the Grantee's right to exercise the Option shall terminate concurrently with the termination of the Grantee's Continuous Service, except as otherwise determined by the Administrator.

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IN WITNESS WHEREOF, the Company and the Grantee have executed this Notice and agree that the Option is to be governed by the terms and conditions of this Notice, the Plan, and the Option Agreement.

CARLSMED, INC.,
a Delaware corporation

By: _____

Name: ___

Title: ___ __

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THE GRANTEE ACKNOWLEDGES AND AGREES THAT THE SHARES SUBJECT TO THE OPTION SHALL VEST, IF AT ALL, ONLY DURING THE PERIOD OF THE GRANTEE'S CONTINUOUS SERVICE (NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THE OPTION OR ACQUIRING SHARES HEREUNDER). THE GRANTEE FURTHER ACKNOWLEDGES AND AGREES THAT NOTHING IN THIS NOTICE, THE OPTION AGREEMENT, OR THE PLAN SHALL CONFER UPON THE GRANTEE ANY RIGHT WITH RESPECT TO FUTURE AWARDS OR CONTINUATION OF THE GRANTEE'S CONTINUOUS SERVICE, NOR SHALL IT INTERFERE IN ANY WAY WITH THE GRANTEE'S RIGHT OR THE RIGHT OF THE COMPANY OR RELATED ENTITY TO WHICH THE GRANTEE PROVIDES SERVICES TO TERMINATE THE GRANTEE'S CONTINUOUS SERVICE, WITH OR WITHOUT CAUSE, AND WITH OR WITHOUT NOTICE. THE GRANTEE ACKNOWLEDGES THAT UNLESS THE GRANTEE HAS A WRITTEN EMPLOYMENT AGREEMENT WITH THE COMPANY TO THE CONTRARY, THE GRANTEE'S STATUS IS AT WILL.

The Grantee acknowledges receipt of a copy of the Plan and the Option Agreement, and represents that he or she is familiar with the terms and provisions thereof, and hereby accepts the Option subject to all of the terms and provisions hereof and thereof. The Grantee has reviewed this Notice, the Plan, and the Option Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Notice, and fully understands all provisions of this Notice, the Plan and the Option Agreement. The Grantee hereby agrees that all questions of interpretation and administration relating to this Notice, the Plan and the Option Agreement shall be resolved by the Administrator in accordance with Section 18 of the Option Agreement. The Grantee further agrees to the venue selection in accordance with Section 19 of the Option Agreement. The Grantee further agrees to notify the Company upon any change in the residence address indicated in this Notice.

Dated: _____ Signed: _____
Grantee

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Award Number: _____

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN STOCK OPTION AWARD AGREEMENT

1. Grant of Option. CARLSMED, Inc., a Delaware corporation (the "**Company**"), hereby grants to the Grantee (the "**Grantee**") named in the Notice of Stock Option Award (the "**Notice**"), an option (the "**Option**") to purchase the Total Number of Shares of Common Stock subject to the Option (the "**Shares**") set forth in the Notice, at the Exercise Price per Share set forth in the Notice (the "**Exercise Price**") subject to the terms and provisions of the Notice, this Stock Option Award Agreement (the "**Option Agreement**") and the Company's 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**"), which are incorporated herein by reference. Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Option Agreement.

If designated in the Notice as an Incentive Stock Option, the Option is intended to qualify as an Incentive Stock Option as defined in Section 422 of the Code. However, notwithstanding such designation, the Option will qualify as an Incentive Stock Option under the Code only to the extent the $100,000 dollar limitation of Section 422(d) of the Code is not exceeded. The $100,000 limitation of Section 422(d) of the Code is calculated based on the aggregate Fair Market Value of the Shares subject to options designated as Incentive Stock Options which become exercisable for the first time by the Grantee during any calendar year (under all plans of the Company or any Parent or Subsidiary of the Company). For purposes of this calculation, Incentive Stock Options shall be taken into account in the order in which they were granted, and the Fair Market Value of the shares subject to such options shall be determined as of the grant date of the relevant option.

2. Exercise of Option.

(a) Right to Exercise. The Option shall be exercisable during its term in accordance with the Vesting Schedule set out in the Notice and with the applicable provisions of the Plan and this Option Agreement. The Option shall be subject to the provisions of Section 11 of the Plan relating to the exercisability or termination of the Option in the event of a Corporate Transaction. The Grantee shall be subject to reasonable limitations on the number of requested exercises during any monthly or weekly period as determined by the Administrator. In no event shall the Company issue fractional Shares.

(b) Method of Exercise. The Option shall be exercisable by delivery of an exercise notice (a form of which is attached as Exhibit A) or by such other procedure as specified from time to time by the Administrator which shall state the election to exercise the Option, the whole number of Shares in respect of which the Option is being exercised, and such other provisions as may be required by the Administrator. The exercise notice shall be delivered in person, by certified mail, or by such other method (including electronic transmission) as determined from time to time by the Administrator to the Company accompanied by payment of the Exercise Price and all applicable income and employment taxes required to be withheld. The Option shall be deemed to be exercised upon receipt by the Company of such notice accompanied

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by the Exercise Price and all applicable withholding taxes, which, to the extent selected, shall be deemed to be satisfied by use of the broker-dealer sale and remittance procedure to pay the Exercise Price provided in Section 4(d) below to the extent such procedure is available to the Grantee at the time of exercise and such an exercise would not violate any Applicable Law.

(c) Taxes. No Shares will be delivered to the Grantee or other person pursuant to the exercise of the Option until the Grantee or other person has made arrangements acceptable to the Administrator for the satisfaction of applicable income tax and employment tax withholding obligations, including, without limitation, such other tax obligations of the Grantee incident to the receipt of Shares. Upon exercise of the Option, the Company or the Grantee's employer may offset or withhold (from any amount owed by the Company or the Grantee's employer to the Grantee) or collect from the Grantee or other person an amount sufficient to satisfy such tax withholding obligations. Furthermore, in the event of any determination that the Company has failed to withhold a sum sufficient to pay all withholding taxes due in connection with the Option, the Grantee agrees to pay the Company the amount of such deficiency in cash within five (5) days after receiving a written demand from the Company to do so, whether or not the Grantee is an employee of the Company at that time.

3. Grantee's Representations. The Grantee understands that neither the Option nor the Shares exercisable pursuant to the Option have been registered under the Securities Act of 1933, as amended or any United States securities laws. In the event the Shares purchasable pursuant to the exercise of the Option have not been registered under the Securities Act of 1933, as amended, at the time the Option is exercised, the Grantee shall, if requested by the Company, concurrently with the exercise of all or any portion of the Option, deliver to the Company his or her Investment Representation Statement in the form attached hereto as Exhibit B.

4. Method of Payment. Payment of the Exercise Price shall be made by any of the following, or a combination thereof, at the election of the Grantee; provided, however, that such exercise method does not then violate any Applicable Law and, provided further, that the portion of the Exercise Price equal to the par value of the Shares must be paid in cash or other legal consideration permitted by Applicable Law:

(a) cash;

(b) check;

(c) if the exercise occurs on or after the Registration Date, surrender of Shares held for the requisite period, if any, necessary to avoid a charge to the Company's earnings for financial reporting purposes, or delivery of a properly executed form of attestation of ownership of Shares as the Administrator may require which have a Fair Market Value on the date of surrender or attestation equal to the aggregate Exercise Price of the Shares as to which the Option is being exercised;

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(d) if the exercise occurs on or after the Registration Date, payment through a broker-dealer sale and remittance procedure pursuant to which the Grantee (i) shall provide written instructions to a Company-designated brokerage firm to effect the immediate sale of some or all of the purchased Shares and remit to the Company sufficient funds to cover the aggregate exercise price payable for the purchased Shares and (ii) shall provide written directives to the Company to deliver the certificates for the purchased Shares directly to such brokerage firm in order to complete the sale transaction; or

(e) any combination of the foregoing methods of payment.

5. Restrictions on Exercise. The Option may not be exercised if the issuance of the Shares subject to the Option upon such exercise would constitute a violation of any Applicable Laws. In addition, the Option may not be exercised until such time as the Plan has been approved by the stockholders of the Company. If the exercise of the Option within the applicable time periods set forth in Sections 6, 7 and 8 of this Option Agreement is prevented by the provisions of this Section 5, the Option shall remain exercisable until one (1) month after the date the Grantee is notified by the Company that the Option is exercisable, but in any event no later than the Expiration Date set forth in the Notice.

6. Termination or Change of Continuous Service. In the event the Grantee's Continuous Service terminates, other than for Cause, the Grantee may, but only during the Post- Termination Exercise Period, exercise the portion of the Option that was vested at the date of such termination (the "**Termination Date**"). The Post-Termination Exercise Period shall commence on the Termination Date. In the event of termination of the Grantee's Continuous Service for Cause, the Grantee's right to exercise the Option shall, except as otherwise determined by the Administrator, terminate concurrently with the termination of the Grantee's Continuous Service (also the "**Termination Date**"). In no event, however, shall the Option be exercised later than the Expiration Date set forth in the Notice. In the event of the Grantee's change in status from Employee, Director or Consultant to any other status of Employee, Director or Consultant, the Option shall remain in effect and the Option shall continue to vest in accordance with the Vesting Schedule set forth in the Notice; provided, however, with respect to any Incentive Stock Option that shall remain in effect after a change in status from Employee to Director or Consultant, such Incentive Stock Option shall cease to be treated as an Incentive Stock Option and shall be treated as a Non-Qualified Stock Option on the day three (3) months and one (1) day following such change in status. Except as provided in Sections 7 and 8 below, to the extent that the Option was unvested on the Termination Date, or if the Grantee does not exercise the vested portion of the Option within the Post-Termination Exercise Period, the Option shall terminate.

7. Disability of Grantee. In the event the Grantee's Continuous Service terminates as a result of his or her Disability, the Grantee may, but only within twelve (12) months commencing on the Termination Date (but in no event later than the Expiration Date), exercise the portion of the Option that was vested on the Termination Date; provided, however, that if such Disability is not a "disability" as such term is defined in Section 22(e)(3) of the Code and the Option is an Incentive Stock Option, such Incentive Stock Option shall cease to be treated as an Incentive Stock Option and shall be treated as a Non-Qualified Stock Option on the day three (3) months and one (1) day following the Termination Date. To the extent that the Option was unvested on the Termination Date, or if the Grantee does not exercise the vested portion of the Option within the

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time specified herein, the Option shall terminate. Section 22(e)(3) of the Code provides that an individual is permanently and totally disabled if he or she is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than twelve (12) months.

8. Death of Grantee. In the event of the termination of the Grantee's Continuous Service as a result of his or her death, or in the event of the Grantee's death during the Post- Termination Exercise Period or during the twelve (12) month period following the Grantee's termination of Continuous Service as a result of his or her Disability, the person who acquired the right to exercise the Option pursuant to Section 9 may exercise the portion of the Option that was vested at the date of termination within twelve (12) months commencing on the date of death (but in no event later than the Expiration Date). To the extent that the Option was unvested on the date of death, or if the vested portion of the Option is not exercised within the time specified herein, the Option shall terminate.

9. Transferability of Option. The Option, if an Incentive Stock Option, may not be transferred in any manner other than by will or by the laws of descent and distribution and may be exercised during the lifetime of the Grantee only by the Grantee. The Option, if a Non- Qualified Stock Option, may not be transferred in any manner other than by will or by the laws of descent and distribution; provided, however, that a Non-Qualified Stock Option may be transferred during the lifetime of the Grantee by gift or pursuant to a domestic relations order to members of the Grantee's Immediate Family to the extent and in the manner determined by the Administrator. Notwithstanding the foregoing, the Grantee may designate one or more beneficiaries of the Grantee's Incentive Stock Option or Non-Qualified Stock Option in the event of the Grantee's death on a beneficiary designation form provided by the Administrator. Following the death of the Grantee, the Option, to the extent provided in Section 8, may be exercised (a) by the person or persons designated under the deceased Grantee's beneficiary designation or (b) in the absence of an effectively designated beneficiary, by the Grantee's legal representative or by any person empowered to do so under the deceased Grantee's will or under the then applicable laws of descent and distribution. The terms of the Option shall be binding upon the executors, administrators, heirs, successors and transferees of the Grantee.

10. Term of Option. The Option must be exercised no later than the Expiration Date set forth in the Notice or such earlier date as otherwise provided herein. After the Expiration Date or such earlier date, the Option shall be of no further force or effect and may not be exercised.

11. Company's Right of First Refusal. The Grantee acknowledges and agrees that the Shares are subject to a right of first refusal ("**Right of First Refusal**") as set forth in the Bylaws of the Company, which Right of First Refusal is incorporated herein by reference irrespective of whether the Bylaws are amended at some future date to remove the Right of First Refusal therefrom, and that, except in compliance with such Right of First Refusal, neither the Grantee nor a transferee shall sell, hypothecate, encumber or otherwise transfer any Shares or any right or interest therein.

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12. Stop-Transfer Notices. In order to ensure compliance with the restrictions on transfer set forth in this Option Agreement, the Notice or the Plan, the Company may issue appropriate "stop transfer" instructions to its transfer agent, if any, and, if the Company transfers its own securities, it may make appropriate notations to the same effect in its own records.

13. Refusal to Transfer. The Company shall not be required (i) to transfer on its books any Shares that have been sold or otherwise transferred in violation of any of the provisions of this Option Agreement or (ii) to treat as owner of such Shares or to accord the right to vote or pay dividends to any purchaser or other transferee to whom such Shares shall have been so transferred.

14. Tax Consequences.

(a) The Grantee may incur tax liability as a result of the Grantee's purchase or disposition of the Shares. THE GRANTEE SHOULD CONSULT A TAX ADVISER BEFORE EXERCISING THE OPTION OR DISPOSING OF THE SHARES.

(b) Notwithstanding the Company's good faith determination of the Fair Market Value of the Common Stock for purposes of determining the Exercise Price Per Share of the Option as set forth in the Notice, the taxing authorities may assert that the Fair Market Value of the Common Stock on the Date of Award was greater than the Exercise Price Per Share. If designated in the Notice as an Incentive Stock Option, the Option may fail to qualify as an Incentive Stock Option if the Exercise Price Per Share of the Option is less than the Fair Market Value of the Common Stock on the Date of Award. In addition, under Section 409A of the Code, if the Exercise Price Per Share of the Option is less than the Fair Market Value of the Common Stock on the Date of Award, the Option may be treated as a form of deferred compensation and the Grantee may be subject to an acceleration of income recognition, an additional 20% tax, plus interest and possible penalties. The Company makes no representation that the Option will comply with (or be exempt from the application of) Section 409A of the Code and makes no undertaking to prevent Section 409A of the Code from applying to the Option or to mitigate its effects on any deferrals or payments made in respect of the Option. The Grantee is encouraged to consult a tax adviser regarding the potential impact of Section 409A of the Code.

15. Lock-Up Agreement.

(a) Agreement. The Grantee, if requested by the Company and the lead underwriter of any public offering of the Common Stock (the "**Lead Underwriter**"), hereby irrevocably agrees not to sell, contract to sell, grant any option to purchase, transfer the economic risk of ownership in, make any short sale of, pledge or otherwise transfer or dispose of any interest in any Common Stock or any securities convertible into or exchangeable or exercisable for or any other rights to purchase or acquire Common Stock (except Common Stock included in such public offering or acquired on the public market after such offering) during the 180-day period following the effective date of a registration statement of the Company filed under the Securities Act of 1933, as amended, or such shorter or longer period of time as the Lead Underwriter shall specify. The Grantee further agrees to sign such documents as may be requested by the Lead Underwriter to effect the foregoing and agrees that the Company may impose stop-transfer instructions with respect to such

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Common Stock subject to the lock-up period until the end of such period. The Company and the Grantee acknowledge that each Lead Underwriter of a public offering of the

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Company's stock, during the period of such offering and for the lock-up period thereafter, is an intended beneficiary of this Section 15.

(b) No Amendment Without Consent of Underwriter. During the period from identification of a Lead Underwriter in connection with any public offering of the Common Stock until the earlier of (i) the expiration of the lock-up period specified in Section 15(a) in connection with such offering or (ii) the abandonment of such offering by the Company and the Lead Underwriter, the provisions of this Section 15 may not be amended or waived except with the consent of the Lead Underwriter.

16. Entire Agreement: Governing Law. The Notice, the Plan and this Option Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Grantee with respect to the subject matter hereof, and may not be modified adversely to the Grantee's interest except by means of a writing signed by the Company and the Grantee. Nothing in the Notice, the Plan and this Option Agreement (except as expressly provided therein) is intended to confer any rights or remedies on any persons other than the parties. The Notice, the Plan and this Option Agreement are to be construed in accordance with and governed by the internal laws of the State of California without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of California to the rights and duties of the parties. Should any provision of the Notice, the Plan or this Option Agreement be determined to be illegal or unenforceable, such provision shall be enforced to the fullest extent allowed by law and the other provisions shall nevertheless remain effective and shall remain enforceable.

17. Construction. The captions used in the Notice and this Option Agreement are inserted for convenience and shall not be deemed a part of the Option for construction or interpretation. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

18. Administration and Interpretation. Any question or dispute regarding the administration or interpretation of the Notice, the Plan or this Option Agreement shall be submitted by the Grantee or by the Company to the Administrator. The resolution of such question or dispute by the Administrator shall be final and binding on all persons.

19. Venue. The Company, the Grantee, and the Grantee's assignees pursuant to Section 9 (the "**parties**") agree that any suit, action, or proceeding arising out of or relating to the Notice, the Plan or this Option Agreement shall be brought in the United States District Court for the Southern District of California (or should such court lack jurisdiction to hear such action, suit or proceeding, in a California state court in the County of San Diego, California) and that the parties shall submit to the jurisdiction of such court. The parties irrevocably waive, to the fullest extent permitted by law, any objection the party may have to the laying of venue for any such suit, action or proceeding brought in such court. If any one or more provisions of this Section 19 shall for any reason be held invalid or unenforceable, it is the specific intent of the parties that such provisions shall be modified to the minimum extent necessary to make it or its application valid and enforceable.

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20. Notices. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery, upon deposit for delivery by an internationally recognized express mail courier service or upon deposit in the United States mail by certified mail (if the parties are within the United States), with postage and fees prepaid, addressed to the other party at its address as shown in these instruments, or to such other address as such party may designate in writing from time to time to the other party.

21. Confidentiality. To the extent required by Applicable Law, the Company shall provide to the Grantee, during the period the Option is outstanding, copies of financial statements of the Company at least annually. The Grantee understands and agrees that such financial statements are confidential and shall not be disclosed by the Grantee, to any entity or person, for any reason, at any time, without the prior written consent of the Company, unless required by law. If disclosure of such financial statements is required by law, whether through subpoena, request for production, deposition, or otherwise, the Grantee promptly shall provide written notice to Company, including copies of the subpoena, request for production, deposition, or otherwise, within five (5) business days of their receipt by the Grantee and prior to any disclosure so as to provide Company an opportunity to move to quash or otherwise to oppose the disclosure. Notwithstanding the foregoing, the Grantee may disclose the terms of such financial statements to his or her spouse or domestic partner, and for legitimate business reasons, to legal, financial, and tax advisors.

END OF AGREEMENT

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EXHIBIT A

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

EXERCISE NOTICE

[COMPANY ADDRESS]
Attention: Secretary

1. Effective as of today, , the undersigned (the "**Grantee**") hereby elects to exercise the Grantee's option to purchase shares of the Common Stock (the "**Shares**") of CARLSMED, Inc. (the "**Company**") under and pursuant to the Company's 2019 Stock Incentive Plan, as amended from time to time (the "**Plan**") and the [ ] Incentive [ ] Non-Qualified Stock Option Award Agreement (the "**Option Agreement**") and Notice of Stock Option Award (the "**Notice**") dated . Unless otherwise defined herein, the terms defined in the Plan shall have the same defined meanings in this Exercise Notice.

2. Representations of the Grantee. The Grantee acknowledges that the Grantee has received, read and understood the Notice, the Plan and the Option Agreement and agrees to abide by and be bound by their terms and conditions.

3. Rights as Stockholder. Until the stock certificate evidencing such Shares is issued (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company), no right to vote or receive dividends or any other rights as a stockholder shall exist with respect to the Shares, notwithstanding the exercise of the Option. The Company shall issue (or cause to be issued) such stock certificate promptly after the Option is exercised. No adjustment will be made for a dividend or other right for which the record date is prior to the date the stock certificate is issued, except as provided in Section 10 of the Plan.

The Grantee shall enjoy rights as a stockholder until such time as the Grantee disposes of the Shares or the Company and/or its assignee(s) exercises the Right of First Refusal. Upon such exercise, the Grantee shall have no further rights as a holder of the Shares so purchased except the right to receive payment for the Shares so purchased in accordance with the provisions of the Option Agreement, and the Grantee shall forthwith cause the certificate(s) evidencing the Shares so purchased to be surrendered to the Company for transfer or cancellation.

4. Delivery of Payment. The Grantee herewith delivers to the Company the full Exercise Price for the Shares, which, to the extent selected, shall be deemed to be satisfied by use of the broker-dealer sale and remittance procedure to pay the Exercise Price provided in Section 4(d) of the Option Agreement.

5. Tax Consultation. The Grantee understands that the Grantee may suffer adverse tax consequences as a result of the Grantee's purchase or disposition of the Shares. The Grantee represents that the Grantee has consulted with any tax consultants the Grantee deems advisable in connection with the purchase or disposition of the Shares and that the Grantee is not relying on the Company for any tax advice.

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6. Taxes. The Grantee agrees to satisfy all applicable federal, state and local income and employment tax withholding obligations and herewith delivers to the Company the full amount of such obligations or has made arrangements acceptable to the Company to satisfy such obligations. In the case of an Incentive Stock Option, the Grantee also agrees, as partial consideration for the designation of the Option as an Incentive Stock Option, to notify the Company in writing within thirty (30) days of any disposition of any shares acquired by exercise of the Option if such disposition occurs within two (2) years from the Date of Award or within one (1) year from the date the Shares were transferred to the Grantee.

7. Restrictive Legends. The Grantee understands and agrees that the Company shall cause the legends set forth below or legends substantially equivalent thereto, to be placed upon any certificate(s) evidencing ownership of the Shares together with any other legends that may be required by the Company or by state or federal securities laws:

> THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 (THE "ACT") OR ANY STATE SECURITIES LAWS AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL REGISTERED UNDER THE ACT OR, IN THE OPINION OF COUNSEL SATISFACTORY TO THE ISSUER OF THESE SECURITIES, SUCH OFFER, SALE OR TRANSFER, PLEDGE OR HYPOTHECATION IS IN COMPLIANCE THEREWITH.
>
> THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO CERTAIN RESTRICTIONS ON TRANSFER AND A RIGHT OF FIRST REFUSAL HELD BY THE ISSUER OR ITS ASSIGNEE(S) AS SET FORTH IN THE OPTION AGREEMENT BETWEEN THE ISSUER AND THE ORIGINAL HOLDER OF THESE SHARES, A COPY OF WHICH MAY BE OBTAINED AT THE PRINCIPAL OFFICE OF THE ISSUER. SUCH TRANSFER RESTRICTIONS AND RIGHT OF FIRST REFUSAL ARE BINDING ON TRANSFEREES OF THESE SHARES.

8. Successors and Assigns. The Company may assign any of its rights under this Exercise Notice to single or multiple assignees, and this agreement shall inure to the benefit of the successors and assigns of the Company. Subject to the restrictions on transfer herein set forth, this Exercise Notice shall be binding upon the Grantee and his or her heirs, executors, administrators, successors and assigns.

9. Construction. The captions used in this Exercise Notice are inserted for convenience and shall not be deemed a part of this agreement for construction or interpretation. Except when otherwise indicated by the context, the singular shall include the plural and the plural shall include the singular. Use of the term "or" is not intended to be exclusive, unless the context clearly requires otherwise.

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10. Administration and Interpretation. The Grantee hereby agrees that any question or dispute regarding the administration or interpretation of this Exercise Notice shall be submitted by the Grantee or by the Company to the Administrator. The resolution of such question or dispute by the Administrator shall be final and binding on all persons.

11. Governing Law; Severability. This Exercise Notice is to be construed in accordance with and governed by the internal laws of the State of California without giving effect to any choice of law rule that would cause the application of the laws of any jurisdiction other than the internal laws of the State of California to the rights and duties of the parties. Should any provision of this Exercise Notice be determined by a court of law to be illegal or unenforceable, such provision shall be enforced to the fullest extent allowed by law and the other provisions shall nevertheless remain effective and shall remain enforceable.

12. Notices. Any notice required or permitted hereunder shall be given in writing and shall be deemed effectively given upon personal delivery, upon deposit for delivery by an internationally recognized express mail courier service or upon deposit in the United States mail by certified mail (if the parties are within the United States), with postage and fees prepaid, addressed to the other party at its address as shown below beneath its signature, or to such other address as such party may designate in writing from time to time to the other party.

13. Further Instruments. The parties agree to execute such further instruments and to take such further action as may be reasonably necessary to carry out the purposes and intent of this agreement.

14. Entire Agreement. The Notice, the Plan and the Option Agreement are incorporated herein by reference and together with this Exercise Notice constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Grantee with respect to the subject matter hereof, and may not be modified adversely to the Grantee's interest except by means of a writing signed by the Company and the Grantee. Nothing in the Notice, the Plan, the Option Agreement and this Exercise Notice (except as expressly provided therein) is intended to confer any rights or remedies on any persons other than the parties.

[*Remainder of Page Left Intentionally Blank*]

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Submitted by:

GRANTEE:

By: _____

Name: ___

Address:

___ ___ ___
___ ___ ___
___ ___ ___

Accepted by:

CARLSMED, INC.

By: _____

Name: ___

Title: ___

Address:

____ ___ ___
____ ___ ___
____ ___ ___

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EXHIBIT B

CARLSMED, INC. 2019 STOCK INCENTIVE PLAN

INVESTMENT REPRESENTATION STATEMENT

GRANTEE:	_____
COMPANY:	CARLSMED, INC.
SECURITY:	COMMON STOCK
NUMBER OF SHARES:	_____
DATE:	_____

In connection with the purchase of the above-listed Securities, the undersigned Grantee represents to the Company the following:

(a) Grantee is aware of the Company's business affairs and financial condition and has acquired sufficient information about the Company to reach an informed and knowledgeable decision to acquire the Securities. Grantee is acquiring these Securities for investment for Grantee's own account only and not with a view to, or for resale in connection with, any "distribution" thereof within the meaning of the Securities Act of 1933, as amended (the "**Securities Act**").

(b) Grantee acknowledges and understands that the Securities constitute "restricted securities" under the Securities Act and have not been registered under the Securities Act in reliance upon a specific exemption therefrom, which exemption depends upon among other things, the bona fide nature of Grantee's investment intent as expressed herein. Grantee further understands that the Securities must be held indefinitely unless they are subsequently registered under the Securities Act or an exemption from such registration is available. Grantee further acknowledges and understands that the Company is under no obligation to register the Securities. Grantee understands that the certificate evidencing the Securities will be imprinted with a legend which prohibits the transfer of the Securities unless they are registered or such registration is not required in the opinion of counsel satisfactory to the Company.

(c) Grantee is familiar with the provisions of Rule 701 and Rule 144, each promulgated under the Securities Act, which, in substance, permit limited public resale of "restricted securities" acquired, directly or indirectly from the issuer thereof, in a non-public offering subject to the satisfaction of certain conditions. Rule 701 provides that if the issuer qualifies under Rule 701 at the time of the grant of the Option to the Grantee, the exercise will be exempt from registration under the Securities Act. In the event the Company becomes subject to the reporting requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, ninety (90) days thereafter (or such longer period as any market stand-off agreement may require) the Securities exempt under Rule 701 may be resold, except in the case of affiliates, such Securities may be resold

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subject to the satisfaction of the applicable conditions specified by Rule 144, including: (1) the availability of certain public information about the Company, (2) the amount of Securities being sold during any three month period not exceeding specified limitations, (3) the resale being made in an unsolicited "broker's transaction," in transactions directly with a "market maker" or "riskless principal transactions" (as said terms are defined under the Securities Exchange Act of 1934) and (4) the timely filing of a Form 144, if applicable.

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In the event that the Company does not qualify under Rule 701 at the time of the grant of the Option, then the Securities may be resold in certain limited circumstances subject to the provisions of Rule 144, which may require: the availability of current public information about the Company; the resale to occur more than a specified period after the purchase and full payment (within the meaning of Rule 144) for the Securities; and, in the case of the sale of Securities by an affiliate, the satisfaction of the conditions set forth in sections (2), (3) and (4) of the paragraph immediately above.

(d) Grantee further understands that in the event all of the applicable requirements of Rule 701 or 144 are not satisfied, registration under the Securities Act, compliance with Regulation A, or some other registration exemption will be required; and that, notwithstanding the fact that Rules 144 and 701 are not exclusive, the Staff of the Securities and Exchange Commission has expressed its opinion that persons proposing to sell private placement securities other than in a registered offering and otherwise than pursuant to Rules 144 or 701 will have a substantial burden of proof in establishing that an exemption from registration is available for such offers or sales, and that such persons and their respective brokers who participate in such transactions do so at their own risk. Grantee understands that no assurances can be given that any such other registration exemption will be available in such event.

(e) Grantee represents that Grantee is a resident of the state of .

Signature of Grantee:

By: _____

Date: __

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Exhibit 10.5

Privileged and Confidential

CARLSMED, INC.

2019 STOCK INCENTIVE PLAN

PERFORMANCE-VESTING RESTRICTED STOCK UNIT AWARD AGREEMENT

You (the "**Grantee**") have been granted an award of Restricted Stock Units (the "**RSUs"**), subject to the terms and conditions of this Performance-Vesting Restricted Stock Unit Award Agreement (this "**Agreement**"), the Carlsmed, Inc. 2019 Stock Incentive Plan, as may be amended, modified or restated from time to time (the "**Plan**"). Unless otherwise defined in this Agreement, the terms defined in the Plan shall have the same defined meanings in this Agreement. In the event of a conflict between this Agreement and the Plan, the provisions of the Plan shall control.

1.Award Details.

Grantee's Name	Mike Cordonnier
Grantee's Address	[***]
Grantee's Email Address	[***]
Grant Date	March 5, 2025
Total Number of Shares Subject to the RSU	627,630
Vesting Schedule	As set forth in Exhibit A.
Expiration Date	The fourth anniversary of the Grant Date.

2.Issuance of RSUs. The Company hereby grants to the Grantee an Award covering the Total Number of Shares Subject to the RSU, subject to the Plan and this Agreement. The terms of the RSUs shall be binding upon the executors, administrators, heirs, successors and transferees of the Grantee.

3.Issuance of Shares.

(a)General. The Company shall issue to Grantee a number of Shares equal to the aggregate number of vested RSUs, subject to satisfaction of all applicable, federal, state and local income and

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employment taxes required to be withheld pursuant to Section 7(c) of the Plan, as soon as reasonably practicable following the applicable vesting date, but in any event within sixty (60) days of the date on which the RSUs vest.

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(b)Term of RSUs. The RSUs shall be of no further force or effect if the vesting conditions in Exhibit A are not satisfied prior to or on the Expiration Date. The Grantee agrees that the Company and its officers, employees, attorneys and agents do not have any obligation to notify the Grantee prior to the expiration of the RSUs. This Section 3(b) shall supersede any contrary representation that may have been made, orally or in writing, by the Company or by an officer, employee, attorney or agent of the Company.

4.Dividend Equivalent Rights. Dividend Equivalent Rights shall not be credited to the Grantee while the RSUs are outstanding.

5.Stockholders' Agreements. The Grantee agrees, upon the Company's request, to enter into any stockholders' agreement, voting agreement, agreement containing a right of first refusal in favor of the Company and/or any stockholder of the Company, or any similar agreement or arrangement then in effect with respect to the RSUs or Shares (each such agreement or arrangement, a "**Stockholders' Agreement**"): (a) upon the grant of the RSUs, (b) upon issuance of Shares (c) at any other time, in each case in the Company's sole discretion. If the Company is unable to obtain the Grantee's signature on the Stockholders' Agreement within five days of delivery thereof to the Grantee, then by the acceptance of the RSUs, the Grantee hereby irrevocably designates and appoints the Company and each of its duly authorized officers and agents as the Grantee's agent and attorney-in-fact, to act for and on its behalf and stead, to execute and deliver the Stockholders' Agreement with the same force and effect as if executed and delivered by the Grantee. In the event of any conflict between the Stockholders' Agreement and this Agreement, the provisions of the Stockholders' Agreement shall control.

6.Taxes. The Grantee should consult a tax adviser. If the RSUs are settled (a) following a Registration Date and (b) prior to the expiration of any lock-up period, the Company shall withhold a whole number of Shares from those Shares issuable to the Grantee as the Administrator determines necessary to satisfy the applicable tax withholding obligation, unless otherwise determined by the Administrator, in its sole discretion.

7.Stop-Transfer Notices. To ensure compliance with the restrictions on transfer set forth in the Plan, the Company may issue appropriate "stop transfer" instructions to its transfer agent, if any, and, if the Company transfers its own securities, it may make appropriate notations to the same effect in its own records.

8.Refusal to Transfer. The Company shall not be required (a) to transfer on its books any Shares that have been sold or otherwise transferred in violation of any of the provisions of this Agreement or (b) to treat as owner of such Shares or to accord the right to vote or pay dividends to any purchaser or other transferee to whom such Shares shall have been so transferred.

9.Lock-Up Agreement.

(a)Agreement. The Grantee, if requested by the Company and/or the lead underwriter(s) of any public offering of the Shares (the "**Lead Underwriter**"), irrevocably agrees not to sell, contract to sell, grant any option to purchase, transfer the economic risk of ownership in, make any short sale of, pledge or otherwise transfer or dispose of any interest in any Shares or any securities convertible into or exchangeable or exercisable for Shares or any other rights to

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purchase or acquire Shares (except Shares included in such public offering or acquired on the public market after such offering) during the 180-day period following the effective date of a registration statement of the Company filed under the Securities Act of 1933 (the "**Act**"), as amended, or the consummation of a Registration Date or such shorter or longer period as the Lead Underwriter shall specify. The Grantee further agrees to sign such documents as may be requested by the Company and/or the Lead Underwriter to effect the foregoing and agrees that the Company may impose stop-transfer instructions with respect to such Shares subject to the lock-up period until the end of such period. The Company and the Grantee acknowledge that each Lead Underwriter of a public offering of the Shares, during the period of such offering and for the lock-up period thereafter, is an intended beneficiary of this Section 9 and shall have the right, power and authority to enforce the provisions of this Section 9 as though they were a party hereto.

(b)No Amendment Without Consent of Underwriter. During the period from identification of a Lead Underwriter in connection with any public offering of the Shares until the earlier of (i) the expiration of the lock-up period specified in Section 9(a) in connection with such offering or (ii) the abandonment of such offering by the Company and the Lead Underwriter, the provisions of this Section 9 may not be amended or waived except with the consent of the Lead Underwriter.

10.Entire Agreement. The terms of the Plan are incorporated into this Agreement and, together with this Agreement and the Stockholders' Agreement, constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and the Grantee with respect to the subject matter hereof; provided, however, that if the Grantee is party to an employment, change in control or similar agreement with the Company or a Related Entity and such agreement contains terms applicable to equity awards of the type granted by this Agreement that are more favorable to the Grantee than the terms set forth in this Agreement, such more favorable terms shall control. Nothing in the Plan or this Agreement (except as expressly provided therein or herein) is intended to confer any rights or remedies on any persons other than the Company and the Grantee. If any provision of the Plan or this Agreement is determined to be illegal or unenforceable, such provision shall be enforced to the fullest extent allowed by law and the other provisions shall nevertheless remain effective and shall remain enforceable.

11.Administration and Interpretation. Any question or dispute regarding the administration or interpretation of the Plan or this Agreement shall be submitted by the Grantee or by the Company to the Administrator. The resolution of such question or dispute by the Administrator shall be final and binding.

12.Notices. The Grantee agrees to accept by email all documents relating to the Plan, the RSUs and any Shares issuable pursuant to the RSUs and all other documents that the Company is required to deliver to its stockholders. The Grantee also agrees that the Company may deliver these documents by posting them on a website maintained by the Company or by a third party under contract with the Company. The Grantee may incur costs in connection with electronic delivery, including the cost of accessing the internet and printing fees, and that an interruption of internet access may interfere with the Grantee's ability to access the documents.

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13.Confidentiality. The Grantee understands and agrees that any financial statements, information about the risks associated with investment in the Shares, or other similar statements or information provided by the Company to the Grantee are confidential and shall not be disclosed by the Grantee, to any Person, for any reason, at any time, without the prior written consent of the Company, unless required by Applicable Laws. If disclosure of such statements or information is required by Applicable Laws, whether through subpoena, request for production, deposition, or otherwise, the Grantee promptly shall provide written notice to the Company, including copies of the subpoena, request for production, deposition, or otherwise, within five business days of their receipt by the Grantee and prior to any disclosure so as to provide the Company an opportunity to move to quash or otherwise to oppose the disclosure. Notwithstanding the foregoing, the Grantee may disclose the terms of such statements or information to his or her spouse or domestic partner, and for legitimate business reasons, to Grantee's legal, financial, and tax advisers. Nothing in this Agreement limits the Grantee's ability to communicate directly with and provide information, including documents, not otherwise protected from disclosure by Applicable Laws or privilege to the United States Securities and Exchange Commission or any other federal, state or local governmental agency or commission regarding possible legal violations, without disclosure to the Company or any Subsidiary. The Company may not retaliate against the Grantee for any of these activities, and nothing in this Agreement requires the Grantee to waive any monetary award or other payment that the Grantee might become entitled to from to the United States Securities and Exchange Commission or any other federal, state or local governmental agency or commission.

14.Personal Data Authorization. The Grantee understands and acknowledges that the Company and any Related Entities hold certain personal information regarding the Grantee for the purpose of managing and administering the Plan, including the Grantee's name, home address, telephone number, date of birth, social security number, salary, nationality, job title, any Shares or directorships held in the Company and details of all Awards canceled, exercised, vested, unvested or outstanding in the Grantee's favor ("**Data**"). The Grantee further understands and acknowledges that the Company and any Related Entities will transfer Data among themselves as necessary for the purpose of implementation, administration and management of the Grantee's participation in the Plan and that the Company and any Related Entities may each further transfer Data to any third party assisting the Company in the implementation, administration and management of the Plan. The Grantee understands and acknowledges that the recipients of Data may be located in the United States or elsewhere.

15.Grantee's Representations. The Grantee understands that neither the RSUs nor any Shares acquired upon settlement of the RSUs have been registered under the Act, or any other Applicable Laws. The Grantee represents and agrees that any Shares acquired upon settlement of the RSUs will be acquired for investment, and not with a view to the sale or distribution thereof. If the Shares are not registered under the Act, but an exemption is available that requires an investment or other representation, the Grantee shall represent and agree, at the time of exercise, that the Shares being acquired upon settlement of the RSUs are being acquired for investment, and not with a view to the sale or distribution thereof, and shall make such other representations as are deemed necessary or appropriate by the Company and its counsel.

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16.Consent to Electronic Notice. The Grantee consents to the delivery of any stockholder notice pursuant to Applicable Law, by electronic transmission pursuant to Applicable Law (or any successor thereto) at the electronic mail address on the books of the Company. To the extent that any notice given by means of electronic transmission is returned or undeliverable for any reason, the foregoing consent shall be deemed to have been revoked until a new or corrected electronic mail address has been provided, and such attempted electronic notice shall be ineffective and deemed to not have been given. The Grantee agrees to promptly notify the Company of any change in the Grantee's electronic mail address, and that failure to do so shall not affect the foregoing.

17.Restrictive Legends. The Grantee understands and agrees that the Company may, in its discretion, cause the legends set forth below or legends substantially equivalent thereto, to be placed upon any certificate(s) evidencing ownership of the Shares together with any other legends that may be required by the Company or by Applicable Law:

> THE SECURITIES REPRESENTED HEREBY HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933 (THE "**ACT**") OR ANY STATE SECURITIES LAWS AND MAY NOT BE OFFERED, SOLD OR OTHERWISE TRANSFERRED, PLEDGED OR HYPOTHECATED UNLESS AND UNTIL REGISTERED UNDER THE ACT OR, IN THE OPINION OF COUNSEL SATISFACTORY TO THE ISSUER OF THESE SECURITIES, SUCH OFFER, SALE OR TRANSFER, PLEDGE OR HYPOTHECATION IS IN COMPLIANCE THEREWITH.
>
> THE SHARES REPRESENTED BY THIS CERTIFICATE ARE SUBJECT TO CERTAIN RESTRICTIONS ON TRANSFER, A RIGHT OF FIRST REFUSAL HELD BY THE ISSUER OR ITS ASSIGNEE(S) AS SET FORTH IN THE PERFORMANCE-VESTING RESTRICTED STOCK UNIT AWARD AGREEMENT, ANY STOCKHOLDER'S AGREEMENT OR ANY OTHER AGREEMENT BETWEEN THE ISSUER AND THE ORIGINAL HOLDER OF THESE SHARES, A COPY OF WHICH MAY BE OBTAINED AT THE PRINCIPAL OFFICE OF THE ISSUER. SUCH TRANSFER RESTRICTIONS AND RIGHT OF FIRST REFUSAL ARE BINDING ON TRANSFEREES OF THESE SHARES.

18.Venue. The Company and the Grantee agree that any suit, action, or proceeding arising out of or relating to the Plan or this Agreement shall be brought in the United States District Court for the Southern District of California (or should such court lack jurisdiction to hear such action, suit or proceeding, in a California state court in the county of San Diego, California) and that the parties shall submit to the jurisdiction of such court. The Company and the Grantee irrevocably waive, to the fullest extent permitted by law, any objection the party may have to the laying of venue for any such suit, action or proceeding brought in such court.

[SIGNATURE PAGE FOLLOWS]

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IN WITNESS WHEREOF, the Company and the Grantee have executed this Agreement and agree that the RSUs are to be governed by the terms and conditions of this Agreement and the Plan.

Carlsmed, Inc.
an Delaware corporation

By: /s/ Niall Casey

Name: Niall Casey

Title: Secretary

By the Grantee's acceptance of this Agreement either electronically through the electronic acceptance procedure established by the Company or through a written acceptance delivered to the Company in a form satisfactory to the Company, the Grantee acknowledges receipt of a copy of the Plan and this Agreement and familiarity with the terms and conditions of the RSUs, and accepts the RSUs subject to all of such terms and conditions. The Grantee has reviewed the Plan and this Agreement in their entirety and has had an opportunity to obtain the advice of counsel prior to executing this Agreement. The Grantee further agrees to notify the Company upon any change in the residence address indicated in this Agreement.

GRANTEE

By: /s/ Mike Cordonnier

Name: Mike Cordonnier

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Exhibit A

VESTING SCHEDULE

Subject to the Grantee's Continuous Service with the Company as its Chief Executive Officer and other limitations set forth in the Plan and this Agreement, the RSUs will be eligible to vest in accordance with this Exhibit A.

1.Price-Based Vesting: Following such time as the Common Stock is listed on one or more established stock exchanges or national market systems, a number of RSUs will vest on the date or dates, in each case, when the average Fair Market Value of the Company's Shares during any consecutive 90-trading day period equals or exceeds the applicable "Target Price" specified in the RSU Vesting Table below. In order for any RSUs to vest in accordance with this Section 1: (a) the applicable 90-day trading period must commence after the Common Stock is listed on one or more established stock exchanges or national market systems and must end prior to the Expiration Date and (b) the Grantee must remain employed as the Chief Executive Officer of the Company through the date such achievement is certified by the Administrator (with the date of such certification deemed the vesting date).

RSU Vesting Table

Incremental Number of RSUs Vested	Target Price*
313,815 (50%)	$7.70
313,815 (50%)	$9.62

* The Target Price shall be adjusted, as appropriate, in accordance with Section 10 of the Plan.

2.Corporate Transaction-Based Vesting: On the occurrence of a Corporate Transaction (with the date of the occurrence of a Corporate Transaction the vesting date for purposes of this Section 2), subject to the Grantee remaining employed as the Company's Chief Executive Officer through the occurrence of such Corporate Transaction:

(a)if such Corporate Transaction occurs at such time as the Common Stock is not listed on one or more established stock exchanges or national market systems (a "**Private Company Transaction**"), a number of RSUs shall vest based on the RSU Vesting Table above, if the Fair Market Value per share of the Company's Series C Preferred Stock achieved in such Corporate Transaction equals or exceeds the applicable Target Price(s) (with the Target Price measured based on such Series C Preferred Stock's Fair Market Value); and

(b)if such Corporate Transaction occurs at such time as the Common Stock is listed on one or more established stock exchanges or national market systems (a "**Public Company Transaction**"), a number of RSUs shall vest based on the RSU Vesting Table above, if the Fair

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Market Value per Share achieved in such Corporate Transaction equals or exceeds the applicable Target Price(s).

In connection with a Corporate Transaction, if the Company's Series C Preferred Stock (in the case of a Private Company Transaction) or the Shares (in the case of a Public Company Transaction) are entitled to receive any contingent or deferred amounts, including payments subject to earnouts, post-closing purchase price adjustments, escrows, offset rights, holdback terms and similar conditions, the determination of the Fair Market Value and whether any of the RSUs shall vest in connection with such Corporate Transaction shall be made by the Administrator in its sole discretion. The Administrator may determine that RSUs shall vest only at such time as the Company's Series C Preferred Stock or Shares, as applicable, receive consideration in a sufficient amount to equal or exceed the applicable Target Price(s), in which case the vesting date shall be such date as determined by the Administrator; provided, however, that any such determinations by the Administrator shall be in a manner that complies with (or ensures the RSUs remain exempt from) Code Section 409A.

3.Double-Trigger Vesting. If any RSUs do not fully vest in a Corporate Transaction, then the corresponding unvested RSUs shall be subject to Section 11 of the Plan. In addition, provided that Grantee remains Chief Executive Officer of the Company until immediately prior to the closing of such Corporate Transaction, any unvested RSUs following a Corporate Transaction that are Assumed in connection with such Corporate Transaction shall vest if the Grantee's Continuous Service is terminated by the Company (or its successor) without Cause or by the Grantee's resignation for Good Reason, in each case, that occurs during the one-year period immediately following the consummation of such Corporate Transaction but prior to the Expiration Date, subject to the Grantee executing a release of claims in favor of the Company ("**Double-Trigger Acceleration**").

For the avoidance of doubt, if either (x) the Target Price is not achieved prior to the Expiration Date or (y) except as set forth above with respect to Double-Trigger Acceleration, the Grantee's employment as the Company's Chief Executive Officer terminates for any reason (including, for the avoidance of doubt, if the Grantee's employment continues but in a role other than Chief Executive Officer), then any unvested RSUs granted hereunder shall terminate immediately without consideration.

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Exhibit 10.10

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (the "***Agreement***") is entered into effective June 24, 2025 (the "***Effective Date***"), by and between Michael Cordonnier ("***Executive***") and Carlsmed, Inc. (the "***Company***").

WHEREAS, Executive has been employed by the Company pursuant to that certain Employment Agreement, dated June 4, 2018 (the "***Original Agreement***");

WHEREAS, Executive and the Company are parties to that certain Employee Proprietary Information and Invention Assignment Agreement, dated June 4, 2018 (the "***PIIA***");

WHEREAS, Executive and the Company mutually desire to replace and supersede the Original Agreement and PIIA in their entirety and enter into an agreement containing the terms and conditions pursuant to which the Company will continue to employ Executive.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 Position. Subject to the terms set forth herein, the Company agrees to continue employing Executive in the position of President and Chief Executive Officer ("***CEO***"), and Executive hereby accepts such continued employment, for the period beginning on the Effective Date and ending upon Executive's separation of employment pursuant to Section 5 of this Agreement (the "***Employment Period***"). Executive will report to the Board of Directors of the Company (the "***Board***") and serve as a member of the Board during the Employment Period. Executive will perform such duties as are normally associated with his position and as assigned by the Board consistent with Executive's position with the Company from time to time.

1.2 Location. Executive shall perform his duties under this Agreement principally out of the Company's Carlsbad, California office. Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company or as otherwise requested by the Board.

1.3 Salary. During the Employment Period, Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $425,000, subject to review and increase by the Board (or an authorized committee thereof) in its sole discretion, and payable subject to standard federal and state payroll withholding requirements in accordance with Company's standard payroll practices ("***Base Salary***"). The Board will annually review Executive's overall compensation, including Executive's Base Salary for increases, the Annual Bonus (as defined below) and the possibility of equity-based awards. In addition, in connection with the first underwritten public offering of the Company's Common Stock under the Securities Act of 1933, as amended (the "***IPO***"), the Board will review Executive's overall compensation,

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including Executive's Base Salary, the Annual Bonus and the possibility of granting Executive equity-based awards to be effective, and contingent upon, the closing of the IPO. Any increases in Executive's Base Salary, the Annual Bonus or the grant of any equity-based awards will be in the sole discretion of the Board.

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1.4 Bonus. During the Employment Period, Executive shall be eligible to earn an annual bonus with a target amount equal to sixty percent (60%) of the Base Salary (such amount, the "***Annual Bonus***"), based on achievement of performance targets as established by the Board (or an authorized committee thereof) each year in its sole discretion. The Board (or an authorized committee thereof) will determine in its sole discretion the extent to which Executive has achieved the performance targets upon which the Annual Bonus is based and the amount of the Annual Bonus, which could be zero. The annual period over which performance is measured for purposes of this Section 1.4 is January 1 through December 31. The Board (or an authorized committee thereof) may adjust the target amount of the Annual Bonus in its sole discretion. The Annual Bonus, if any, will be paid within two-and-one-half (2½) months following the end of the applicable calendar year and shall be subject to standard federal and state payroll withholding requirements. In order to be eligible to receive an Annual Bonus, Executive must be employed by the Company through the date any bonus is paid.

2. BENEFITS; REIMBURSEMENTS.

2.1 Company Policies and Benefits. The employment relationship between the parties shall also be subject to the Company's written personnel policies and procedures that are provided or made available to Executive, as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive shall be eligible to participate in the benefits made generally available by the Company to other senior executives, in accordance with the benefit plans established by the Company, and as may be amended from time to time in the Company's sole discretion. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2.2 General Reimbursement.

(a) **General Reimbursement**. Subject to the Company's standard expense reimbursement policy, the Company will reimburse Executive for reasonable out-of-pocket business expenses he incurs in connection with his employment with the Company (including legal fees incurred in connection with the negotiation of this Agreement up to a maximum amount of $15,000), provided that Executive provides proper documentation of such expenses in accordance with the Company's policies.

(b) **409A**. For the avoidance of doubt, to the extent that any reimbursements payable to Executive pursuant to this Agreement are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended: (a) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

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3. Outside Activities. During the term of Executive's employment with the Company, and excluding periods of vacation and sick leave to which Executive is entitled, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention to the business of the Company. Notwithstanding anything to the contrary in the preceding sentence, except with the prior written consent of the Board, Executive will not, during the Employment Period, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for: (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; or (ii) such other activities as may be specifically approved by the Board (or an authorized committee thereof). This restriction shall not, however, preclude Executive from owning less than five percent (5%) of the total outstanding shares of a publicly traded company.

4. No Conflict with Existing Obligations. Executive represents that Executive's performance of all terms of this Agreement and as an executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that during the Employment Period, Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

5. Termination Of Employment. The parties acknowledge that Executive's employment relationship with the Company is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause (as defined in Section 5.2(b) below) or Good Reason (as defined in Section 5.1(h) below), as applicable. The provisions in this Section 5 govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status. Upon any termination of Executive's employment with the Company, if Executive holds any other positions with the Company or any affiliate, including Executive's position as a member of the Board, Executive shall be deemed to have automatically resigned from each such position unless otherwise agreed in writing between the Board and Executive.

5.1 Termination by the Company without Cause or Resignation by Executive for Good Reason.

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 5.1 at the times in accordance with Section 5.5 without "Cause" or Executive may resign for Good Reason by giving notice as described in Section 5.5(a)(iv) of this Agreement. A resignation without Good Reason pursuant to Section 5.3 or a termination pursuant to Section 5.4 below is not a termination without Cause for purposes of receiving the benefits described in this Section 5.1.

(b) If the Company terminates Executive's employment at any time without Cause or Executive resigns his employment with the Company for Good Reason, then Executive shall be entitled to receive the Accrued Obligations (defined in Section 5.1(e) below)

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and, if Executive complies with the obligations in Section 5.1(d) below, Executive shall also be eligible to receive the following "***Severance Benefits***":

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for eighteen (18) months, less all applicable withholdings and deductions ("***Severance***"), to be paid in equal installments over a period of eighteen (18) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date (as defined in Section 5.1(d) of this Agreement), with the first installment including any amount of the Severance that would otherwise have been due prior to the Release Effective Date.

(ii) Executive shall be eligible to receive any unpaid Annual Bonus for the year immediately preceding the year of Executive's termination, provided that such Annual Bonus would have been earned and payable pursuant to the relevant bonus criteria excluding the requirement that Executive be employed on the date of payment, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iii) Executive will be eligible to earn a pro-rated Annual Bonus, if any is earned based achievement of performance targets as established by the Board, for the year in which the termination occurs, subject to standard payroll deductions and withholdings, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iv) If Executive timely elects continued coverage under COBRA for himself and his covered dependents under the Company's group health plans following such termination, then the Company shall pay the COBRA premiums necessary to continue Executive's and his covered dependents' health insurance coverage in effect for himself (and his covered dependents) on the termination date until the earliest of: (i) eighteen (18) months following the termination date; (ii) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (i)-(iii)), (the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA premiums on Executive's behalf could result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying COBRA premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premium for such month, subject to applicable tax withholding, for the remainder of the COBRA Payment Period. Nothing in this Agreement shall deprive Executive of his rights under COBRA or ERISA for benefits under plans and policies arising under his employment by the Company.

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(c) In the event that there is a Corporate Transaction (as defined in the Carlsmed, Inc. 2019 Stock Incentive Plan (the "***Incentive Plan***")) and Executive's employment is terminated by the Company without Cause or Executive resigns his employment with the Company for Good Reason, in each case in connection with or within the three (3) month period immediately prior to the Corporate Transaction or the twelve (12) month period on and immediately following the Corporate Transaction, then Executive shall be entitled to receive the Accrued Obligations and, provided that Executive complies with the obligations in Section 5.1(d) below, in addition to the other Severance Benefits described in Section 5.1(b), (i) all unvested time-based vesting equity awards held by Executive that were granted under the Incentive Plan or such similar equity incentive plan as may be adopted by the Company from time to time, and are outstanding at the time of the termination of employment shall accelerate and vest as of such termination of employment (the "***Accelerated Vesting***"), and (ii) an additional amount reflecting Executive's target Annual Bonus for a period of eighteen (18) months calculated by multiplying Executive's target Annual Bonus amount by 1.5, to be paid in equal installments over a period of eighteen (18) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date. For the avoidance of doubt, the Accelerated Vesting will only apply to accelerate the vesting of any time-based vesting conditions that lapse solely based on Executive's continued employment or service with the Company and shall not apply to any performance-based vesting conditions.

(d) Executive will be paid all of the Accrued Obligations, as defined below, on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Severance Benefits and the Accelerated Vesting pursuant to Section 5.1(b) and Section 5.1(c) of this Agreement, respectively, if: (i) by the 60th day following the date of Executive's termination of employment from the Company, he has signed and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form attached hereto as **Exhibit A** (the "***Release***"), which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); and (ii) if he holds any other positions with the Company or any affiliate, including a position on the Board, he resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) he returns all Company property; (iv) he complies in all material respects with all post-termination obligations under this Agreement; and (v) he complies in all material respects with the terms of the Release, including without limitation the non-disparagement and confidentiality provisions contained in the Release. To the extent that any severance payments are deferred compensation under Section 409A of the Code, and are not otherwise exempt from the application of Section 409A, then, if the period during which Executive may consider and sign the Release spans two (2) calendar years, the payment of Severance will not be made or begin until the later calendar year.

(e) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid Base Salary through the date of termination, (ii) accrued but unpaid vacation, (iii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iv) benefits owed to Executive

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under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(f) The Severance Benefits provided to Executive pursuant to this Section 5.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(g) Any damages caused by the termination of Executive's employment without Cause would be difficult to ascertain; therefore, the Severance Benefits for which Executive is eligible pursuant to Section 5.1(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full and exclusive compensation with respect to such termination, and not a penalty.

(h) For purposes of this Agreement, "***Good Reason***" shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary or target Annual Bonus opportunity unless such reduction applies to all similarly situated executives across the board; (ii) a material reduction in Executive's duties, authority, reporting structure, responsibilities, or title relative to Executive's duties, authority, reporting structure, responsibilities, or title in effect immediately prior to such reduction, *provided, however*, that the acquisition of the Company and subsequent conversion of the Company to a subsidiary division or unit of the acquiring company will not by itself, or coupled with any related change in Executive's title and/or reporting structure, constitute Good Reason; (iii) Executive no longer being a member of the Board, or (iv) the relocation of Executive's principal place of employment in a manner that lengthens his one-way commute distance by thirty (30) or more miles from his then-current principal place of employment immediately prior to such relocation. Any such resignation by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of his intent to resign for Good Reason within thirty (30) days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***"); (3) the Company has not, prior to receiving such notice from Executive, already informed Executive that his employment with the Company is being terminated; and (4) Executive voluntarily resigns his employment within thirty (30) days following the end of the Cure Period.

5.2 Termination by the Company for Cause.

(a) The Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 5.5 of this Agreement.

(b) "***Cause***" for termination shall mean that the Board has determined that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement, or any other agreement between the parties; (ii) any willful conduct which would be reasonably likely to bring the Company into substantial public disgrace or disrepute; (iii) the commission of a felony under applicable law or a crime of moral turpitude; (iv) material violation of any written Company policy applicable to Executive that causes material economic or reputational harm to the Company; (v) material and repeated refusal to follow or implement a clear, lawful, and reasonable directive of the Board that is within the scope of

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Executive's duties and responsibilities; (vi) gross negligence or willful and material incompetence in the performance of Executive's duties that causes material economic or reputational harm to the Company (as determined by the Board in its good-faith discretion); or (vii) material breach of fiduciary duty. Notwithstanding the foregoing, no act or failure to act shall constitute Cause under the immediately preceding clauses (i), (ii), (iv), (v) or (vi) unless and until the Board has delivered written notice to Executive specifying the act or failure to act providing the basis for a Cause termination and, if such act or failure to act is reasonably suspectable to cure, affords Executive fifteen (15) days to cure such act or failure to act.

(c) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.3 Resignation by Executive.

(a) Executive may resign from Executive's employment with the Company at any time by giving the notice as described in Section 5.5.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.4 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive's legal representatives Executive's Accrued Obligations.

(b) Subject to Section 5.5(a)(iii) and applicable state and federal law, the Company shall at all times have the right, upon written notice to Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on "***Disability***" shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of his position with or without reasonable accommodation for one hundred and twenty (120) days consecutively or six (6) months in the aggregate during any twelve (12) month period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

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5.5 Notice; Effective Date of Termination.

(a) Termination of Executive's employment pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 5.2(b)(i), (ii), (iv), (v), or (vi) in which case fifteen (15) days after notice if not cured or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) ten (10) days after the Company gives notice to Executive of Executive's termination on account of Executive's Disability, unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(iv) ten (10) days after Executive gives written notice to the Company of Executive's resignation without Good Reason or such later date agreed upon by Executive and the Company, *provided* that the Company may set a termination date at any time between the date of notice and the date of resignation, in which case Executive's resignation shall be effective as of such other date (Executive will receive compensation through any required notice period); or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 5.1(h).

5.6 Section 409A. It is intended that the terms of this Agreement comply with Section 409A of the Code and related Treasury regulations ("***Section 409A***") or an exemption therefrom, and the terms of this Agreement will be interpreted accordingly; provided, however, that the Company, the Company's affiliates, and their respective employees, officers, directors, agents and representatives (including, without limitation, legal counsel) will not have any liability to Executive with respect to any taxes, penalties, interest or other costs or expenses Executive or any related party may incur with respect to or as a result of Section 409A or for damages for failing to comply with Section 409A. Notwithstanding any provision to the contrary in this Agreement, with respect to any amounts under this Agreement that are determined to be deferred compensation for purposes of Section 409A and payable as a result of Executive's termination of employment, Executive shall not be deemed to have terminated employment unless and until she has experienced a "separation from service" (as that term is used in Section 409A). Each amount to be paid or benefit to be provided under this Agreement shall be construed as a separate and distinct payment for purposes of Section 409A. Any reimbursements or in-kind benefits provided to or for the benefit of Executive that constitute deferred compensation for purposes of Section 409A shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv). Accordingly, (a) all such reimbursements will be made not later than the last day of the calendar year after the calendar year in which the expenses were incurred, (b) any right to such reimbursements or in-kind benefits will not be subject to liquidation or exchange for another benefit, and (c) the amount of the expenses eligible for reimbursement, or the amount of any in-kind benefit

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provided, during any taxable year will not affect the amount of expenses eligible for reimbursement, or the in-kind benefits provided, in any other taxable year. Notwithstanding any

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provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of Executive's "separation from service" to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i), and if any of the payments upon "separation from service" set forth herein and/or under any other agreement with the Company are deemed to be "nonqualified deferred compensation" under Section 409A, then to the extent delayed commencement of any portion of such payments is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, such payments shall not be provided to Executive prior to the earliest of (i) the first date following expiration of the six-month period following the date of Executive's "separation from service" with the Company, (ii) the date of Executive's death or (iii) such earlier date as permitted under Section 409A without the imposition of adverse taxation. Upon the first business day following the expiration of such applicable Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section shall be paid in a lump sum to Executive, and any remaining payments due shall be paid as otherwise provided herein or in the applicable agreement. No interest shall be due on any amounts so deferred.

5.7 Section 280G. On and after the date on which the Company's stock becomes publicly traded on an established securities market or otherwise, if any of the payments or benefits that Executive has received or that Executive may receive (whether pursuant to the terms of this Agreement or any other plan, arrangement or agreement, or otherwise) (all such payments and benefits collectively referred to herein as the "***280G Payments***") constitute "parachute payments" within the meaning of Section 280G of the Code and would, but for this Section 5.7, be subject to the excise tax imposed under Section 4999 of the Code (the "***Excise Tax***"), then prior to making the 280G Payments, a calculation shall be made comparing (i) the Net Benefit (as defined below) to Executive of the 280G Payments after payment of the Excise Tax to (ii) the Net Benefit to Executive if the 280G Payments are limited to the extent necessary to avoid being subject to the Excise Tax. Only if the amount calculated under clause (i) above is less than the amount under clause (ii) above shall the 280G Payments be reduced to the minimum extent necessary to ensure that no portion of the 280G Payments is subject to the Excise Tax. "***Net Benefit***" shall mean the value of the 280G Payments net of all federal, state, local, foreign income, employment, and excise taxes. Any reduction made pursuant to this Section 5.7 shall be made in a manner that results in the greatest economic benefit to Executive, as determined by the Company, and that is consistent with the requirements of Section 409A.

6. INDEMNIFICATION. Executive shall be entitled to the indemnification protections under, and subject to the terms and conditions of, that certain Indemnification Agreement, dated as of December 15, 2020, as amended, modified or restated from time to time (the "***Indemnification Agreement***").

7. RESTRICTIVE COVENANTS. Executive acknowledges and agrees that this Section 7 shall replace and supersede the PIIA in its entirety.

7.1 Confidential Information. Executive agrees and covenants to treat all Confidential Information (as defined below) as strictly confidential and not to (except as required within the scope and performance of Executive's authorized employment and duties to the Company or any of the Company's affiliates), directly or indirectly: (a) disclose, publish, communicate, or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any entity or person whatsoever not having

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a need to know and authority to know and use the Confidential Information in connection with the business of the Company; and (b) access or use any Confidential Information, or copy or reproduce any Confidential Information, or remove any such Confidential Information from the premises or control of the Company. Executive agrees to report any unauthorized disclosure or use of Confidential Information to the Company promptly upon gaining knowledge of such unauthorized disclosure or use. Executive understands that "***Confidential Information***" means all information (in spoken, printed, electronic, or any other form or medium), whether disclosed to or learned or developed by Executive before or after the execution of this Agreement, that is not generally known to the public and that is owned, used, developed, or obtained by the Company or any of the Company's affiliates in connection with its business, including, but not limited to information relating to business processes, practices, methods, policies, plans, publications, documents, research, operations, services, strategies, techniques, agreements, contracts, transactions, potential transactions, negotiations, pending negotiations, know-how, trade secrets, computer programs, software, and applications, web design, work-in-process, technologies, databases, compilations, device configurations, manuals, records, articles, systems, supplier information, vendor information, financial information, results, accounting information, legal information, marketing information, advertising information, track record, employee lists, supplier lists, vendor lists, developments, reports, graphics, drawings, market studies, sales information, revenue, costs, formulae, communications, product plans, designs, inventions, unpublished patent applications, original works of authorship, discoveries, experimental processes, experimental results, specifications, and customer and client information and lists. Confidential Information includes information that any third-party has entrusted to the Company in confidence. Confidential Information shall not include any portion of such information that Executive can demonstrate by tangible evidence: (i) was generally available to and known by the public at the time of disclosure to Executive (provided that the disclosure is through no direct or indirect fault of Executive or persons acting on Executive's behalf); (ii) was rightfully in Executive's possession prior to commencing employment with the Company; (iii) was disclosed to Executive without a confidential restriction by a third-party who, to Executive's knowledge, rightfully possesses the information and did not obtain it, either directly or indirectly, from the Company; or (iv) was lawfully and independently developed by Executive without reference to and/or use of the Confidential Information and without violation of this Agreement. Confidential Information shall not be deemed to have been published merely because individual portions of the information have been separately published, but only if all material features comprising such information have been published. Nothing in this Section shall interfere with or impede Executive's rights under section 7 of the National Labor Relations Act, including the right to engage in concerted activity. Executive shall cooperate with Company representatives and allow such representatives to oversee the process of erasing and/or permanently removing any such Confidential Information or other property of the Company from any computer, personal digital assistant, phone, or other electronic device, or any cloud-based storage account or other electronic medium owned or controlled by Executive.

7.2 Company Ownership of Work Product.

(a) Work Made for Hire; Assignment. Executive hereby acknowledges and agrees that all deliverables, documentation, ideas, concepts, discoveries, inventions (whether or not protectable under patent laws), developments, modifications, know-how, information, results, data, databases, schematics, drawings, processes, algorithms, software, content, products, prototypes, systems, applications, other work product, technology, and Intellectual Property (as

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defined below), and all printed, physical, electronic, and other tangible embodiments thereof, and all rights and claims related to any of the foregoing (whether before or hereafter accrued), that are authored, conceived, developed, fabricated, made, reduced to practice, modified, or improved by Executive (either solely or jointly with others) (i) for the Company; (ii) during the course of, or as a result of, Executive's employment or engagement by the Company or its predecessors, whether before or after the execution of this Agreement; (iii) based on or derived from use of Confidential Information; or (iv) that relate in any manner to any of the Company's actual or proposed businesses, products, services, research, or development (collectively, "***Work Product***"), is a "work made for hire" that is owned exclusively (including, for the avoidance of doubt, all copyrights therein) by the Company or any of the Company's affiliates pursuant to the United States Copyright Act (17 U.S.C., Section 101) (as a result of which the Company shall be the author). To the extent that any Work Product is deemed not to be a "work made for hire" or is not a copyrightable work or that patents, trade secrets, or other Intellectual Property is embodied therein, Executive hereby irrevocably and perpetually assigns, transfers, grants and conveys to the Company or one of the Company's affiliates (as applicable), for no additional consideration, all right, title, and interest in and to any such Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(b) Executive understands that "***Intellectual Property***" means all intellectual and industrial property (in any form or medium), together with all rights, title and interests therein, in all jurisdictions throughout the world, including all of the following: (i) utility and design patents, patent applications and patent disclosures and registrations and applications for registration of industrial design rights (whether or not patentable or reduced to practice or including Confidential Information); (ii) trade secrets and other confidential information, inventions, industrial designs, modifications, methods, processes, and improvements; (iii) trademarks, service marks, trade dress, trade names, corporate names, logos and slogans (and all translations, adaptations, derivations and combinations of the foregoing), other indicia of source or origin, and Internet domain names, together with all goodwill associated with any of the foregoing; (iv) rights in computer software, including source code, executable code, firmware, systems, tools, data, databases, and other collections of data, and all information and documentation related to any of the foregoing; (v) other works of authorship, copyrights, and copyrightable works, including derivative works; and (vi) registrations, renewals, and applications for registration or renewal of any of the foregoing (i) through (v). Executive understands that in accordance with Section 2870(a) of the California Civil Code, any provision in this Agreement which provides that Executive shall assign, or offer to assign, any of his rights in an invention to the Company shall not apply to an invention that Executive developed entirely on his own time without using the Company's equipment, supplies, facilities, or trade secret information, except for those inventions that either: (1) relate at the time of conception or use to the Company's business, or actual or demonstrably anticipated research or development of the Company; or (2) result from any work Executive performs for the Company. All Intellectual Property that falls within the scope of Section 2870(a) of the California Civil Code shall be excluded from the assignment in Section 7.2(a).

(c) License. If, under applicable law notwithstanding the foregoing, Executive retains any right, title or interest (including any right, title or interest to Intellectual Property) with respect to any Work Product, Executive hereby grants and agrees to grant to the Company, without any limitations or additional remuneration, an exclusive, perpetual, irrevocable, transferable, worldwide, royalty-free license, with the right to sublicense (through multiple tiers

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of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit such Work Product and Executive agrees not to make any claim against the Company or its affiliates, suppliers or customers with respect to such Work Product.

(d) Records; Disclosure. Executive agrees to keep and maintain adequate and current written records regarding all inventions made, conceived, discovered or developed by Executive (either alone or jointly with others) during Executive's period of employment or after the termination of Executive's employment if based on or using Confidential Information or otherwise in connection with Executive's activities as an employee of the Company. Executive agrees to make available such records and disclose promptly and fully in writing to the Company all such inventions, regardless of whether Executive believes the invention is Work Product subject to this Section 7 or qualifies fully under the provisions of Section 2870(a) of the California Labor Code, and the Company will examine such disclosure in confidence to make such determination. Any such records related to Work Product shall be the sole property of the Company.

(e) Assistance and Cooperation. Executive agrees to cooperate with and assist the Company, and perform, during and after Executive's employment, all acts deemed necessary or desirable by the Company, to apply for, obtain, establish, perfect, maintain, evidence, enforce or otherwise protect any of the full benefits, enjoyment, right, title and interest throughout the world in the Work Product, in each case at the Company's expense. Such acts may include, but are not limited to execution of assignments of title and other documents and assistance or cooperation in legal proceedings. Should the Company be unable to secure Executive's signature on any such document, whether due to Executive's mental or physical incapacity or any other cause, Executive hereby irrevocably designates and appoints the Company and each of its duly authorized representatives as Executive's agent and attorney-in-fact, with full power of substitution and delegation, to undertake such acts in Executive's name as if executed and delivered by Executive (which appointment is coupled with an interest), and Executive waives and quitclaims to the Company any and all claims of any nature whatsoever that Executive may have or may later have for infringement of any rights to Intellectual Property in or to the Work Product.

(f) Moral Rights. Executive hereby irrevocably waives, and agrees not to assert against the Company (including any successor in interest), to the extent permitted by applicable law, any and all claims Executive may now or hereafter have in any jurisdiction to all rights of paternity, integrity, disclosure, withdrawal and any other rights that may be known as "moral rights" with respect to all Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(g) Duty to Disclosure Work Product. Executive shall promptly and fully communicate to the Company all Intellectual Property and/or Work Product as reasonably practicable under the circumstances and, in any event, whenever requested by the Company.

(h) Executive's Prior Inventions and Third-Party Materials. Executive has identified and listed on **Exhibit B** attached hereto, a complete list of all Intellectual Property that Executive authored, conceived, developed, reduced to practice, modified, or improved (either solely or jointly with

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others) prior to the Effective Date that has not been legally assigned or licensed to the Company (collectively, "***Prior Inventions***"). If no Prior Inventions are listed on

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Exhibit B, Executive represents and warrants that Executive has no Prior Inventions to disclose. If Executive incorporates or causes to be incorporated into any Work Product, or otherwise exploits therewith, any Prior Inventions, then the Company shall own all such Prior Inventions, and Executive hereby assigns all right, title, and interest in such Prior Inventions to the Company. Executive hereby grants to the Company a non-exclusive, perpetual, irrevocable, transferable, worldwide, fully-paid license, with the right to sublicense (through multiple tiers of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit any Prior Inventions that are incorporated into any Work Product, but that are not assigned to the Company pursuant to the preceding sentence. The Company shall own all right, title and interest in and to any derivative works of, or improvements, enhancements or updates to, the Prior Inventions made by or on behalf of the Company pursuant to the license granted herein.

(i) Representations; Warranties and Covenants. Executive represents, warrants and covenants that: (i) Executive has the right to grant the rights and assignments granted herein, without the need for any assignments, releases, consents, approvals, immunities or other rights not yet obtained; (ii) any Work Product that is a copyrightable work is Executive's original work of authorship; and (iii) neither the Work Product nor any element thereof are subject to any restrictions or to any mortgages, liens, pledges, security interests, encumbrances or encroachments.

(j) Adequate Consideration. Executive acknowledges that the Work Product may have substantial economic value and that all proceeds resulting from use and exploitation thereof shall belong solely to the Company. In addition, Executive acknowledges that the salary, equity incentives and/or other compensation Executive receives from the Company for Executive's employment or continued employment with the Company, and Executive's access to the Company's Confidential Information, constitutes fair and adequate consideration for all assignments, licenses and waivers hereunder.

7.3 Non-Competition. During the Employment Period, Executive shall not, and shall cause Executive's affiliates not to, directly or indirectly, own any interest in, manage, operate, control, be employed or engaged by (whether or not for compensation), render services or advice to, or lend Executive's name to, or any take any preparatory steps to engage in any of the foregoing with, any person or entity who or which is engaging or preparing to engage in any business activity that is competitive with the Company's business, provided, however, that Executive shall be permitted to own less than five percent (5%) of any class of securities of any corporation in competition with the Company that is traded on a national securities exchange (as long as Executive does not participate in the business activities of such entity).

7.4 Non-Solicitation of the Company's Customers or Potential Customers. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any customer or potential customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any customer or potential customer for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential

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Information of the Company or any of the Company's affiliates to solicit any customer or potential customer.

7.5 Non-Solicitation of the Company's Business Relations. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, in each case, other than for or on behalf of the Company or its affiliates.

7.6 Non-Solicitation of the Company's Employees or Contractors. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce, or encourage (or participate in or attempt to solicit, induce, or encourage) any employee, consultant or independent contractor of the Company to terminate his or her relationship with the Company or any of the Company's affiliates or otherwise diminish his or her relationship with the Company or any of the Company's affiliates (other than for or on behalf of the Company or its affiliates); or (b) solicit, induce, encourage, or hire (or participate in or attempt to solicit, induce, encourage, or hire) any employee, consultant or independent contractor of the Company for purposes of rendering services that are competitive to the Company or any of the Company's affiliates.

7.7 Duty of Loyalty. Executive acknowledges and agrees that, during the Employment Period, Executive shall owe a fiduciary duty of loyalty to act at all times in the best interests of the Company and any of the Company's affiliates. In keeping with such duty, during Executive's employment, Executive shall fully disclose to the Company all business opportunities pertaining to the Company's business or the business of any of the Company's affiliates and shall not appropriate for Executive's own benefit or the benefit of another business opportunities concerning the Company's business or the business of any of the Company's affiliates.

7.8 Non-Disparagement. Executive hereby agrees and covenants that Executive shall not at any time make, publish, or communicate to any person or entity or in any public forum any defamatory, maliciously false, or disparaging remarks, comments, or statements concerning the Company, any of the Company's affiliates, or any of their employees, officers, directors, shareholders (or any of such shareholders' affiliates), or lenders. Nothing in this Section or this Agreement restricts or impedes either party from complying with any applicable law or regulation or a valid order of a court of competent jurisdiction or an authorized government agency, provided that such compliance does not exceed that required by the law, regulation, or order.

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7.9 Cooperation. The parties agree that certain matters in which Executive have been involved during Executive's employment or engagement may need Executive's cooperation with the Company or any of the Company's affiliates in the future. In consideration for the Severance Benefits and other consideration in this Agreement, during the Employment Period and thereafter, Executive agrees upon the Company's request to cooperate with the Company or any of the Company's affiliates in any pending or future matters arising out of or related to Executive's service to the Company or any of the Company's affiliates, including, but not limited to, any business transactions, business relationships, litigation, investigation or other dispute, in which Executive have knowledge or information, and including execution and delivery of any documents or other information reasonably requested to effect or register Executive's removal from positions as a director or officer of members of the Company or any of the Company's affiliates; provided that the Company shall make reasonable efforts to minimize disruption of Executive's other activities and shall reimburse Executive for reasonable expenses incurred in connection with this cooperation. In addition, the Company will pay Executive $500 per hour for Executive's time spent satisfying Executive's obligations pursuant to this Section 7.9 for any period of time Severance Benefits are not being paid to Executive (but excluding any period during which the Release is under review by Executive).

7.10 Permitted Disclosures. Nothing in this Agreement or any other agreement between the parties or any other policies of the Company prohibits or restricts any person or entity from: (a) making any disclosure of relevant and necessary information or documents in any action, investigation, or proceeding as required by law or legal process, including with respect to possible violations of law; (b) participating, cooperating, or testifying in any action, investigation, or proceeding with, or providing information to, any governmental agency or legislative body, any self-regulatory organization, and/or pursuant to the Sarbanes-Oxley Act; (c) accepting any U.S. Securities and Exchange Commission awards; or (d) initiating communications with, or responding to any inquiry from, any regulatory or supervisory authority regarding any good-faith concerns about possible violations of law or regulation. Nothing in this Agreement prevents Executive from discussing or disclosing information about unlawful acts in the workplace, such as harassment or discrimination or any other conduct that Executive has reason to believe is unlawful. Pursuant to 18 U.S.C. § 1833(b), Executive will not be held criminally or civilly liable under any Federal or state trade secret law for the disclosure of a trade secret of the Company that (i) is made (1) in confidence to a Federal, state, or local government official, either directly or indirectly, or to Executive's attorney and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. If Executive files a lawsuit for retaliation by the Company for reporting a suspected violation of law, Executive may disclose the trade secret to Executive's attorney and use the trade secret information in the court proceeding, if Executive files any document containing the trade secret under seal, and does not disclose the trade secret, except pursuant to court order.

7.11 Injunctive Relief; Remedies; Indemnification. Executive agrees that, due to the nature of the business of the Company, the restrictions set forth in this Agreement are reasonable as to time, geography and scope. Executive agrees that the obligations set forth in this Agreement are necessary and reasonable to protect the Company's legitimate business interests, Confidential Information, trade secrets, customer and employee relationships and the goodwill associated therewith. Executive agrees that the Company would suffer irreparable harm and continuing damage for which money damages would be

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insufficient if Executive were to breach, or threaten to breach, any of the restrictions in Section 7 of this Agreement. Executive furthermore

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agrees that the Company would by reason of such breach, or threatened breach, be entitled to an injunction, a decree for specific performance, or other equitable relief in a court of appropriate jurisdiction and all other relief as may be proper (including money damages if appropriate), to the extent permitted by law, without the need to post any bond. Executive further consents and stipulates to the entry of such injunctive relief in such a court prohibiting Executive from breaching the terms of any provision in Section 7 of this Agreement. Section 7 of this Agreement shall not diminish the right of the Company to claim and recover damages and other appropriate relief in addition to injunctive relief.

7.12 Third-Party Information. Executive agrees that the Company does not desire to acquire from Executive any intellectual property, trade secrets, know-how, or confidential business information that Executive may have acquired from others. Executive agrees not to disclose or use any such information in connection with Executive's employment or engagement with the Company in violation of any obligations to others. Executive represents Executive is not bound by any agreement or restriction that conflicts with or prevents the full performance of Executive's duties and obligations to the Company.

7.13 Termination; Return of Materials. In the event of the termination of Executive's employment or upon the earlier request of the Company, Executive agrees to promptly return all property of the Company, including, without limitation, (a) all source code, manuals, records, models, drawings, reports, notes, contracts, lists, blueprints, and other documents or materials and all copies thereof, (b) all equipment furnished to or prepared by Executive in the course of or incident to Executive's employment, and (c) all written or tangible materials containing Confidential Information or information pertaining to any Work Product. Executive understands that Executive's obligations contained in this Section 7 will survive the termination of Executive's employment and Executive will continue to make all disclosures required of Executive by Section 7.2(e) above. In the event of the termination of Executive's employment, Executive agrees, if requested by the Company, to sign and deliver the Termination Certificate, attached as **Exhibit C** hereto. Executive agrees that after the termination of Executive's employment, Executive will not enter into any agreement that conflicts with Executive's obligations under this Section 7 and will inform any subsequent employers of Executive's obligations under this Section 7. The termination of any employment or other agreement between the Company and Executive shall not terminate this Section 7 and each and all of the terms and conditions hereof shall survive and remain in full force and effect.

7.14 Severability; Reformation. In the event that any one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall remain fully effective. If any one or more of the provisions contained in this Agreement is held to be excessively broad in scope or duration, if permitted by applicable law, such provisions shall be construed by modifying them so as to be enforceable to the maximum extent allowed by applicable law. A determination in any jurisdiction that this Agreement, in whole or in part, is invalid, illegal or unenforceable shall not in any way affect or impair the validity, legality or enforceability of this Agreement in any other jurisdiction.

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8. General Provisions.

8.1 Notices. Any notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. Such notices, demands and other communications shall be sent to the parties at the addresses indicated below:

If to the Company:

Carlsmed, Inc.
Attention: Board of Directors
1800 Aston Ave.
Suite 100
Carlsbad, CA 92008

With copies to (which shall not constitute notice):

Morrison & Foerster LLP
Attention: James Krenn
12531 High Bluff Drive, Suite 200
San Diego, CA 92130
[***]

If to Executive:

Michael Cordonnier
[***]

With copies to (which shall not constitute notice):

Matthew T. Shiels
Shiels PLLC
300 Park Avenue, Suite 1201
New York, NY 10022
[***]

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party.

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8.2 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or the Company shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

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8.3 Complete Agreement. This Agreement, including **Exhibits A, B and C**, together with the Indemnification Agreement, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company and approved by the Board. The parties may have entered into other agreements, which govern other aspects of the relationship between the parties, and may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

8.4 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

8.5 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

8.6 Successors and Assigns. The Company may assign this Agreement to any successor or assign (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company. This Agreement shall inure to the benefit of the Company and permitted successors and assigns. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to his estate upon his death.

8.7 Advice of Counsel. EXECUTIVE ACKNOWLEDGES THAT, IN EXECUTING THIS AGREEMENT, EXECUTIVE HAS HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND HAS READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

8.8 Tax Withholding. The Company and its subsidiaries shall be entitled to deduct or withhold from any amounts owing from the Company or any of its subsidiaries to Executive (including withholding shares or other equity securities in the case of issuances of equity by the Company or its subsidiaries) any federal, state, local or foreign withholding taxes, excise taxes, or employment taxes ("***Taxes***") imposed with respect to Executive's compensation or other payments from the Company or its subsidiaries, including wages, bonuses, distributions, the receipt or exercise of equity options and/or the receipt or vesting of restricted equity. In the event any such deductions or withholdings are not made, Executive shall indemnify the Company and its subsidiaries for any amounts paid with respect to any such Taxes, together with any interest, penalties and related expenses thereto; provided, that, Executive shall not be obligated to indemnify the Company pursuant to this Section 8.8 for such interest, penalties or related expenses

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which are directly caused by the failure of the Company to take necessary action with respect to such deductions and withholdings as it is required by law to take.

8.9 Termination. This Agreement (except for the provisions of Sections 1, 2, and 3) shall survive the termination of Executive's employment or engagement with the Company and shall remain in full force and effect after such termination.

8.10 Clawback. To the extent required by applicable law or any applicable securities exchange listing standards, or as otherwise determined by the Board (or a committee thereof), amounts paid or payable under this Agreement shall be subject to the provisions of any applicable clawback policies or procedures adopted by the Company or any of the Company's affiliates or subsidiaries, which clawback policies or procedures may provide for forfeiture and/or recoupment of amounts paid or payable under this Agreement. Notwithstanding any provision of this Agreement to the contrary, each of the Company or any of the Company's affiliates or subsidiaries reserves the right, without the consent of Executive, to adopt any such clawback policies and procedures, including such policies and procedures applicable to this Agreement with retroactive effect; provided, however, that such clawback policies and procedures shall not apply to compensation paid prior to the Employment Period.

8.11 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California without regard to conflicts of law principles.

8.12 Resolution of Disputes. Except for injunctive actions pursuant to Section 7.11 of this Agreement or any disputes or claims involving sexual assault and/or sexual harassment as defined by title 9 of the United States Code arising on or after March 3, 2022, the parties agree that any dispute between the parties arising out of or relating to the negotiation, execution, performance or termination of this Agreement or Executive's employment or relationship with the Company or its affiliates, including, but not limited to, any claim arising out of this Agreement, claims under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, Section 1981 of the Civil Rights Act of 1966, as amended, the Family Medical Leave Act, the Employee Retirement Income Security Act, and any similar federal, state or local law, statute, regulation, or any common law doctrine, whether that dispute arises during or after employment, shall be settled by binding arbitration in accordance with the National Rules for the Resolution of Employment Disputes of the American Arbitration Association. The location for the arbitration shall be the Carlsbad, California metropolitan region. Any award made in such arbitration shall be final, binding and conclusive on the parties for all purposes, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The arbitrators' fees and expenses and all administrative fees and expenses associated with the filing of the arbitration shall be borne by the Company; *provided however*, that at Executive's option, Executive may voluntarily pay up to one-half the costs and fees. The parties acknowledge and agree that their obligations to arbitrate under this Section survive the termination of this Agreement and continue after the termination of the employment relationship between Executive and the Company. The parties each further agree that the arbitration provisions of this Agreement shall provide each party with its exclusive remedy, and each party expressly waives any right it might have to seek redress in any other forum,

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except as otherwise expressly provided in this Agreement. By electing arbitration as the means for final settlement of all claims, the parties hereby waive

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their respective rights to, and agree not to, sue each other in any action in a Federal, State or local court with respect to such claims, but may seek to enforce in court an arbitration award rendered pursuant to this Agreement or to pursue injunctive relief in aid of arbitration.

[Remainder of Page Left Intentionally Blank]

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In Witness Whereof, the parties have executed this Agreement effective as of the Effective Date.

Carlsmed, Inc.

By: /s/ Niall Casey

Name: Niall Casey

Title: Secretary

Executive

/s/ Michael Cordonnier

Michael Cordonnier

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Exhibit A

Release

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EXHIBIT B

Prior Inventions

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Exhibit C

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Exhibit 10.11

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (the "***Agreement***") is entered into effective June 24, 2025 (the "***Effective Date***"), by and between Leonard Greenstein ("***Executive***") and Carlsmed, Inc. (the "***Company***").

WHEREAS, Executive has been employed by the Company pursuant to that certain Employment Agreement, dated August 2, 2023 (the "***Offer of Employment***");

WHEREAS, Executive and the Company are parties to that certain Employee Proprietary Information and Invention Assignment Agreement, dated August 3, 2023 (the "***PIIA***");

WHEREAS, Executive and the Company mutually desire to replace and supersede the Offer of Employment and PIIA in their entirety and enter into an agreement containing the terms and conditions pursuant to which the Company will continue to employ Executive.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 Position. Subject to the terms set forth herein, the Company agrees to continue employing Executive in the position of Chief Financial Officer and Treasurer, and Executive hereby accepts such continued employment, for the period beginning on the Effective Date and ending upon Executive's separation of employment pursuant to Section 5 of this Agreement (the "***Employment Period***"). Executive will report to the Chief Executive Officer ("***CEO***") of the Company during the Employment Period. Executive will perform such duties as are normally associated with his position and as assigned by the CEO and the Company's Board of Directors (the "***Board***"), consistent with Executive's position with the Company from time to time.

1.2 Location. Executive shall perform his duties under this Agreement principally out of the Company's Carlsbad, California office. Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company or as otherwise requested by the CEO or the Board.

1.3 Salary. During the Employment Period, Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $360,000, subject to review and increase by the Board (or an authorized committee thereof) in its sole discretion, and payable subject to standard federal and state payroll withholding requirements in accordance with Company's standard payroll practices ("***Base Salary***"). The Board will annually review Executive's overall compensation, including Executive's Base Salary for increases, the Annual Bonus (as defined below) and the possibility of equity-based awards. In addition, in connection with the first underwritten public offering of the Company's Common Stock under the Securities Act of 1933, as amended (the "***IPO***"), the Board will review Executive's overall compensation,

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including Executive's Base Salary, the Annual Bonus and the possibility of granting Executive equity-based awards to be effective, and contingent upon, the closing of the IPO. Any increases in Executive's Base Salary, the Annual Bonus or the grant of any equity-based awards will be in the sole discretion of the Board.

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1.4 Bonus. During the Employment Period, Executive shall be eligible to earn an annual bonus with a target amount equal to forty percent (40%) of the Base Salary (such amount, the "***Annual Bonus***"), based on achievement of performance targets as established by the Board (or an authorized committee thereof) each year in its sole discretion. The Board (or an authorized committee thereof) will determine in its sole discretion the extent to which Executive has achieved the performance targets upon which the Annual Bonus is based and the amount of the Annual Bonus, which could be zero. The annual period over which performance is measured for purposes of this Section 1.4 is January 1 through December 31. The Board (or an authorized committee thereof) may adjust the target amount of the Annual Bonus in its sole discretion. The Annual Bonus, if any, will be paid within two-and-one-half (2½) months following the end of the applicable calendar year and shall be subject to standard federal and state payroll withholding requirements. In order to be eligible to receive an Annual Bonus, Executive must be employed by the Company through the date any bonus is paid.

2. BENEFITS; REIMBURSEMENTS.

2.1 Company Policies and Benefits. The employment relationship between the parties shall also be subject to the Company's written personnel policies and procedures that are provided or made available to Executive, as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive shall be eligible to participate in the benefits made generally available by the Company to other senior executives, in accordance with the benefit plans established by the Company, and as may be amended from time to time in the Company's sole discretion. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2.2 General Reimbursement.

(a) **General Reimbursement**. Subject to the Company's standard expense reimbursement policy, the Company will reimburse Executive for reasonable out-of-pocket business expenses he incurs in connection with his employment with the Company, provided that Executive provides proper documentation of such expenses in accordance with the Company's policies.

(b) **409A**. For the avoidance of doubt, to the extent that any reimbursements payable to Executive pursuant to this Agreement are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended: (a) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

3. OUTSIDE ACTIVITIES. During the term of Executive's employment with the Company, and excluding periods of vacation and sick leave to which Executive is entitled, Executive will devote Executive's best efforts and substantially all of Executive's business time

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and attention to the business of the Company. Notwithstanding anything to the contrary in the preceding sentence, except with the prior written consent of the Board, Executive will not, during the Employment Period, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for: (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; or (ii) such other activities as may be specifically approved by the Board (or an authorized committee thereof). This restriction shall not, however, preclude Executive from owning less than five percent (5%) of the total outstanding shares of a publicly traded company.

4. No Conflict with Existing Obligations. Executive represents that Executive's performance of all terms of this Agreement and as an executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that during the Employment Period, Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

5. Termination Of Employment. The parties acknowledge that Executive's employment relationship with the Company is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause (as defined in Section 5.2(b) below) or Good Reason (as defined in Section 5.1(h) below), as applicable. The provisions in this Section 5 govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status. Upon any termination of Executive's employment with the Company, if Executive holds any other positions with the Company or any affiliate, including Executive's position as a member of the Board (if applicable), Executive shall be deemed to have automatically resigned from each such position unless otherwise agreed in writing between the Board and Executive.

5.1 Termination by the Company without Cause or Resignation by Executive for Good Reason.

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 5.1 at the times in accordance with Section 5.5 without "Cause" or Executive may resign for Good Reason by giving notice as described in Section 5.5(a)(iv) of this Agreement. A resignation without Good Reason pursuant to Section 5.3 or a termination pursuant to Section 5.4 below is not a termination without Cause for purposes of receiving the benefits described in this Section 5.1.

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(b) If the Company terminates Executive's employment at any time without Cause or Executive resigns his employment with the Company for Good Reason, then Executive shall be entitled to receive the Accrued Obligations (defined in Section 5.1(e) below) and, if Executive complies with the obligations in Section 5.1(d) below, Executive shall also be eligible to receive the following "***Severance Benefits***":

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for twelve (12) months, less all applicable withholdings and deductions ("***Severance***"), to be paid in equal installments over a period of twelve (12) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date (as defined in Section 5.1(d) of this Agreement), with the first installment including any amount of the Severance that would otherwise have been due prior to the Release Effective Date.

(ii) Executive shall be eligible to receive any unpaid Annual Bonus for the year immediately preceding the year of Executive's termination, provided that such Annual Bonus would have been earned and payable pursuant to the relevant bonus criteria excluding the requirement that Executive be employed on the date of payment, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iii) Executive will be eligible to earn a pro-rated Annual Bonus, if any is earned based achievement of performance targets as established by the Board, for the year in which the termination occurs, subject to standard payroll deductions and withholdings, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iv) If Executive timely elects continued coverage under COBRA for himself and his covered dependents under the Company's group health plans following such termination, then the Company shall pay the COBRA premiums necessary to continue Executive's and his covered dependents' health insurance coverage in effect for himself (and his covered dependents) on the termination date until the earliest of: (i) twelve (12) months following the termination date; (ii) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (i)-(iii)), (the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA premiums on Executive's behalf could result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying COBRA premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premium for such month, subject to applicable tax withholding, for the remainder of the COBRA Payment Period. Nothing in this Agreement shall deprive Executive of his

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rights under COBRA or ERISA for benefits under plans and policies arising under his employment by the Company.

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(c) In the event that there is a Corporate Transaction (as defined in the Carlsmed, Inc. 2019 Stock Incentive Plan (the "***Incentive Plan***")) and Executive's employment is terminated by the Company without Cause or Executive resigns his employment with the Company for Good Reason, in each case in connection with or within the three (3) month period immediately prior to the Corporate Transaction or the twelve (12) month period on and immediately following the Corporate Transaction, then Executive shall be entitled to receive the Accrued Obligations and, provided that Executive complies with the obligations in Section 5.1(d) below, (i) Executive shall receive the Severance Benefits described in Section 5.1(b) except that all references to twelve (12) months in Section 5.1(b) shall be replaced with eighteen (18) months, (ii) all unvested time-based vesting equity awards held by Executive that were granted under the Incentive Plan or such similar equity incentive plan as may be adopted by the Company from time to time, and are outstanding at the time of the termination of employment shall accelerate and vest as of such termination of employment (the "***Accelerated Vesting***"), and (iii) an additional amount reflecting Executive's target Annual Bonus for a period of eighteen (18) months calculated by multiplying Executive's target Annual Bonus amount by 1.5, to be paid in equal installments over a period of eighteen (18) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date. For the avoidance of doubt, the Accelerated Vesting will only apply to accelerate the vesting of any time-based vesting conditions that lapse solely based on Executive's continued employment or service with the Company and shall not apply to any performance-based vesting conditions.

(d) Executive will be paid all of the Accrued Obligations, as defined below, on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Severance Benefits and the Accelerated Vesting pursuant to Section 5.1(b) and Section 5.1(c) of this Agreement, respectively, if: (i) by the 60th day following the date of Executive's termination of employment from the Company, he has signed and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form attached hereto as **Exhibit A** (the "***Release***"), which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); and (ii) if he holds any other positions with the Company or any affiliate, including a position on the Board, he resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) he returns all Company property; (iv) he complies in all material respects with all post-termination obligations under this Agreement; and (v) he complies in all material respects with the terms of the Release, including without limitation the non-disparagement and confidentiality provisions contained in the Release. To the extent that any severance payments are deferred compensation under Section 409A of the Code, and are not otherwise exempt from the application of Section 409A, then, if the period during which Executive may consider and sign the Release spans two (2) calendar years, the payment of Severance will not be made or begin until the later calendar year.

(e) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid Base Salary through the date of termination, (ii) accrued but unpaid vacation, (iii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iv) benefits owed to Executive under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

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(f) The Severance Benefits provided to Executive pursuant to this Section 5.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(g) Any damages caused by the termination of Executive's employment without Cause would be difficult to ascertain; therefore, the Severance Benefits for which Executive is eligible pursuant to Section 5.1(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full and exclusive compensation with respect to such termination, and not a penalty.

(h) For purposes of this Agreement, "***Good Reason***" shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary or target Annual Bonus opportunity unless such reduction applies to all similarly situated executives across the board; (ii) a material reduction in Executive's duties, authority, reporting structure, responsibilities, or title relative to Executive's duties, authority, reporting structure, responsibilities, or title in effect immediately prior to such reduction, *provided, however*, that the acquisition of the Company and subsequent conversion of the Company to a subsidiary division or unit of the acquiring company will not by itself, or coupled with any related change in Executive's title and/or reporting structure, constitute Good Reason; or (iii) the relocation of Executive's principal place of employment in a manner that lengthens his one-way commute distance by thirty (30) or more miles from his then-current principal place of employment immediately prior to such relocation. Any such resignation by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of his intent to resign for Good Reason within thirty (30) days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***"); (3) the Company has not, prior to receiving such notice from Executive, already informed Executive that his employment with the Company is being terminated; and (4) Executive voluntarily resigns his employment within thirty (30) days following the end of the Cure Period.

5.2 Termination by the Company for Cause.

(a) The Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 5.5 of this Agreement.

(b) "***Cause***" for termination shall mean that the Board has determined that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement, or any other agreement between the parties; (ii) any willful conduct which would be reasonably likely to bring the Company into substantial public disgrace or disrepute; (iii) the commission of a felony under applicable law or a crime of moral turpitude; (iv) material violation of any written Company policy applicable to Executive that causes material economic or reputational harm to the Company; (v) material and repeated refusal to follow or implement a clear, lawful, and reasonable directive of the Board that is within the scope of Executive's duties and responsibilities; (vi) gross negligence or willful and material incompetence in the performance of Executive's duties that causes material economic or reputational harm to the Company (as determined by the Board in its good-faith discretion); or (vii) material breach of

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fiduciary duty. Notwithstanding the foregoing, no act or failure to act shall constitute Cause under the immediately preceding clauses (i), (ii), (iv), (v) or (vi) unless and until the Board has delivered written notice to Executive specifying the act or failure to act providing the basis for a Cause termination and, if such act or failure to act is reasonably suspectable to cure, affords Executive fifteen (15) days to cure such act or failure to act.

(c) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.3 Resignation by Executive.

(a) Executive may resign from Executive's employment with the Company at any time by giving the notice as described in Section 5.5.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.4 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive's legal representatives Executive's Accrued Obligations.

(b) Subject to Section 5.5(a)(iii) and applicable state and federal law, the Company shall at all times have the right, upon written notice to Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on "***Disability***" shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of his position with or without reasonable accommodation for one hundred and twenty (120) days consecutively or six (6) months in the aggregate during any twelve (12) month period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

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5.5 Notice; Effective Date of Termination.

(a) Termination of Executive's employment pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 5.2(b)(i), (ii), (iv), (v), or (vi) in which case fifteen (15) days after notice if not cured or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) ten (10) days after the Company gives notice to Executive of Executive's termination on account of Executive's Disability, unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(iv) ten (10) days after Executive gives written notice to the Company of Executive's resignation without Good Reason or such later date agreed upon by Executive and the Company, *provided* that the Company may set a termination date at any time between the date of notice and the date of resignation, in which case Executive's resignation shall be effective as of such other date (Executive will receive compensation through any required notice period); or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 5.1(h).

5.6 Section 409A. It is intended that the terms of this Agreement comply with Section 409A of the Code and related Treasury regulations ("***Section 409A***") or an exemption therefrom, and the terms of this Agreement will be interpreted accordingly; provided, however, that the Company, the Company's affiliates, and their respective employees, officers, directors, agents and representatives (including, without limitation, legal counsel) will not have any liability to Executive with respect to any taxes, penalties, interest or other costs or expenses Executive or any related party may incur with respect to or as a result of Section 409A or for damages for failing to comply with Section 409A. Notwithstanding any provision to the contrary in this Agreement, with respect to any amounts under this Agreement that are determined to be deferred compensation for purposes of Section 409A and payable as a result of Executive's termination of employment, Executive shall not be deemed to have terminated employment unless and until she has experienced a "separation from service" (as that term is used in Section 409A). Each amount to be paid or benefit to be provided under this Agreement shall be construed as a separate and distinct payment for purposes of Section 409A. Any reimbursements or in-kind benefits provided to or for the benefit of Executive that constitute deferred compensation for purposes of Section 409A shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv). Accordingly, (a) all such reimbursements will be made not later than the last day of the calendar year after the calendar year in which the expenses were incurred, (b) any right to such reimbursements or in-kind benefits will not be subject to liquidation or exchange for another benefit, and (c) the amount of the expenses eligible for reimbursement, or the amount of any in-kind benefit

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provided, during any taxable year will not affect the amount of expenses eligible for reimbursement, or the in-kind benefits provided, in any other taxable year. Notwithstanding any

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provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of Executive's "separation from service" to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i), and if any of the payments upon "separation from service" set forth herein and/or under any other agreement with the Company are deemed to be "nonqualified deferred compensation" under Section 409A, then to the extent delayed commencement of any portion of such payments is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, such payments shall not be provided to Executive prior to the earliest of (i) the first date following expiration of the six-month period following the date of Executive's "separation from service" with the Company, (ii) the date of Executive's death or (iii) such earlier date as permitted under Section 409A without the imposition of adverse taxation. Upon the first business day following the expiration of such applicable Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section shall be paid in a lump sum to Executive, and any remaining payments due shall be paid as otherwise provided herein or in the applicable agreement. No interest shall be due on any amounts so deferred.

5.7 Section 280G. On and after the date on which the Company's stock becomes publicly traded on an established securities market or otherwise, if any of the payments or benefits that Executive has received or that Executive may receive (whether pursuant to the terms of this Agreement or any other plan, arrangement or agreement, or otherwise) (all such payments and benefits collectively referred to herein as the "***280G Payments***") constitute "parachute payments" within the meaning of Section 280G of the Code and would, but for this Section 5.7, be subject to the excise tax imposed under Section 4999 of the Code (the "***Excise Tax***"), then prior to making the 280G Payments, a calculation shall be made comparing (i) the Net Benefit (as defined below) to Executive of the 280G Payments after payment of the Excise Tax to (ii) the Net Benefit to Executive if the 280G Payments are limited to the extent necessary to avoid being subject to the Excise Tax. Only if the amount calculated under clause (i) above is less than the amount under clause (ii) above shall the 280G Payments be reduced to the minimum extent necessary to ensure that no portion of the 280G Payments is subject to the Excise Tax. "***Net Benefit***" shall mean the value of the 280G Payments net of all federal, state, local, foreign income, employment, and excise taxes. Any reduction made pursuant to this Section 5.7 shall be made in a manner that results in the greatest economic benefit to Executive, as determined by the Company, and that is consistent with the requirements of Section 409A.

6. INDEMNIFICATION. Executive shall be entitled to the indemnification protections under, and subject to the terms and conditions of, that certain Indemnification Agreement, dated as of August 14, 2023, as amended, modified or restated from time to time (the "***Indemnification Agreement***").

7. RESTRICTIVE COVENANTS. Executive acknowledges and agrees that this Section 7 shall replace and supersede the PIIA in its entirety.

7.1 Confidential Information. Executive agrees and covenants to treat all Confidential Information (as defined below) as strictly confidential and not to (except as required within the scope and performance of Executive's authorized employment and duties to the Company or any of the Company's affiliates), directly or indirectly: (a) disclose, publish, communicate, or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any entity or person whatsoever not having

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a need to know and authority to know and use the Confidential Information in connection with the business of the Company; and (b) access or use any Confidential Information, or copy or reproduce any Confidential Information, or remove any such Confidential Information from the premises or control of the Company. Executive agrees to report any unauthorized disclosure or use of Confidential Information to the Company promptly upon gaining knowledge of such unauthorized disclosure or use. Executive understands that "***Confidential Information***" means all information (in spoken, printed, electronic, or any other form or medium), whether disclosed to or learned or developed by Executive before or after the execution of this Agreement, that is not generally known to the public and that is owned, used, developed, or obtained by the Company or any of the Company's affiliates in connection with its business, including, but not limited to information relating to business processes, practices, methods, policies, plans, publications, documents, research, operations, services, strategies, techniques, agreements, contracts, transactions, potential transactions, negotiations, pending negotiations, know-how, trade secrets, computer programs, software, and applications, web design, work-in-process, technologies, databases, compilations, device configurations, manuals, records, articles, systems, supplier information, vendor information, financial information, results, accounting information, legal information, marketing information, advertising information, track record, employee lists, supplier lists, vendor lists, developments, reports, graphics, drawings, market studies, sales information, revenue, costs, formulae, communications, product plans, designs, inventions, unpublished patent applications, original works of authorship, discoveries, experimental processes, experimental results, specifications, and customer and client information and lists. Confidential Information includes information that any third-party has entrusted to the Company in confidence. Confidential Information shall not include any portion of such information that Executive can demonstrate by tangible evidence: (i) was generally available to and known by the public at the time of disclosure to Executive (provided that the disclosure is through no direct or indirect fault of Executive or persons acting on Executive's behalf); (ii) was rightfully in Executive's possession prior to commencing employment with the Company; (iii) was disclosed to Executive without a confidential restriction by a third-party who, to Executive's knowledge, rightfully possesses the information and did not obtain it, either directly or indirectly, from the Company; or (iv) was lawfully and independently developed by Executive without reference to and/or use of the Confidential Information and without violation of this Agreement. Confidential Information shall not be deemed to have been published merely because individual portions of the information have been separately published, but only if all material features comprising such information have been published. Nothing in this Section shall interfere with or impede Executive's rights under section 7 of the National Labor Relations Act, including the right to engage in concerted activity. Executive shall cooperate with Company representatives and allow such representatives to oversee the process of erasing and/or permanently removing any such Confidential Information or other property of the Company from any computer, personal digital assistant, phone, or other electronic device, or any cloud-based storage account or other electronic medium owned or controlled by Executive.

7.2 Company Ownership of Work Product.

(a) Work Made for Hire; Assignment. Executive hereby acknowledges and agrees that all deliverables, documentation, ideas, concepts, discoveries, inventions (whether or not protectable under patent laws), developments, modifications, know-how, information, results, data, databases, schematics, drawings, processes, algorithms, software, content, products, prototypes, systems, applications, other work product, technology, and Intellectual Property (as

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defined below), and all printed, physical, electronic, and other tangible embodiments thereof, and all rights and claims related to any of the foregoing (whether before or hereafter accrued), that are authored, conceived, developed, fabricated, made, reduced to practice, modified, or improved by Executive (either solely or jointly with others) (i) for the Company; (ii) during the course of, or as a result of, Executive's employment or engagement by the Company or its predecessors, whether before or after the execution of this Agreement; (iii) based on or derived from use of Confidential Information; or (iv) that relate in any manner to any of the Company's actual or proposed businesses, products, services, research, or development (collectively, "***Work Product***"), is a "work made for hire" that is owned exclusively (including, for the avoidance of doubt, all copyrights therein) by the Company or any of the Company's affiliates pursuant to the United States Copyright Act (17 U.S.C., Section 101) (as a result of which the Company shall be the author). To the extent that any Work Product is deemed not to be a "work made for hire" or is not a copyrightable work or that patents, trade secrets, or other Intellectual Property is embodied therein, Executive hereby irrevocably and perpetually assigns, transfers, grants and conveys to the Company or one of the Company's affiliates (as applicable), for no additional consideration, all right, title, and interest in and to any such Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(b) Executive understands that "***Intellectual Property***" means all intellectual and industrial property (in any form or medium), together with all rights, title and interests therein, in all jurisdictions throughout the world, including all of the following: (i) utility and design patents, patent applications and patent disclosures and registrations and applications for registration of industrial design rights (whether or not patentable or reduced to practice or including Confidential Information); (ii) trade secrets and other confidential information, inventions, industrial designs, modifications, methods, processes, and improvements; (iii) trademarks, service marks, trade dress, trade names, corporate names, logos and slogans (and all translations, adaptations, derivations and combinations of the foregoing), other indicia of source or origin, and Internet domain names, together with all goodwill associated with any of the foregoing; (iv) rights in computer software, including source code, executable code, firmware, systems, tools, data, databases, and other collections of data, and all information and documentation related to any of the foregoing; (v) other works of authorship, copyrights, and copyrightable works, including derivative works; and (vi) registrations, renewals, and applications for registration or renewal of any of the foregoing (i) through (v). Executive understands that in accordance with Section 2870(a) of the California Civil Code, any provision in this Agreement which provides that Executive shall assign, or offer to assign, any of his rights in an invention to the Company shall not apply to an invention that Executive developed entirely on his own time without using the Company's equipment, supplies, facilities, or trade secret information, except for those inventions that either: (1) relate at the time of conception or use to the Company's business, or actual or demonstrably anticipated research or development of the Company; or (2) result from any work Executive performs for the Company. All Intellectual Property that falls within the scope of Section 2870(a) of the California Civil Code shall be excluded from the assignment in Section 7.2(a).

(c) License. If, under applicable law notwithstanding the foregoing, Executive retains any right, title or interest (including any right, title or interest to Intellectual Property) with respect to any Work Product, Executive hereby grants and agrees to grant to the Company, without any limitations or additional remuneration, an exclusive, perpetual, irrevocable, transferable, worldwide, royalty-free license, with the right to sublicense (through multiple tiers

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of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit such Work Product and Executive agrees not to make any claim against the Company or its affiliates, suppliers or customers with respect to such Work Product.

(d) Records; Disclosure. Executive agrees to keep and maintain adequate and current written records regarding all inventions made, conceived, discovered or developed by Executive (either alone or jointly with others) during Executive's period of employment or after the termination of Executive's employment if based on or using Confidential Information or otherwise in connection with Executive's activities as an employee of the Company. Executive agrees to make available such records and disclose promptly and fully in writing to the Company all such inventions, regardless of whether Executive believes the invention is Work Product subject to this Section 7 or qualifies fully under the provisions of Section 2870(a) of the California Labor Code, and the Company will examine such disclosure in confidence to make such determination. Any such records related to Work Product shall be the sole property of the Company.

(e) Assistance and Cooperation. Executive agrees to cooperate with and assist the Company, and perform, during and after Executive's employment, all acts deemed necessary or desirable by the Company, to apply for, obtain, establish, perfect, maintain, evidence, enforce or otherwise protect any of the full benefits, enjoyment, right, title and interest throughout the world in the Work Product, in each case at the Company's expense. Such acts may include, but are not limited to execution of assignments of title and other documents and assistance or cooperation in legal proceedings. Should the Company be unable to secure Executive's signature on any such document, whether due to Executive's mental or physical incapacity or any other cause, Executive hereby irrevocably designates and appoints the Company and each of its duly authorized representatives as Executive's agent and attorney-in-fact, with full power of substitution and delegation, to undertake such acts in Executive's name as if executed and delivered by Executive (which appointment is coupled with an interest), and Executive waives and quitclaims to the Company any and all claims of any nature whatsoever that Executive may have or may later have for infringement of any rights to Intellectual Property in or to the Work Product.

(f) Moral Rights. Executive hereby irrevocably waives, and agrees not to assert against the Company (including any successor in interest), to the extent permitted by applicable law, any and all claims Executive may now or hereafter have in any jurisdiction to all rights of paternity, integrity, disclosure, withdrawal and any other rights that may be known as "moral rights" with respect to all Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(g) Duty to Disclosure Work Product. Executive shall promptly and fully communicate to the Company all Intellectual Property and/or Work Product as reasonably practicable under the circumstances and, in any event, whenever requested by the Company.

(h) Executive's Prior Inventions and Third-Party Materials. Executive has identified and listed on **Exhibit B** attached hereto, a complete list of all Intellectual Property that Executive authored, conceived, developed, reduced to practice, modified, or improved (either solely or jointly with

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others) prior to the Effective Date that has not been legally assigned or licensed to the Company (collectively, "***Prior Inventions***"). If no Prior Inventions are listed on

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Exhibit B, Executive represents and warrants that Executive has no Prior Inventions to disclose. If Executive incorporates or causes to be incorporated into any Work Product, or otherwise exploits therewith, any Prior Inventions, then the Company shall own all such Prior Inventions, and Executive hereby assigns all right, title, and interest in such Prior Inventions to the Company. Executive hereby grants to the Company a non-exclusive, perpetual, irrevocable, transferable, worldwide, fully-paid license, with the right to sublicense (through multiple tiers of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit any Prior Inventions that are incorporated into any Work Product, but that are not assigned to the Company pursuant to the preceding sentence. The Company shall own all right, title and interest in and to any derivative works of, or improvements, enhancements or updates to, the Prior Inventions made by or on behalf of the Company pursuant to the license granted herein.

(i) Representations; Warranties and Covenants. Executive represents, warrants and covenants that: (i) Executive has the right to grant the rights and assignments granted herein, without the need for any assignments, releases, consents, approvals, immunities or other rights not yet obtained; (ii) any Work Product that is a copyrightable work is Executive's original work of authorship; and (iii) neither the Work Product nor any element thereof are subject to any restrictions or to any mortgages, liens, pledges, security interests, encumbrances or encroachments.

(j) Adequate Consideration. Executive acknowledges that the Work Product may have substantial economic value and that all proceeds resulting from use and exploitation thereof shall belong solely to the Company. In addition, Executive acknowledges that the salary, equity incentives and/or other compensation Executive receives from the Company for Executive's employment or continued employment with the Company, and Executive's access to the Company's Confidential Information, constitutes fair and adequate consideration for all assignments, licenses and waivers hereunder.

7.3 Non-Competition. During the Employment Period, Executive shall not, and shall cause Executive's affiliates not to, directly or indirectly, own any interest in, manage, operate, control, be employed or engaged by (whether or not for compensation), render services or advice to, or lend Executive's name to, or any take any preparatory steps to engage in any of the foregoing with, any person or entity who or which is engaging or preparing to engage in any business activity that is competitive with the Company's business, provided, however, that Executive shall be permitted to own less than five percent (5%) of any class of securities of any corporation in competition with the Company that is traded on a national securities exchange (as long as Executive does not participate in the business activities of such entity).

7.4 Non-Solicitation of the Company's Customers or Potential Customers. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any customer or potential customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any customer or potential customer for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any customer or potential customer.

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7.5 Non-Solicitation of the Company's Business Relations. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, in each case, other than for or on behalf of the Company or its affiliates.

7.6 Non-Solicitation of the Company's Employees or Contractors. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce, or encourage (or participate in or attempt to solicit, induce, or encourage) any employee, consultant or independent contractor of the Company to terminate his or her relationship with the Company or any of the Company's affiliates or otherwise diminish his or her relationship with the Company or any of the Company's affiliates (other than for or on behalf of the Company or its affiliates); or (b) solicit, induce, encourage, or hire (or participate in or attempt to solicit, induce, encourage, or hire) any employee, consultant or independent contractor of the Company for purposes of rendering services that are competitive to the Company or any of the Company's affiliates.

7.7 Duty of Loyalty. Executive acknowledges and agrees that, during the Employment Period, Executive shall owe a fiduciary duty of loyalty to act at all times in the best interests of the Company and any of the Company's affiliates. In keeping with such duty, during Executive's employment, Executive shall fully disclose to the Company all business opportunities pertaining to the Company's business or the business of any of the Company's affiliates and shall not appropriate for Executive's own benefit or the benefit of another business opportunities concerning the Company's business or the business of any of the Company's affiliates.

7.8 Non-Disparagement. Executive hereby agrees and covenants that Executive shall not at any time make, publish, or communicate to any person or entity or in any public forum any defamatory, maliciously false, or disparaging remarks, comments, or statements concerning the Company, any of the Company's affiliates, or any of their employees, officers, directors, shareholders (or any of such shareholders' affiliates), or lenders. Nothing in this Section or this Agreement restricts or impedes either party from complying with any applicable law or regulation or a valid order of a court of competent jurisdiction or an authorized government agency, provided that such compliance does not exceed that required by the law, regulation, or order.

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7.9 Cooperation. The parties agree that certain matters in which Executive have been involved during Executive's employment or engagement may need Executive's cooperation with the Company or any of the Company's affiliates in the future. In consideration for the Severance Benefits and other consideration in this Agreement, during the Employment Period and thereafter, Executive agrees upon the Company's request to cooperate with the Company or any of the Company's affiliates in any pending or future matters arising out of or related to Executive's service to the Company or any of the Company's affiliates, including, but not limited to, any business transactions, business relationships, litigation, investigation or other dispute, in which Executive have knowledge or information, and including execution and delivery of any documents or other information reasonably requested to effect or register Executive's removal from positions as a director or officer of members of the Company or any of the Company's affiliates; provided that the Company shall make reasonable efforts to minimize disruption of Executive's other activities and shall reimburse Executive for reasonable expenses incurred in connection with this cooperation. In addition, the Company will pay Executive $500 per hour for Executive's time spent satisfying Executive's obligations pursuant to this Section 7.9 for any period of time Severance Benefits are not being paid to Executive (but excluding any period during which the Release is under review by Executive).

7.10 Permitted Disclosures. Nothing in this Agreement or any other agreement between the parties or any other policies of the Company prohibits or restricts any person or entity from: (a) making any disclosure of relevant and necessary information or documents in any action, investigation, or proceeding as required by law or legal process, including with respect to possible violations of law; (b) participating, cooperating, or testifying in any action, investigation, or proceeding with, or providing information to, any governmental agency or legislative body, any self-regulatory organization, and/or pursuant to the Sarbanes-Oxley Act; (c) accepting any U.S. Securities and Exchange Commission awards; or (d) initiating communications with, or responding to any inquiry from, any regulatory or supervisory authority regarding any good-faith concerns about possible violations of law or regulation. Nothing in this Agreement prevents Executive from discussing or disclosing information about unlawful acts in the workplace, such as harassment or discrimination or any other conduct that Executive has reason to believe is unlawful. Pursuant to 18 U.S.C. § 1833(b), Executive will not be held criminally or civilly liable under any Federal or state trade secret law for the disclosure of a trade secret of the Company that (i) is made (1) in confidence to a Federal, state, or local government official, either directly or indirectly, or to Executive's attorney and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. If Executive files a lawsuit for retaliation by the Company for reporting a suspected violation of law, Executive may disclose the trade secret to Executive's attorney and use the trade secret information in the court proceeding, if Executive files any document containing the trade secret under seal, and does not disclose the trade secret, except pursuant to court order.

7.11 Injunctive Relief; Remedies; Indemnification. Executive agrees that, due to the nature of the business of the Company, the restrictions set forth in this Agreement are reasonable as to time, geography and scope. Executive agrees that the obligations set forth in this Agreement are necessary and reasonable to protect the Company's legitimate business interests, Confidential Information, trade secrets, customer and employee relationships and the goodwill associated therewith. Executive agrees that the Company would suffer irreparable harm and continuing damage for which money damages would be

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insufficient if Executive were to breach, or threaten to breach, any of the restrictions in Section 7 of this Agreement. Executive furthermore

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agrees that the Company would by reason of such breach, or threatened breach, be entitled to an injunction, a decree for specific performance, or other equitable relief in a court of appropriate jurisdiction and all other relief as may be proper (including money damages if appropriate), to the extent permitted by law, without the need to post any bond. Executive further consents and stipulates to the entry of such injunctive relief in such a court prohibiting Executive from breaching the terms of any provision in Section 7 of this Agreement. Section 7 of this Agreement shall not diminish the right of the Company to claim and recover damages and other appropriate relief in addition to injunctive relief.

7.12 Third-Party Information. Executive agrees that the Company does not desire to acquire from Executive any intellectual property, trade secrets, know-how, or confidential business information that Executive may have acquired from others. Executive agrees not to disclose or use any such information in connection with Executive's employment or engagement with the Company in violation of any obligations to others. Executive represents Executive is not bound by any agreement or restriction that conflicts with or prevents the full performance of Executive's duties and obligations to the Company.

7.13 Termination; Return of Materials. In the event of the termination of Executive's employment or upon the earlier request of the Company, Executive agrees to promptly return all property of the Company, including, without limitation, (a) all source code, manuals, records, models, drawings, reports, notes, contracts, lists, blueprints, and other documents or materials and all copies thereof, (b) all equipment furnished to or prepared by Executive in the course of or incident to Executive's employment, and (c) all written or tangible materials containing Confidential Information or information pertaining to any Work Product. Executive understands that Executive's obligations contained in this Section 7 will survive the termination of Executive's employment and Executive will continue to make all disclosures required of Executive by Section 7.2(e) above. In the event of the termination of Executive's employment, Executive agrees, if requested by the Company, to sign and deliver the Termination Certificate, attached as **Exhibit C** hereto. Executive agrees that after the termination of Executive's employment, Executive will not enter into any agreement that conflicts with Executive's obligations under this Section 7 and will inform any subsequent employers of Executive's obligations under this Section 7. The termination of any employment or other agreement between the Company and Executive shall not terminate this Section 7 and each and all of the terms and conditions hereof shall survive and remain in full force and effect.

7.14 Severability; Reformation. In the event that any one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall remain fully effective. If any one or more of the provisions contained in this Agreement is held to be excessively broad in scope or duration, if permitted by applicable law, such provisions shall be construed by modifying them so as to be enforceable to the maximum extent allowed by applicable law. A determination in any jurisdiction that this Agreement, in whole or in part, is invalid, illegal or unenforceable shall not in any way affect or impair the validity, legality or enforceability of this Agreement in any other jurisdiction.

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8. General Provisions.

8.1 Notices. Any notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. Such notices, demands and other communications shall be sent to the parties at the addresses indicated below:

If to the Company:

Carlsmed, Inc.
Attention: Board of Directors
1800 Aston Ave.
Suite 100
Carlsbad, CA 92008

With copies to (which shall not constitute notice):

Morrison & Foerster LLP
Attention: James Krenn
12531 High Bluff Drive, Suite 200
San Diego, CA 92130
[***]

If to Executive:

Leonard Greenstein
[***]

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party.

8.2 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or the Company shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

8.3 Complete Agreement. This Agreement, including **Exhibits A, B and C**, together with the Indemnification Agreement, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements. This Agreement is entered into without reliance on any promise or

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representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company and approved by the Board. The parties may have entered into other agreements, which govern other aspects of the relationship between the parties, and may have provisions that survive termination of Executive's employment under this Agreement, may be

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amended or superseded by the parties without regard to this agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

8.4 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

8.5 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

8.6 Successors and Assigns. The Company may assign this Agreement to any successor or assign (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company. This Agreement shall inure to the benefit of the Company and permitted successors and assigns. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to his estate upon his death.

8.7 Advice of Counsel. EXECUTIVE ACKNOWLEDGES THAT, IN EXECUTING THIS AGREEMENT, EXECUTIVE HAS HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND HAS READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

8.8 Tax Withholding. The Company and its subsidiaries shall be entitled to deduct or withhold from any amounts owing from the Company or any of its subsidiaries to Executive (including withholding shares or other equity securities in the case of issuances of equity by the Company or its subsidiaries) any federal, state, local or foreign withholding taxes, excise taxes, or employment taxes ("***Taxes***") imposed with respect to Executive's compensation or other payments from the Company or its subsidiaries, including wages, bonuses, distributions, the receipt or exercise of equity options and/or the receipt or vesting of restricted equity. In the event any such deductions or withholdings are not made, Executive shall indemnify the Company and its subsidiaries for any amounts paid with respect to any such Taxes, together with any interest, penalties and related expenses thereto; provided, that, Executive shall not be obligated to indemnify the Company pursuant to this Section 8.8 for such interest, penalties or related expenses which are directly caused by the failure of the Company to take necessary action with respect to such deductions and withholdings as it is required by law to take.

8.9 Termination. This Agreement (except for the provisions of Sections 1, 2, and 3) shall survive the termination of Executive's employment or engagement with the Company and shall remain in full force and effect after such termination.

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8.10 Clawback. To the extent required by applicable law or any applicable securities exchange listing standards, or as otherwise determined by the Board (or a committee thereof), amounts paid or payable under this Agreement shall be subject to the provisions of any applicable clawback policies or procedures adopted by the Company or any of the Company's affiliates or subsidiaries, which clawback policies or procedures may provide for forfeiture and/or recoupment of amounts paid or payable under this Agreement. Notwithstanding any provision of this Agreement to the contrary, each of the Company or any of the Company's affiliates or subsidiaries reserves the right, without the consent of Executive, to adopt any such clawback policies and procedures, including such policies and procedures applicable to this Agreement with retroactive effect; provided, however, that such clawback policies and procedures shall not apply to compensation paid prior to the Employment Period.

8.11 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California without regard to conflicts of law principles.

8.12 Resolution of Disputes. Except for injunctive actions pursuant to Section 7.11 of this Agreement or any disputes or claims involving sexual assault and/or sexual harassment as defined by title 9 of the United States Code arising on or after March 3, 2022, the parties agree that any dispute between the parties arising out of or relating to the negotiation, execution, performance or termination of this Agreement or Executive's employment or relationship with the Company or its affiliates, including, but not limited to, any claim arising out of this Agreement, claims under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, Section 1981 of the Civil Rights Act of 1966, as amended, the Family Medical Leave Act, the Employee Retirement Income Security Act, and any similar federal, state or local law, statute, regulation, or any common law doctrine, whether that dispute arises during or after employment, shall be settled by binding arbitration in accordance with the National Rules for the Resolution of Employment Disputes of the American Arbitration Association. The location for the arbitration shall be the Carlsbad, California metropolitan region. Any award made in such arbitration shall be final, binding and conclusive on the parties for all purposes, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The arbitrators' fees and expenses and all administrative fees and expenses associated with the filing of the arbitration shall be borne by the Company; *provided however*, that at Executive's option, Executive may voluntarily pay up to one-half the costs and fees. The parties acknowledge and agree that their obligations to arbitrate under this Section survive the termination of this Agreement and continue after the termination of the employment relationship between Executive and the Company. The parties each further agree that the arbitration provisions of this Agreement shall provide each party with its exclusive remedy, and each party expressly waives any right it might have to seek redress in any other forum, except as otherwise expressly provided in this Agreement. By electing arbitration as the means for final settlement of all claims, the parties hereby waive their respective rights to, and agree not to, sue each other in any action in a Federal, State or local court with respect to such claims, but may seek to enforce in court an arbitration award rendered pursuant to this Agreement or to pursue injunctive relief in aid of arbitration.

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In Witness Whereof, the parties have executed this Agreement effective as of the Effective Date.

Carlsmed, Inc.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier
Title: President and CEO

Executive

/s/ Leonard Greenstein
Leonard Greenstein

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Exhibit A

Release

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EXHIBIT B

Prior Inventions

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Exhibit C

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Exhibit 10.12

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (the "***Agreement***") is entered into effective June 24, 2025 (the "***Effective Date***"), by and between William Scott Durall ("***Executive***") and Carlsmed, Inc. (the "***Company***").

WHEREAS, Executive has been employed by the Company pursuant to that certain Offer of Employment, dated August 21, 2024 (the "***Offer of Employment***");

WHEREAS, Executive and the Company are parties to that certain Employee Proprietary Information and Invention Assignment Agreement, dated August 22, 2024 (the "***PIIA***");

WHEREAS, Executive and the Company mutually desire to replace and supersede the Offer of Employment and PIIA in their entirety and enter into an agreement containing the terms and conditions pursuant to which the Company will continue to employ Executive.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 Position. Subject to the terms set forth herein, the Company agrees to continue employing Executive in the position of Chief Commercial Officer, and Executive hereby accepts such continued employment, for the period beginning on the Effective Date and ending upon Executive's separation of employment pursuant to Section 5 of this Agreement (the "***Employment Period***"). Executive will report to the Company's Chief Executive Officer ("***CEO***") during the Employment Period. Executive will perform such duties as are normally associated with his position and as assigned by the CEO and the Company's Board of Directors (the "***Board***"), consistent with Executive's position with the Company from time to time.

1.2 Location. Executive shall perform his duties under this Agreement principally out of the Company's Carlsbad, California office. Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company or as otherwise requested by the CEO or the Board.

1.3 Salary. During the Employment Period, Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $380,000, subject to review and increase by the Board (or an authorized committee thereof) in its sole discretion, and payable subject to standard federal and state payroll withholding requirements in accordance with Company's standard payroll practices ("***Base Salary***"). The Board will annually review Executive's overall compensation, including Executive's Base Salary for increases, the Annual Bonus (as defined below) and the possibility of equity-based awards. In addition, in connection with the first underwritten public offering of the Company's Common Stock under the Securities Act of 1933, as amended (the "***IPO***"), the Board will review Executive's overall compensation,

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including Executive's Base Salary, the Annual Bonus and the possibility of granting Executive equity-based awards to be effective, and contingent upon, the closing of the

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IPO. Any increases in Executive's Base Salary, the Annual Bonus or the grant of any equity-based awards will be in the sole discretion of the Board.

1.4 Bonus. During the Employment Period, Executive shall be eligible to earn an annual bonus with a target amount equal to sixty percent (60%) of the Base Salary (such amount, the "***Annual Bonus***"), based on achievement of performance targets as established by the Board (or an authorized committee thereof) each year in its sole discretion. The Board (or an authorized committee thereof) will determine in its sole discretion the extent to which Executive has achieved the performance targets upon which the Annual Bonus is based and the amount of the Annual Bonus, which could be zero. The annual period over which performance is measured for purposes of this Section 1.4 is January 1 through December 31. The Board (or an authorized committee thereof) may adjust the target amount of the Annual Bonus in its sole discretion. The Annual Bonus, if any, will be paid within two-and-one-half (2½) months following the end of the applicable calendar year and shall be subject to standard federal and state payroll withholding requirements. In order to be eligible to receive an Annual Bonus, Executive must be employed by the Company through the date any bonus is paid.

2. BENEFITS; REIMBURSEMENTS.

2.1 Company Policies and Benefits. The employment relationship between the parties shall also be subject to the Company's written personnel policies and procedures that are provided or made available to Executive, as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive shall be eligible to participate in the benefits made generally available by the Company to other senior executives, in accordance with the benefit plans established by the Company, and as may be amended from time to time in the Company's sole discretion. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2.2 General Reimbursement.

(a) **General Reimbursement**. Subject to the Company's standard expense reimbursement policy, the Company will reimburse Executive for reasonable out-of-pocket business expenses he incurs in connection with his employment with the Company, provided that Executive provides proper documentation of such expenses in accordance with the Company's policies.

(b) **409A**. For the avoidance of doubt, to the extent that any reimbursements payable to Executive pursuant to this Agreement are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended: (a) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

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3. Outside Activities. During the term of Executive's employment with the Company, and excluding periods of vacation and sick leave to which Executive is entitled, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention to the business of the Company. Notwithstanding anything to the contrary in the preceding sentence, except with the prior written consent of the Board, Executive will not, during the Employment Period, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for: (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; or (ii) such other activities as may be specifically approved by the Board (or an authorized committee thereof). This restriction shall not, however, preclude Executive from owning less than five percent (5%) of the total outstanding shares of a publicly traded company.

4. No Conflict with Existing Obligations. Executive represents that Executive's performance of all terms of this Agreement and as an executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that during the Employment Period, Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

5. Termination Of Employment. The parties acknowledge that Executive's employment relationship with the Company is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause (as defined in Section 5.2(b) below) or Good Reason (as defined in Section 5.1(h) below), as applicable. The provisions in this Section 5 govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status. Upon any termination of Executive's employment with the Company, if Executive holds any other positions with the Company or any affiliate, including Executive's position as a member of the Board (if applicable), Executive shall be deemed to have automatically resigned from each such position unless otherwise agreed in writing between the Board and Executive.

5.1 Termination by the Company without Cause or Resignation by Executive for Good Reason.

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 5.1 at the times in accordance with Section 5.5 without "Cause" or Executive may resign for Good Reason by giving notice as described in Section 5.5(a)(iv) of this Agreement. A resignation without Good Reason pursuant to Section 5.3 or a termination pursuant to Section 5.4 below is not a termination without Cause for purposes of receiving the benefits described in this Section 5.1.

(b) If the Company terminates Executive's employment at any time without Cause or Executive resigns his employment with the Company for Good Reason, then Executive shall be entitled to receive the Accrued Obligations (defined in Section 5.1(e) below)

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and, if Executive complies with the obligations in Section 5.1(d) below, Executive shall also be eligible to receive the following "***Severance Benefits***":

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for twelve (12) months, less all applicable withholdings and deductions ("***Severance***"), to be paid in equal installments over a period of twelve (12) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date (as defined in Section 5.1(d) of this Agreement), with the first installment including any amount of the Severance that would otherwise have been due prior to the Release Effective Date.

(ii) Executive shall be eligible to receive any unpaid Annual Bonus for the year immediately preceding the year of Executive's termination, provided that such Annual Bonus would have been earned and payable pursuant to the relevant bonus criteria excluding the requirement that Executive be employed on the date of payment, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iii) Executive will be eligible to earn a pro-rated Annual Bonus, if any is earned based achievement of performance targets as established by the Board, for the year in which the termination occurs, subject to standard payroll deductions and withholdings, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iv) If Executive timely elects continued coverage under COBRA for himself and his covered dependents under the Company's group health plans following such termination, then the Company shall pay the COBRA premiums necessary to continue Executive's and his covered dependents' health insurance coverage in effect for himself (and his covered dependents) on the termination date until the earliest of: (i) twelve (12) months following the termination date; (ii) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (i)-(iii)), (the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA premiums on Executive's behalf could result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying COBRA premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premium for such month, subject to applicable tax withholding, for the remainder of the COBRA Payment Period. Nothing in this Agreement shall deprive Executive of his rights under COBRA or ERISA for benefits under plans and policies arising under his employment by the Company.

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(c) In the event that there is a Corporate Transaction (as defined in the Carlsmed, Inc. 2019 Stock Incentive Plan (the "***Incentive Plan***")) and Executive's employment is terminated by the Company without Cause or Executive resigns his employment with the Company for Good Reason, in each case in connection with or within the three (3) month period immediately prior to the Corporate Transaction or the twelve (12) month period on and immediately following the Corporate Transaction, then Executive shall be entitled to receive the Accrued Obligations and, provided that Executive complies with the obligations in Section 5.1(d) below, (i) Executive shall receive the Severance Benefits described in Section 5.1(b) except that all references to twelve (12) months in Section 5.1(b) shall be replaced with eighteen (18) months, (ii) all unvested time-based vesting equity awards held by Executive that were granted under the Incentive Plan or such similar equity incentive plan as may be adopted by the Company from time to time, and are outstanding at the time of the termination of employment shall accelerate and vest as of such termination of employment (the "***Accelerated Vesting***"), and (iii) an additional amount reflecting Executive's target Annual Bonus for a period of eighteen (18) months calculated by multiplying Executive's target Annual Bonus amount by 1.5, to be paid in equal installments over a period of eighteen (18) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date. For the avoidance of doubt, the Accelerated Vesting will only apply to accelerate the vesting of any time-based vesting conditions that lapse solely based on Executive's continued employment or service with the Company and shall not apply to any performance-based vesting conditions.

(d) Executive will be paid all of the Accrued Obligations, as defined below, on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Severance Benefits and the Accelerated Vesting pursuant to Section 5.1(b) and Section 5.1(c) of this Agreement, respectively, if: (i) by the 60th day following the date of Executive's termination of employment from the Company, he has signed and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form attached hereto as **Exhibit A** (the "***Release***"), which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); and (ii) if he holds any other positions with the Company or any affiliate, including a position on the Board, he resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) he returns all Company property; (iv) he complies in all material respects with all post-termination obligations under this Agreement; and (v) he complies in all material respects with the terms of the Release, including without limitation the non-disparagement and confidentiality provisions contained in the Release. To the extent that any severance payments are deferred compensation under Section 409A of the Code, and are not otherwise exempt from the application of Section 409A, then, if the period during which Executive may consider and sign the Release spans two (2) calendar years, the payment of Severance will not be made or begin until the later calendar year.

(e) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid Base Salary through the date of termination, (ii) accrued but unpaid vacation, (iii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iv) benefits owed to Executive

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under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(f) The Severance Benefits provided to Executive pursuant to this Section 5.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(g) Any damages caused by the termination of Executive's employment without Cause would be difficult to ascertain; therefore, the Severance Benefits for which Executive is eligible pursuant to Section 5.1(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full and exclusive compensation with respect to such termination, and not a penalty.

(h) For purposes of this Agreement, "***Good Reason***" shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary or target Annual Bonus opportunity unless such reduction applies to all similarly situated executives across the board; (ii) a material reduction in Executive's duties, authority, reporting structure, responsibilities, or title relative to Executive's duties, authority, reporting structure, responsibilities, or title in effect immediately prior to such reduction, *provided, however*, that the acquisition of the Company and subsequent conversion of the Company to a subsidiary division or unit of the acquiring company will not by itself, or coupled with any related change in Executive's title and/or reporting structure, constitute Good Reason; or (iii) the relocation of Executive's principal place of employment in a manner that lengthens his one-way commute distance by thirty (30) or more miles from his then-current principal place of employment immediately prior to such relocation. Any such resignation by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of his intent to resign for Good Reason within thirty (30) days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***"); (3) the Company has not, prior to receiving such notice from Executive, already informed Executive that his employment with the Company is being terminated; and (4) Executive voluntarily resigns his employment within thirty (30) days following the end of the Cure Period.

5.2 Termination by the Company for Cause.

(a) The Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 5.5 of this Agreement.

(b) "***Cause***" for termination shall mean that the Board has determined that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement, or any other agreement between the parties; (ii) any willful conduct which would be reasonably likely to bring the Company into substantial public disgrace or disrepute; (iii) the commission of a felony under applicable law or a crime of moral turpitude; (iv) material violation of any written Company policy applicable to Executive that causes material economic or reputational harm to the Company; (v) material and repeated refusal to follow or implement a clear, lawful, and reasonable directive of the Board that is within the scope of

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Executive's duties and responsibilities; (vi) gross negligence or willful and material incompetence in the performance of Executive's duties that causes material economic or reputational harm to the Company (as determined by the Board in its good-faith discretion); or (vii) material breach of fiduciary duty. Notwithstanding the foregoing, no act or failure to act shall constitute Cause under the immediately preceding clauses (i), (ii), (iv), (v) or (vi) unless and until the Board has delivered written notice to Executive specifying the act or failure to act providing the basis for a Cause termination and, if such act or failure to act is reasonably suspectable to cure, affords Executive fifteen (15) days to cure such act or failure to act.

(c) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.3 Resignation by Executive.

(a) Executive may resign from Executive's employment with the Company at any time by giving the notice as described in Section 5.5.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.4 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive's legal representatives Executive's Accrued Obligations.

(b) Subject to Section 5.5(a)(iii) and applicable state and federal law, the Company shall at all times have the right, upon written notice to Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on "***Disability***" shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of his position with or without reasonable accommodation for one hundred and twenty (120) days consecutively or six (6) months in the aggregate during any twelve (12) month period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

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5.5 Notice; Effective Date of Termination.

(a) Termination of Executive's employment pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 5.2(b)(i), (ii), (iv), (v), or (vi) in which case fifteen (15) days after notice if not cured or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) ten (10) days after the Company gives notice to Executive of Executive's termination on account of Executive's Disability, unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(iv) ten (10) days after Executive gives written notice to the Company of Executive's resignation without Good Reason or such later date agreed upon by Executive and the Company, *provided* that the Company may set a termination date at any time between the date of notice and the date of resignation, in which case Executive's resignation shall be effective as of such other date (Executive will receive compensation through any required notice period); or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 5.1(h).

5.6 Section 409A. It is intended that the terms of this Agreement comply with Section 409A of the Code and related Treasury regulations ("***Section 409A***") or an exemption therefrom, and the terms of this Agreement will be interpreted accordingly; provided, however, that the Company, the Company's affiliates, and their respective employees, officers, directors, agents and representatives (including, without limitation, legal counsel) will not have any liability to Executive with respect to any taxes, penalties, interest or other costs or expenses Executive or any related party may incur with respect to or as a result of Section 409A or for damages for failing to comply with Section 409A. Notwithstanding any provision to the contrary in this Agreement, with respect to any amounts under this Agreement that are determined to be deferred compensation for purposes of Section 409A and payable as a result of Executive's termination of employment, Executive shall not be deemed to have terminated employment unless and until she has experienced a "separation from service" (as that term is used in Section 409A). Each amount to be paid or benefit to be provided under this Agreement shall be construed as a separate and distinct payment for purposes of Section 409A. Any reimbursements or in-kind benefits provided to or for the benefit of Executive that constitute deferred compensation for purposes of Section 409A shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv). Accordingly, (a) all such reimbursements will be made not later than the last day of the calendar year after the calendar year in which the expenses were incurred, (b) any right to such reimbursements or in-kind benefits will not be subject to liquidation or exchange for another benefit, and (c) the amount of the expenses eligible for reimbursement, or the amount of any in-kind benefit

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provided, during any taxable year will not affect the amount of expenses eligible for reimbursement, or the in-kind benefits provided, in any other taxable year. Notwithstanding any

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provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of Executive's "separation from service" to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i), and if any of the payments upon "separation from service" set forth herein and/or under any other agreement with the Company are deemed to be "nonqualified deferred compensation" under Section 409A, then to the extent delayed commencement of any portion of such payments is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, such payments shall not be provided to Executive prior to the earliest of (i) the first date following expiration of the six-month period following the date of Executive's "separation from service" with the Company, (ii) the date of Executive's death or (iii) such earlier date as permitted under Section 409A without the imposition of adverse taxation. Upon the first business day following the expiration of such applicable Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section shall be paid in a lump sum to Executive, and any remaining payments due shall be paid as otherwise provided herein or in the applicable agreement. No interest shall be due on any amounts so deferred.

5.7 Section 280G. On and after the date on which the Company's stock becomes publicly traded on an established securities market or otherwise, if any of the payments or benefits that Executive has received or that Executive may receive (whether pursuant to the terms of this Agreement or any other plan, arrangement or agreement, or otherwise) (all such payments and benefits collectively referred to herein as the "***280G Payments***") constitute "parachute payments" within the meaning of Section 280G of the Code and would, but for this Section 5.7, be subject to the excise tax imposed under Section 4999 of the Code (the "***Excise Tax***"), then prior to making the 280G Payments, a calculation shall be made comparing (i) the Net Benefit (as defined below) to Executive of the 280G Payments after payment of the Excise Tax to (ii) the Net Benefit to Executive if the 280G Payments are limited to the extent necessary to avoid being subject to the Excise Tax. Only if the amount calculated under clause (i) above is less than the amount under clause (ii) above shall the 280G Payments be reduced to the minimum extent necessary to ensure that no portion of the 280G Payments is subject to the Excise Tax. "***Net Benefit***" shall mean the value of the 280G Payments net of all federal, state, local, foreign income, employment, and excise taxes. Any reduction made pursuant to this Section 5.7 shall be made in a manner that results in the greatest economic benefit to Executive, as determined by the Company, and that is consistent with the requirements of Section 409A.

6. INDEMNIFICATION. Executive shall be entitled to the indemnification protections under, and subject to the terms and conditions of, that certain Indemnification Agreement, dated as of December 2024, as amended, modified or restated from time to time (the "***Indemnification Agreement***").

7. RESTRICTIVE COVENANTS. Executive acknowledges and agrees that this Section 7 shall replace and supersede the PIIA in its entirety.

7.1 Confidential Information. Executive agrees and covenants to treat all Confidential Information (as defined below) as strictly confidential and not to (except as required within the scope and performance of Executive's authorized employment and duties to the Company or any of the Company's affiliates), directly or indirectly: (a) disclose, publish, communicate, or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any entity or person whatsoever not having

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a need to know and authority to know and use the Confidential Information in connection with the business of the Company; and (b) access or use any Confidential Information, or copy or reproduce any Confidential Information, or remove any such Confidential Information from the premises or control of the Company. Executive agrees to report any unauthorized disclosure or use of Confidential Information to the Company promptly upon gaining knowledge of such unauthorized disclosure or use. Executive understands that "***Confidential Information***" means all information (in spoken, printed, electronic, or any other form or medium), whether disclosed to or learned or developed by Executive before or after the execution of this Agreement, that is not generally known to the public and that is owned, used, developed, or obtained by the Company or any of the Company's affiliates in connection with its business, including, but not limited to information relating to business processes, practices, methods, policies, plans, publications, documents, research, operations, services, strategies, techniques, agreements, contracts, transactions, potential transactions, negotiations, pending negotiations, know-how, trade secrets, computer programs, software, and applications, web design, work-in-process, technologies, databases, compilations, device configurations, manuals, records, articles, systems, supplier information, vendor information, financial information, results, accounting information, legal information, marketing information, advertising information, track record, employee lists, supplier lists, vendor lists, developments, reports, graphics, drawings, market studies, sales information, revenue, costs, formulae, communications, product plans, designs, inventions, unpublished patent applications, original works of authorship, discoveries, experimental processes, experimental results, specifications, and customer and client information and lists. Confidential Information includes information that any third-party has entrusted to the Company in confidence. Confidential Information shall not include any portion of such information that Executive can demonstrate by tangible evidence: (i) was generally available to and known by the public at the time of disclosure to Executive (provided that the disclosure is through no direct or indirect fault of Executive or persons acting on Executive's behalf); (ii) was rightfully in Executive's possession prior to commencing employment with the Company; (iii) was disclosed to Executive without a confidential restriction by a third-party who, to Executive's knowledge, rightfully possesses the information and did not obtain it, either directly or indirectly, from the Company; or (iv) was lawfully and independently developed by Executive without reference to and/or use of the Confidential Information and without violation of this Agreement. Confidential Information shall not be deemed to have been published merely because individual portions of the information have been separately published, but only if all material features comprising such information have been published. Nothing in this Section shall interfere with or impede Executive's rights under section 7 of the National Labor Relations Act, including the right to engage in concerted activity. Executive shall cooperate with Company representatives and allow such representatives to oversee the process of erasing and/or permanently removing any such Confidential Information or other property of the Company from any computer, personal digital assistant, phone, or other electronic device, or any cloud-based storage account or other electronic medium owned or controlled by Executive.

7.2 Company Ownership of Work Product.

(a) Work Made for Hire; Assignment. Executive hereby acknowledges and agrees that all deliverables, documentation, ideas, concepts, discoveries, inventions (whether or not protectable under patent laws), developments, modifications, know-how, information, results, data, databases, schematics, drawings, processes, algorithms, software, content, products, prototypes, systems, applications, other work product, technology, and Intellectual Property (as

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defined below), and all printed, physical, electronic, and other tangible embodiments thereof, and all rights and claims related to any of the foregoing (whether before or hereafter accrued), that are authored, conceived, developed, fabricated, made, reduced to practice, modified, or improved by Executive (either solely or jointly with others) (i) for the Company; (ii) during the course of, or as a result of, Executive's employment or engagement by the Company or its predecessors, whether before or after the execution of this Agreement; (iii) based on or derived from use of Confidential Information; or (iv) that relate in any manner to any of the Company's actual or proposed businesses, products, services, research, or development (collectively, "***Work Product***"), is a "work made for hire" that is owned exclusively (including, for the avoidance of doubt, all copyrights therein) by the Company or any of the Company's affiliates pursuant to the United States Copyright Act (17 U.S.C., Section 101) (as a result of which the Company shall be the author). To the extent that any Work Product is deemed not to be a "work made for hire" or is not a copyrightable work or that patents, trade secrets, or other Intellectual Property is embodied therein, Executive hereby irrevocably and perpetually assigns, transfers, grants and conveys to the Company or one of the Company's affiliates (as applicable), for no additional consideration, all right, title, and interest in and to any such Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(b) Executive understands that "***Intellectual Property***" means all intellectual and industrial property (in any form or medium), together with all rights, title and interests therein, in all jurisdictions throughout the world, including all of the following: (i) utility and design patents, patent applications and patent disclosures and registrations and applications for registration of industrial design rights (whether or not patentable or reduced to practice or including Confidential Information); (ii) trade secrets and other confidential information, inventions, industrial designs, modifications, methods, processes, and improvements; (iii) trademarks, service marks, trade dress, trade names, corporate names, logos and slogans (and all translations, adaptations, derivations and combinations of the foregoing), other indicia of source or origin, and Internet domain names, together with all goodwill associated with any of the foregoing; (iv) rights in computer software, including source code, executable code, firmware, systems, tools, data, databases, and other collections of data, and all information and documentation related to any of the foregoing; (v) other works of authorship, copyrights, and copyrightable works, including derivative works; and (vi) registrations, renewals, and applications for registration or renewal of any of the foregoing (i) through (v). Executive understands that in accordance with Section 2870(a) of the California Civil Code, any provision in this Agreement which provides that Executive shall assign, or offer to assign, any of his rights in an invention to the Company shall not apply to an invention that Executive developed entirely on his own time without using the Company's equipment, supplies, facilities, or trade secret information, except for those inventions that either: (1) relate at the time of conception or use to the Company's business, or actual or demonstrably anticipated research or development of the Company; or (2) result from any work Executive performs for the Company. All Intellectual Property that falls within the scope of Section 2870(a) of the California Civil Code shall be excluded from the assignment in Section 7.2(a).

(c) License. If, under applicable law notwithstanding the foregoing, Executive retains any right, title or interest (including any right, title or interest to Intellectual Property) with respect to any Work Product, Executive hereby grants and agrees to grant to the Company, without any limitations or additional remuneration, an exclusive, perpetual, irrevocable, transferable, worldwide, royalty-free license, with the right to sublicense (through multiple tiers

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of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit such Work Product and Executive agrees not to make any claim against the Company or its affiliates, suppliers or customers with respect to such Work Product.

(d) Records; Disclosure. Executive agrees to keep and maintain adequate and current written records regarding all inventions made, conceived, discovered or developed by Executive (either alone or jointly with others) during Executive's period of employment or after the termination of Executive's employment if based on or using Confidential Information or otherwise in connection with Executive's activities as an employee of the Company. Executive agrees to make available such records and disclose promptly and fully in writing to the Company all such inventions, regardless of whether Executive believes the invention is Work Product subject to this Section 7 or qualifies fully under the provisions of Section 2870(a) of the California Labor Code, and the Company will examine such disclosure in confidence to make such determination. Any such records related to Work Product shall be the sole property of the Company.

(e) Assistance and Cooperation. Executive agrees to cooperate with and assist the Company, and perform, during and after Executive's employment, all acts deemed necessary or desirable by the Company, to apply for, obtain, establish, perfect, maintain, evidence, enforce or otherwise protect any of the full benefits, enjoyment, right, title and interest throughout the world in the Work Product, in each case at the Company's expense. Such acts may include, but are not limited to execution of assignments of title and other documents and assistance or cooperation in legal proceedings. Should the Company be unable to secure Executive's signature on any such document, whether due to Executive's mental or physical incapacity or any other cause, Executive hereby irrevocably designates and appoints the Company and each of its duly authorized representatives as Executive's agent and attorney-in-fact, with full power of substitution and delegation, to undertake such acts in Executive's name as if executed and delivered by Executive (which appointment is coupled with an interest), and Executive waives and quitclaims to the Company any and all claims of any nature whatsoever that Executive may have or may later have for infringement of any rights to Intellectual Property in or to the Work Product.

(f) Moral Rights. Executive hereby irrevocably waives, and agrees not to assert against the Company (including any successor in interest), to the extent permitted by applicable law, any and all claims Executive may now or hereafter have in any jurisdiction to all rights of paternity, integrity, disclosure, withdrawal and any other rights that may be known as "moral rights" with respect to all Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(g) Duty to Disclosure Work Product. Executive shall promptly and fully communicate to the Company all Intellectual Property and/or Work Product as reasonably practicable under the circumstances and, in any event, whenever requested by the Company.

(h) Executive's Prior Inventions and Third-Party Materials. Executive has identified and listed on **Exhibit B** attached hereto, a complete list of all Intellectual Property that Executive authored, conceived, developed, reduced to practice, modified, or improved (either solely or jointly with

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others) prior to the Effective Date that has not been legally assigned or licensed to the Company (collectively, "***Prior Inventions***"). If no Prior Inventions are listed on

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Exhibit B, Executive represents and warrants that Executive has no Prior Inventions to disclose. If Executive incorporates or causes to be incorporated into any Work Product, or otherwise exploits therewith, any Prior Inventions, then the Company shall own all such Prior Inventions, and Executive hereby assigns all right, title, and interest in such Prior Inventions to the Company. Executive hereby grants to the Company a non-exclusive, perpetual, irrevocable, transferable, worldwide, fully-paid license, with the right to sublicense (through multiple tiers of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit any Prior Inventions that are incorporated into any Work Product, but that are not assigned to the Company pursuant to the preceding sentence. The Company shall own all right, title and interest in and to any derivative works of, or improvements, enhancements or updates to, the Prior Inventions made by or on behalf of the Company pursuant to the license granted herein.

(i) Representations; Warranties and Covenants. Executive represents, warrants and covenants that: (i) Executive has the right to grant the rights and assignments granted herein, without the need for any assignments, releases, consents, approvals, immunities or other rights not yet obtained; (ii) any Work Product that is a copyrightable work is Executive's original work of authorship; and (iii) neither the Work Product nor any element thereof are subject to any restrictions or to any mortgages, liens, pledges, security interests, encumbrances or encroachments.

(j) Adequate Consideration. Executive acknowledges that the Work Product may have substantial economic value and that all proceeds resulting from use and exploitation thereof shall belong solely to the Company. In addition, Executive acknowledges that the salary, equity incentives and/or other compensation Executive receives from the Company for Executive's employment or continued employment with the Company, and Executive's access to the Company's Confidential Information, constitutes fair and adequate consideration for all assignments, licenses and waivers hereunder.

7.3 Non-Competition. During the Employment Period, Executive shall not, and shall cause Executive's affiliates not to, directly or indirectly, own any interest in, manage, operate, control, be employed or engaged by (whether or not for compensation), render services or advice to, or lend Executive's name to, or any take any preparatory steps to engage in any of the foregoing with, any person or entity who or which is engaging or preparing to engage in any business activity that is competitive with the Company's business, provided, however, that Executive shall be permitted to own less than five percent (5%) of any class of securities of any corporation in competition with the Company that is traded on a national securities exchange (as long as Executive does not participate in the business activities of such entity).

7.4 Non-Solicitation of the Company's Customers or Potential Customers. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any customer or potential customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any customer or potential customer for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential

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Information of the Company or any of the Company's affiliates to solicit any customer or potential customer.

7.5 Non-Solicitation of the Company's Business Relations. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, in each case, other than for or on behalf of the Company or its affiliates.

7.6 Non-Solicitation of the Company's Employees or Contractors. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce, or encourage (or participate in or attempt to solicit, induce, or encourage) any employee, consultant or independent contractor of the Company to terminate his or her relationship with the Company or any of the Company's affiliates or otherwise diminish his or her relationship with the Company or any of the Company's affiliates (other than for or on behalf of the Company or its affiliates); or (b) solicit, induce, encourage, or hire (or participate in or attempt to solicit, induce, encourage, or hire) any employee, consultant or independent contractor of the Company for purposes of rendering services that are competitive to the Company or any of the Company's affiliates.

7.7 Duty of Loyalty. Executive acknowledges and agrees that, during the Employment Period, Executive shall owe a fiduciary duty of loyalty to act at all times in the best interests of the Company and any of the Company's affiliates. In keeping with such duty, during Executive's employment, Executive shall fully disclose to the Company all business opportunities pertaining to the Company's business or the business of any of the Company's affiliates and shall not appropriate for Executive's own benefit or the benefit of another business opportunities concerning the Company's business or the business of any of the Company's affiliates.

7.8 Non-Disparagement. Executive hereby agrees and covenants that Executive shall not at any time make, publish, or communicate to any person or entity or in any public forum any defamatory, maliciously false, or disparaging remarks, comments, or statements concerning the Company, any of the Company's affiliates, or any of their employees, officers, directors, shareholders (or any of such shareholders' affiliates), or lenders. Nothing in this Section or this Agreement restricts or impedes either party from complying with any applicable law or regulation or a valid order of a court of competent jurisdiction or an authorized government agency, provided that such compliance does not exceed that required by the law, regulation, or order.

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7.9 Cooperation. The parties agree that certain matters in which Executive have been involved during Executive's employment or engagement may need Executive's cooperation with the Company or any of the Company's affiliates in the future. In consideration for the Severance Benefits and other consideration in this Agreement, during the Employment Period and thereafter, Executive agrees upon the Company's request to cooperate with the Company or any of the Company's affiliates in any pending or future matters arising out of or related to Executive's service to the Company or any of the Company's affiliates, including, but not limited to, any business transactions, business relationships, litigation, investigation or other dispute, in which Executive have knowledge or information, and including execution and delivery of any documents or other information reasonably requested to effect or register Executive's removal from positions as a director or officer of members of the Company or any of the Company's affiliates; provided that the Company shall make reasonable efforts to minimize disruption of Executive's other activities and shall reimburse Executive for reasonable expenses incurred in connection with this cooperation. In addition, the Company will pay Executive $500 per hour for Executive's time spent satisfying Executive's obligations pursuant to this Section 7.9 for any period of time Severance Benefits are not being paid to Executive (but excluding any period during which the Release is under review by Executive).

7.10 Permitted Disclosures. Nothing in this Agreement or any other agreement between the parties or any other policies of the Company prohibits or restricts any person or entity from: (a) making any disclosure of relevant and necessary information or documents in any action, investigation, or proceeding as required by law or legal process, including with respect to possible violations of law; (b) participating, cooperating, or testifying in any action, investigation, or proceeding with, or providing information to, any governmental agency or legislative body, any self-regulatory organization, and/or pursuant to the Sarbanes-Oxley Act; (c) accepting any U.S. Securities and Exchange Commission awards; or (d) initiating communications with, or responding to any inquiry from, any regulatory or supervisory authority regarding any good-faith concerns about possible violations of law or regulation. Nothing in this Agreement prevents Executive from discussing or disclosing information about unlawful acts in the workplace, such as harassment or discrimination or any other conduct that Executive has reason to believe is unlawful. Pursuant to 18 U.S.C. § 1833(b), Executive will not be held criminally or civilly liable under any Federal or state trade secret law for the disclosure of a trade secret of the Company that (i) is made (1) in confidence to a Federal, state, or local government official, either directly or indirectly, or to Executive's attorney and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. If Executive files a lawsuit for retaliation by the Company for reporting a suspected violation of law, Executive may disclose the trade secret to Executive's attorney and use the trade secret information in the court proceeding, if Executive files any document containing the trade secret under seal, and does not disclose the trade secret, except pursuant to court order.

7.11 Injunctive Relief; Remedies; Indemnification. Executive agrees that, due to the nature of the business of the Company, the restrictions set forth in this Agreement are reasonable as to time, geography and scope. Executive agrees that the obligations set forth in this Agreement are necessary and reasonable to protect the Company's legitimate business interests, Confidential Information, trade secrets, customer and employee relationships and the goodwill associated therewith. Executive agrees that the Company would suffer irreparable harm and continuing damage for which money damages would be

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insufficient if Executive were to breach, or threaten to breach, any of the restrictions in Section 7 of this Agreement. Executive furthermore

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agrees that the Company would by reason of such breach, or threatened breach, be entitled to an injunction, a decree for specific performance, or other equitable relief in a court of appropriate jurisdiction and all other relief as may be proper (including money damages if appropriate), to the extent permitted by law, without the need to post any bond. Executive further consents and stipulates to the entry of such injunctive relief in such a court prohibiting Executive from breaching the terms of any provision in Section 7 of this Agreement. Section 7 of this Agreement shall not diminish the right of the Company to claim and recover damages and other appropriate relief in addition to injunctive relief.

7.12 Third-Party Information. Executive agrees that the Company does not desire to acquire from Executive any intellectual property, trade secrets, know-how, or confidential business information that Executive may have acquired from others. Executive agrees not to disclose or use any such information in connection with Executive's employment or engagement with the Company in violation of any obligations to others. Executive represents Executive is not bound by any agreement or restriction that conflicts with or prevents the full performance of Executive's duties and obligations to the Company.

7.13 Termination; Return of Materials. In the event of the termination of Executive's employment or upon the earlier request of the Company, Executive agrees to promptly return all property of the Company, including, without limitation, (a) all source code, manuals, records, models, drawings, reports, notes, contracts, lists, blueprints, and other documents or materials and all copies thereof, (b) all equipment furnished to or prepared by Executive in the course of or incident to Executive's employment, and (c) all written or tangible materials containing Confidential Information or information pertaining to any Work Product. Executive understands that Executive's obligations contained in this Section 7 will survive the termination of Executive's employment and Executive will continue to make all disclosures required of Executive by Section 7.2(e) above. In the event of the termination of Executive's employment, Executive agrees, if requested by the Company, to sign and deliver the Termination Certificate, attached as **Exhibit C** hereto. Executive agrees that after the termination of Executive's employment, Executive will not enter into any agreement that conflicts with Executive's obligations under this Section 7 and will inform any subsequent employers of Executive's obligations under this Section 7. The termination of any employment or other agreement between the Company and Executive shall not terminate this Section 7 and each and all of the terms and conditions hereof shall survive and remain in full force and effect.

7.14 Severability; Reformation. In the event that any one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall remain fully effective. If any one or more of the provisions contained in this Agreement is held to be excessively broad in scope or duration, if permitted by applicable law, such provisions shall be construed by modifying them so as to be enforceable to the maximum extent allowed by applicable law. A determination in any jurisdiction that this Agreement, in whole or in part, is invalid, illegal or unenforceable shall not in any way affect or impair the validity, legality or enforceability of this Agreement in any other jurisdiction.

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8. General Provisions.

8.1 Notices. Any notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. Such notices, demands and other communications shall be sent to the parties at the addresses indicated below:

If to the Company:

Carlsmed, Inc.
Attention: Board of Directors
1800 Aston Ave.
Suite 100
Carlsbad, CA 92008

With copies to (which shall not constitute notice):

Morrison & Foerster LLP
Attention: James Krenn
12531 High Bluff Drive, Suite 200
San Diego, CA 92130
[***]

If to Executive:

William Scott Durall
[***]

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party.

8.2 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or the Company shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

8.3 Complete Agreement. This Agreement, including **Exhibits A, B and C**, together with the Indemnification Agreement, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written

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communications and agreements. This Agreement is entered into without reliance on any promise or representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company and approved by the Board. The parties may have entered into other

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agreements, which govern other aspects of the relationship between the parties, and may have provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

8.4 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

8.5 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

8.6 Successors and Assigns. The Company may assign this Agreement to any successor or assign (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company. This Agreement shall inure to the benefit of the Company and permitted successors and assigns. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to his estate upon his death.

8.7 Advice of Counsel. EXECUTIVE ACKNOWLEDGES THAT, IN EXECUTING THIS AGREEMENT, EXECUTIVE HAS HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND HAS READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

8.8 Tax Withholding. The Company and its subsidiaries shall be entitled to deduct or withhold from any amounts owing from the Company or any of its subsidiaries to Executive (including withholding shares or other equity securities in the case of issuances of equity by the Company or its subsidiaries) any federal, state, local or foreign withholding taxes, excise taxes, or employment taxes ("***Taxes***") imposed with respect to Executive's compensation or other payments from the Company or its subsidiaries, including wages, bonuses, distributions, the receipt or exercise of equity options and/or the receipt or vesting of restricted equity. In the event any such deductions or withholdings are not made, Executive shall indemnify the Company and its subsidiaries for any amounts paid with respect to any such Taxes, together with any interest, penalties and related expenses thereto; provided, that, Executive shall not be obligated to indemnify the Company pursuant to this Section 8.8 for such interest, penalties or related expenses which are directly caused by the failure of the Company to take necessary action with respect to such deductions and withholdings as it is required by law to take.

8.9 Termination. This Agreement (except for the provisions of Sections 1, 2, and 3) shall survive the termination of Executive's employment or engagement with the Company and shall remain in full force and effect after such termination.

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8.10 Clawback. To the extent required by applicable law or any applicable securities exchange listing standards, or as otherwise determined by the Board (or a committee thereof), amounts paid or payable under this Agreement shall be subject to the provisions of any applicable clawback policies or procedures adopted by the Company or any of the Company's affiliates or subsidiaries, which clawback policies or procedures may provide for forfeiture and/or recoupment of amounts paid or payable under this Agreement. Notwithstanding any provision of this Agreement to the contrary, each of the Company or any of the Company's affiliates or subsidiaries reserves the right, without the consent of Executive, to adopt any such clawback policies and procedures, including such policies and procedures applicable to this Agreement with retroactive effect; provided, however, that such clawback policies and procedures shall not apply to compensation paid prior to the Employment Period.

8.11 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California without regard to conflicts of law principles.

8.12 Resolution of Disputes. Except for injunctive actions pursuant to Section 7.11 of this Agreement or any disputes or claims involving sexual assault and/or sexual harassment as defined by title 9 of the United States Code arising on or after March 3, 2022, the parties agree that any dispute between the parties arising out of or relating to the negotiation, execution, performance or termination of this Agreement or Executive's employment or relationship with the Company or its affiliates, including, but not limited to, any claim arising out of this Agreement, claims under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, Section 1981 of the Civil Rights Act of 1966, as amended, the Family Medical Leave Act, the Employee Retirement Income Security Act, and any similar federal, state or local law, statute, regulation, or any common law doctrine, whether that dispute arises during or after employment, shall be settled by binding arbitration in accordance with the National Rules for the Resolution of Employment Disputes of the American Arbitration Association. The location for the arbitration shall be the Carlsbad, California metropolitan region. Any award made in such arbitration shall be final, binding and conclusive on the parties for all purposes, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The arbitrators' fees and expenses and all administrative fees and expenses associated with the filing of the arbitration shall be borne by the Company; *provided however*, that at Executive's option, Executive may voluntarily pay up to one-half the costs and fees. The parties acknowledge and agree that their obligations to arbitrate under this Section survive the termination of this Agreement and continue after the termination of the employment relationship between Executive and the Company. The parties each further agree that the arbitration provisions of this Agreement shall provide each party with its exclusive remedy, and each party expressly waives any right it might have to seek redress in any other forum, except as otherwise expressly provided in this Agreement. By electing arbitration as the means for final settlement of all claims, the parties hereby waive their respective rights to, and agree not to, sue each other in any action in a Federal, State or local court with respect to such claims, but may seek to enforce in court an arbitration award rendered pursuant to this Agreement or to pursue injunctive relief in aid of arbitration.

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IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the Effective Date.

CARLSMED, INC.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: President and CEO

EXECUTIVE

/s/ William Scott Durall

William Scott Durall

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Exhibit A

Release

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EXHIBIT B

Prior Inventions

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Exhibit C

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Exhibit 10.13

EMPLOYMENT AGREEMENT

This **EMPLOYMENT AGREEMENT** (the "***Agreement***") is entered into effective June 24, 2025 (the "***Effective Date***"), by and between Niall Casey ("***Executive***") and Carlsmed, Inc. (the "***Company***").

WHEREAS, Executive has been employed by the Company pursuant to that certain Employment Agreement, dated June 4, 2018 (the "***Original Agreement***");

WHEREAS, Executive and the Company are parties to that certain Employee Proprietary Information and Invention Assignment Agreement, dated June 4, 2018 (the "***PIIA***");

WHEREAS, Executive and the Company mutually desire to replace and supersede the Original Agreement and PIIA in their entirety and enter into an agreement containing the terms and conditions pursuant to which the Company will continue to employ Executive.

NOW THEREFORE, in consideration of the mutual promises and covenants contained herein, the parties agree to the following:

1. EMPLOYMENT BY THE COMPANY.

1.1 Position. Subject to the terms set forth herein, the Company agrees to continue employing Executive in the position of Chief Intellectual Property Officer , and Executive hereby accepts such continued employment, for the period beginning on the Effective Date and ending upon Executive's separation of employment pursuant to Section 5 of this Agreement (the "***Employment Period***"). Executive will report to the Company's Chief Executive Officer ("***CEO***") during the Employment Period. Executive will perform such duties as are normally associated with his position and as assigned by the CEO or the Company's Board of Directors (the "***Board***"), consistent with Executive's position with the Company from time to time.

1.2 Location. Executive shall perform his duties under this Agreement principally out of the Company's Carlsbad, California office. Executive shall make such business trips to such places as may be necessary or advisable for the efficient operations of the Company or as otherwise requested by the CEO or the Board.

1.3 Salary. During the Employment Period, Executive shall receive for Executive's services to be rendered hereunder an initial annualized base salary of $300,000, subject to review and increase by the Board (or an authorized committee thereof) in its sole discretion, and payable subject to standard federal and state payroll withholding requirements in accordance with Company's standard payroll practices ("***Base Salary***"). The Board will annually review Executive's overall compensation, including Executive's Base Salary for increases, the Annual Bonus (as defined below) and the possibility of equity-based awards. In addition, in connection with the first underwritten public offering of the Company's Common Stock under the Securities Act of 1933, as amended (the "***IPO***"), the Board will review Executive's overall compensation,

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including Executive's Base Salary, the Annual Bonus and the possibility of granting Executive equity-based awards to be effective, and contingent upon, the closing of the

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IPO. Any increases in Executive's Base Salary, the Annual Bonus or the grant of any equity-based awards will be in the sole discretion of the Board.

1.4 Bonus. During the Employment Period, Executive shall be eligible to earn an annual bonus with a target amount equal to forty percent (40%) of the Base Salary (such amount, the "***Annual Bonus***"), based on achievement of performance targets as established by the Board (or an authorized committee thereof) each year in its sole discretion. The Board (or an authorized committee thereof) will determine in its sole discretion the extent to which Executive has achieved the performance targets upon which the Annual Bonus is based and the amount of the Annual Bonus, which could be zero. The annual period over which performance is measured for purposes of this Section 1.4 is January 1 through December 31. The Board (or an authorized committee thereof) may adjust the target amount of the Annual Bonus in its sole discretion. The Annual Bonus, if any, will be paid within two-and-one-half (2½) months following the end of the applicable calendar year and shall be subject to standard federal and state payroll withholding requirements. In order to be eligible to receive an Annual Bonus, Executive must be employed by the Company through the date any bonus is paid.

2. BENEFITS; REIMBURSEMENTS.

2.1 Company Policies and Benefits. The employment relationship between the parties shall also be subject to the Company's written personnel policies and procedures that are provided or made available to Executive, as they may be interpreted, adopted, revised or deleted from time to time in the Company's sole discretion. Executive shall be eligible to participate in the benefits made generally available by the Company to other senior executives, in accordance with the benefit plans established by the Company, and as may be amended from time to time in the Company's sole discretion. All matters of eligibility for coverage or benefits under any benefit plan shall be determined in accordance with the provisions of such plan. The Company reserves the right to change, alter, or terminate any benefit plan in its sole discretion. Notwithstanding the foregoing, in the event that the terms of this Agreement differ from or are in conflict with the Company's general employment policies or practices, this Agreement shall control.

2.2 General Reimbursement.

(a) **General Reimbursement**. Subject to the Company's standard expense reimbursement policy, the Company will reimburse Executive for reasonable out-of-pocket business expenses he incurs in connection with his employment with the Company, provided that Executive provides proper documentation of such expenses in accordance with the Company's policies.

(b) **409A**. For the avoidance of doubt, to the extent that any reimbursements payable to Executive pursuant to this Agreement are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended: (a) any such reimbursements will be paid no later than December 31 of the year following the year in which the expense was incurred, (b) the amount of expenses reimbursed in one year will not affect the amount eligible for reimbursement in any subsequent year, and (c) the right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

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3. Outside Activities. During the term of Executive's employment with the Company, and excluding periods of vacation and sick leave to which Executive is entitled, Executive will devote Executive's best efforts and substantially all of Executive's business time and attention to the business of the Company. Notwithstanding anything to the contrary in the preceding sentence, except with the prior written consent of the Board, Executive will not, during the Employment Period, undertake or engage in any other employment, occupation or business enterprise that would interfere with Executive's responsibilities and the performance of Executive's duties hereunder except for: (i) reasonable time devoted to volunteer services for or on behalf of such religious, educational, non-profit and/or other charitable organization as Executive may wish to serve; or (ii) such other activities as may be specifically approved by the Board (or an authorized committee thereof). This restriction shall not, however, preclude Executive from owning less than five percent (5%) of the total outstanding shares of a publicly traded company.

4. No Conflict with Existing Obligations. Executive represents that Executive's performance of all terms of this Agreement and as an executive of the Company do not and will not breach any agreement or obligation of any kind made prior to Executive's employment by the Company, including agreements or obligations Executive may have with prior employers or entities for which Executive has provided services. Executive has not entered into, and Executive agrees that during the Employment Period, Executive will not enter into, any agreement or obligation, either written or oral, in conflict herewith.

5. Termination Of Employment. The parties acknowledge that Executive's employment relationship with the Company is at-will. Either Executive or the Company may terminate the employment relationship at any time, with or without Cause (as defined in Section 5.2(b) below) or Good Reason (as defined in Section 5.1(h) below), as applicable. The provisions in this Section 5 govern the amount of compensation, if any, to be provided to Executive upon termination of employment and do not alter this at-will status. Upon any termination of Executive's employment with the Company, if Executive holds any other positions with the Company or any affiliate, including Executive's position as a member of the Board, Executive shall be deemed to have automatically resigned from each such position unless otherwise agreed in writing between the Board and Executive.

5.1 Termination by the Company without Cause or Resignation by Executive for Good Reason.

(a) The Company shall have the right to terminate Executive's employment with the Company pursuant to this Section 5.1 at the times in accordance with Section 5.5 without "Cause" or Executive may resign for Good Reason by giving notice as described in Section 5.5(a)(iv) of this Agreement. A resignation without Good Reason pursuant to Section 5.3 or a termination pursuant to Section 5.4 below is not a termination without Cause for purposes of receiving the benefits described in this Section 5.1.

(b) If the Company terminates Executive's employment at any time without Cause or Executive resigns his employment with the Company for Good Reason, then Executive shall be entitled to receive the Accrued Obligations (defined in Section 5.1(e) below)

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and, if Executive complies with the obligations in Section 5.1(d) below, Executive shall also be eligible to receive the following "***Severance Benefits***":

(i) The Company will pay Executive an amount equal to Executive's then current Base Salary for twelve (12) months, less all applicable withholdings and deductions ("***Severance***"), to be paid in equal installments over a period of twelve (12) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date (as defined in Section 5.1(d) of this Agreement), with the first installment including any amount of the Severance that would otherwise have been due prior to the Release Effective Date.

(ii) Executive shall be eligible to receive any unpaid Annual Bonus for the year immediately preceding the year of Executive's termination, provided that such Annual Bonus would have been earned and payable pursuant to the relevant bonus criteria excluding the requirement that Executive be employed on the date of payment, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iii) Executive will be eligible to earn a pro-rated Annual Bonus, if any is earned based achievement of performance targets as established by the Board, for the year in which the termination occurs, subject to standard payroll deductions and withholdings, which will be paid in a lump sum when annual bonuses are otherwise paid to other senior Company executives, which in no event will be later than March 15 of the year following the year for which such Annual Bonus relates (or the second regularly scheduled payroll date following the Release Effective Date, if later).

(iv) If Executive timely elects continued coverage under COBRA for himself and his covered dependents under the Company's group health plans following such termination, then the Company shall pay the COBRA premiums necessary to continue Executive's and his covered dependents' health insurance coverage in effect for himself (and his covered dependents) on the termination date until the earliest of: (i) twelve (12) months following the termination date; (ii) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment; or (iii) the date Executive ceases to be eligible for COBRA continuation coverage for any reason, including plan termination (such period from the termination date through the earlier of (i)-(iii)), (the "***COBRA Payment Period***"). Notwithstanding the foregoing, if at any time the Company determines that its payment of COBRA premiums on Executive's behalf could result in a violation of applicable law (including, but not limited to, the 2010 Patient Protection and Affordable Care Act, as amended by the 2010 Health Care and Education Reconciliation Act), then in lieu of paying COBRA premiums pursuant to this Section, the Company shall pay Executive on the last day of each remaining month of the COBRA Payment Period, a fully taxable cash payment equal to the COBRA premium for such month, subject to applicable tax withholding, for the remainder of the COBRA Payment Period. Nothing in this Agreement shall deprive Executive of his rights under COBRA or ERISA for benefits under plans and policies arising under his employment by the Company.

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(c) In the event that there is a Corporate Transaction (as defined in the Carlsmed, Inc. 2019 Stock Incentive Plan (the "***Incentive Plan***")) and Executive's employment is terminated by the Company without Cause or Executive resigns his employment with the Company for Good Reason, in each case in connection with or within the three (3) month period immediately prior to the Corporate Transaction or the twelve (12) month period on and immediately following the Corporate Transaction, then Executive shall be entitled to receive the Accrued Obligations and, provided that Executive complies with the obligations in Section 5.1(d) below, (i) Executive shall receive the Severance Benefits described in Section 5.1(b) except that all references to twelve (12) months shall be replaced with eighteen (18) months, (ii) all unvested time-based vesting equity awards held by Executive that were granted under the Incentive Plan or such similar equity incentive plan as may be adopted by the Company from time to time, and are outstanding at the time of the termination of employment shall accelerate and vest as of such termination of employment (the "***Accelerated Vesting***"), and (iii) an additional amount reflecting Executive's target Annual Bonus for a period of eighteen (18) months calculated by multiplying Executive's target Annual Bonus amount by 1.5, to be paid in equal installments over a period of eighteen (18) months in accordance with the Company's regular payroll practices beginning on the Company's second regularly scheduled payroll date following the Release Effective Date. For the avoidance of doubt, the Accelerated Vesting will only apply to accelerate the vesting of any time-based vesting conditions that lapse solely based on Executive's continued employment or service with the Company and shall not apply to any performance-based vesting conditions.

(d) Executive will be paid all of the Accrued Obligations, as defined below, on the Company's first payroll date after Executive's date of termination from employment or earlier if required by law. Executive shall receive the Severance Benefits and the Accelerated Vesting pursuant to Section 5.1(b) and Section 5.1(c) of this Agreement, respectively, if: (i) by the 60th day following the date of Executive's termination of employment from the Company, he has signed and delivered to the Company a separation agreement containing an effective, general release of claims in favor of the Company and its affiliates and representatives, in the form attached hereto as **Exhibit A** (the "***Release***"), which cannot be revoked in whole or part by such date (the date that the Release can no longer be revoked is referred to as the "***Release Effective Date***"); and (ii) if he holds any other positions with the Company or any affiliate, including a position on the Board, he resigns such position(s) to be effective no later than the date of Executive's termination date (or such other date as requested by the Board); (iii) he returns all Company property; (iv) he complies in all material respects with all post-termination obligations under this Agreement; and (v) he complies in all material respects with the terms of the Release, including without limitation the non-disparagement and confidentiality provisions contained in the Release. To the extent that any severance payments are deferred compensation under Section 409A of the Code, and are not otherwise exempt from the application of Section 409A, then, if the period during which Executive may consider and sign the Release spans two (2) calendar years, the payment of Severance will not be made or begin until the later calendar year.

(e) For purposes of this Agreement, "***Accrued Obligations***" are (i) Executive's accrued but unpaid Base Salary through the date of termination, (ii) accrued but unpaid vacation, (iii) any unreimbursed business expenses incurred by Executive payable in accordance with the Company's standard expense reimbursement policies, and (iv) benefits owed to Executive

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under any qualified retirement plan or health and welfare benefit plan in which Executive was a participant in accordance with applicable law and the provisions of such plan.

(f) The Severance Benefits provided to Executive pursuant to this Section 5.1 are in lieu of, and not in addition to, any benefits to which Executive may otherwise be entitled under any Company severance plan, policy or program.

(g) Any damages caused by the termination of Executive's employment without Cause would be difficult to ascertain; therefore, the Severance Benefits for which Executive is eligible pursuant to Section 5.1(b) above in exchange for the Release is agreed to by the parties as liquidated damages, to serve as full and exclusive compensation with respect to such termination, and not a penalty.

(h) For purposes of this Agreement, "***Good Reason***" shall mean the occurrence of any of the following events without Executive's consent: (i) a material reduction in Executive's Base Salary or target Annual Bonus opportunity unless such reduction applies to all similarly situated executives across the board; (ii) a material reduction in Executive's duties, authority, reporting structure, responsibilities, or title relative to Executive's duties, authority, reporting structure, responsibilities, or title in effect immediately prior to such reduction, *provided, however*, that the acquisition of the Company and subsequent conversion of the Company to a subsidiary division or unit of the acquiring company will not by itself, or coupled with any related change in Executive's title and/or reporting structure, constitute Good Reason; or (iii) the relocation of Executive's principal place of employment in a manner that lengthens his one-way commute distance by thirty (30) or more miles from his then-current principal place of employment immediately prior to such relocation. Any such resignation by Executive shall only be deemed for Good Reason pursuant to this definition if: (1) Executive gives the Company written notice of his intent to resign for Good Reason within thirty (30) days following the first occurrence of the condition(s) that he believes constitute(s) Good Reason, which notice shall describe such condition(s); (2) the Company fails to remedy such condition(s) within thirty (30) days following receipt of the written notice (the "***Cure Period***"); (3) the Company has not, prior to receiving such notice from Executive, already informed Executive that his employment with the Company is being terminated; and (4) Executive voluntarily resigns his employment within thirty (30) days following the end of the Cure Period.

5.2 Termination by the Company for Cause.

(a) The Company shall have the right to terminate Executive's employment with the Company at any time for Cause by giving notice as described in Section 5.5 of this Agreement.

(b) "***Cause***" for termination shall mean that the Board has determined that Executive has engaged in any of the following: (i) a material breach of any covenant or condition under this Agreement, or any other agreement between the parties; (ii) any willful conduct which would be reasonably likely to bring the Company into substantial public disgrace or disrepute; (iii) the commission of a felony under applicable law or a crime of moral turpitude; (iv) material violation of any written Company policy applicable to Executive that causes material economic or reputational harm to the Company; (v) material and repeated refusal to follow or implement a clear, lawful, and reasonable directive of the Board that is within the scope of

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Executive's duties and responsibilities; (vi) gross negligence or willful and material incompetence in the performance of Executive's duties that causes material economic or reputational harm to the Company (as determined by the Board in its good-faith discretion); or (vii) material breach of fiduciary duty. Notwithstanding the foregoing, no act or failure to act shall constitute Cause under the immediately preceding clauses (i), (ii), (iv), (v) or (vi) unless and until the Board has delivered written notice to Executive specifying the act or failure to act providing the basis for a Cause termination and, if such act or failure to act is reasonably suspectable to cure, affords Executive fifteen (15) days to cure such act or failure to act.

(c) In the event Executive's employment is terminated at any time for Cause, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, consistent with the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.3 Resignation by Executive.

(a) Executive may resign from Executive's employment with the Company at any time by giving the notice as described in Section 5.5.

(b) In the event Executive resigns from Executive's employment with the Company (other than for Good Reason), Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

5.4 Termination by Virtue of Death or Disability of Executive.

(a) In the event of Executive's death while employed pursuant to this Agreement, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive's legal representatives Executive's Accrued Obligations.

(b) Subject to Section 5.5(a)(iii) and applicable state and federal law, the Company shall at all times have the right, upon written notice to Executive, to terminate this Agreement based on Executive's Disability (as defined below). Termination by the Company of Executive's employment based on "***Disability***" shall mean termination because Executive is unable due to a physical or mental condition to perform the essential functions of his position with or without reasonable accommodation for one hundred and twenty (120) days consecutively or six (6) months in the aggregate during any twelve (12) month period. This definition shall be interpreted and applied consistent with the Americans with Disabilities Act, the Family and Medical Leave Act, and other applicable law. In the event Executive's employment is terminated based on Executive's Disability, Executive will not receive the Severance Benefits, or any other severance compensation or benefit, except that, pursuant to the Company's standard payroll policies, the Company shall provide to Executive the Accrued Obligations.

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5.5 Notice; Effective Date of Termination.

(a) Termination of Executive's employment pursuant to this Agreement shall be effective on the earliest of:

(i) immediately after the Company gives notice to Executive of Executive's termination, with or without Cause, unless pursuant to Section 5.2(b)(i), (ii), (iv), (v), or (vi) in which case fifteen (15) days after notice if not cured or unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(ii) immediately upon Executive's death;

(iii) ten (10) days after the Company gives notice to Executive of Executive's termination on account of Executive's Disability, unless the Company specifies a later date, in which case, termination shall be effective as of such later date;

(iv) ten (10) days after Executive gives written notice to the Company of Executive's resignation without Good Reason or such later date agreed upon by Executive and the Company, *provided* that the Company may set a termination date at any time between the date of notice and the date of resignation, in which case Executive's resignation shall be effective as of such other date (Executive will receive compensation through any required notice period); or

(v) for a termination for Good Reason, immediately upon Executive's full satisfaction of the requirements of Section 5.1(h).

5.6 Section 409A. It is intended that the terms of this Agreement comply with Section 409A of the Code and related Treasury regulations ("***Section 409A***") or an exemption therefrom, and the terms of this Agreement will be interpreted accordingly; provided, however, that the Company, the Company's affiliates, and their respective employees, officers, directors, agents and representatives (including, without limitation, legal counsel) will not have any liability to Executive with respect to any taxes, penalties, interest or other costs or expenses Executive or any related party may incur with respect to or as a result of Section 409A or for damages for failing to comply with Section 409A. Notwithstanding any provision to the contrary in this Agreement, with respect to any amounts under this Agreement that are determined to be deferred compensation for purposes of Section 409A and payable as a result of Executive's termination of employment, Executive shall not be deemed to have terminated employment unless and until she has experienced a "separation from service" (as that term is used in Section 409A). Each amount to be paid or benefit to be provided under this Agreement shall be construed as a separate and distinct payment for purposes of Section 409A. Any reimbursements or in-kind benefits provided to or for the benefit of Executive that constitute deferred compensation for purposes of Section 409A shall be provided in a manner that complies with Treasury Regulation Section 1.409A-3(i)(1)(iv). Accordingly, (a) all such reimbursements will be made not later than the last day of the calendar year after the calendar year in which the expenses were incurred, (b) any right to such reimbursements or in-kind benefits will not be subject to liquidation or exchange for another benefit, and (c) the amount of the expenses eligible for reimbursement, or the amount of any in-kind benefit

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provided, during any taxable year will not affect the amount of expenses eligible for reimbursement, or the in-kind benefits provided, in any other taxable year. Notwithstanding any

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provision to the contrary in this Agreement, if Executive is deemed by the Company at the time of Executive's "separation from service" to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i), and if any of the payments upon "separation from service" set forth herein and/or under any other agreement with the Company are deemed to be "nonqualified deferred compensation" under Section 409A, then to the extent delayed commencement of any portion of such payments is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) and the related adverse taxation under Section 409A, such payments shall not be provided to Executive prior to the earliest of (i) the first date following expiration of the six-month period following the date of Executive's "separation from service" with the Company, (ii) the date of Executive's death or (iii) such earlier date as permitted under Section 409A without the imposition of adverse taxation. Upon the first business day following the expiration of such applicable Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section shall be paid in a lump sum to Executive, and any remaining payments due shall be paid as otherwise provided herein or in the applicable agreement. No interest shall be due on any amounts so deferred.

5.7 Section 280G. On and after the date on which the Company's stock becomes publicly traded on an established securities market or otherwise, if any of the payments or benefits that Executive has received or that Executive may receive (whether pursuant to the terms of this Agreement or any other plan, arrangement or agreement, or otherwise) (all such payments and benefits collectively referred to herein as the "***280G Payments***") constitute "parachute payments" within the meaning of Section 280G of the Code and would, but for this Section 5.7, be subject to the excise tax imposed under Section 4999 of the Code (the "***Excise Tax***"), then prior to making the 280G Payments, a calculation shall be made comparing (i) the Net Benefit (as defined below) to Executive of the 280G Payments after payment of the Excise Tax to (ii) the Net Benefit to Executive if the 280G Payments are limited to the extent necessary to avoid being subject to the Excise Tax. Only if the amount calculated under clause (i) above is less than the amount under clause (ii) above shall the 280G Payments be reduced to the minimum extent necessary to ensure that no portion of the 280G Payments is subject to the Excise Tax. "***Net Benefit***" shall mean the value of the 280G Payments net of all federal, state, local, foreign income, employment, and excise taxes. Any reduction made pursuant to this Section 5.7 shall be made in a manner that results in the greatest economic benefit to Executive, as determined by the Company, and that is consistent with the requirements of Section 409A.

6. INDEMNIFICATION. Executive shall be entitled to the indemnification protections under, and subject to the terms and conditions of, that certain Indemnification Agreement, dated as of December 15, 2020, as amended, modified or restated from time to time (the "***Indemnification Agreement***").

7. RESTRICTIVE COVENANTS. Executive acknowledges and agrees that this Section 7 shall replace and supersede the PIIA in its entirety.

7.1 Confidential Information. Executive agrees and covenants to treat all Confidential Information (as defined below) as strictly confidential and not to (except as required within the scope and performance of Executive's authorized employment and duties to the Company or any of the Company's affiliates), directly or indirectly: (a) disclose, publish, communicate, or make available Confidential Information, or allow it to be disclosed, published, communicated, or made available, in whole or part, to any entity or person whatsoever not having

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a need to know and authority to know and use the Confidential Information in connection with the business of the Company; and (b) access or use any Confidential Information, or copy or reproduce any Confidential Information, or remove any such Confidential Information from the premises or control of the Company. Executive agrees to report any unauthorized disclosure or use of Confidential Information to the Company promptly upon gaining knowledge of such unauthorized disclosure or use. Executive understands that "***Confidential Information***" means all information (in spoken, printed, electronic, or any other form or medium), whether disclosed to or learned or developed by Executive before or after the execution of this Agreement, that is not generally known to the public and that is owned, used, developed, or obtained by the Company or any of the Company's affiliates in connection with its business, including, but not limited to information relating to business processes, practices, methods, policies, plans, publications, documents, research, operations, services, strategies, techniques, agreements, contracts, transactions, potential transactions, negotiations, pending negotiations, know-how, trade secrets, computer programs, software, and applications, web design, work-in-process, technologies, databases, compilations, device configurations, manuals, records, articles, systems, supplier information, vendor information, financial information, results, accounting information, legal information, marketing information, advertising information, track record, employee lists, supplier lists, vendor lists, developments, reports, graphics, drawings, market studies, sales information, revenue, costs, formulae, communications, product plans, designs, inventions, unpublished patent applications, original works of authorship, discoveries, experimental processes, experimental results, specifications, and customer and client information and lists. Confidential Information includes information that any third-party has entrusted to the Company in confidence. Confidential Information shall not include any portion of such information that Executive can demonstrate by tangible evidence: (i) was generally available to and known by the public at the time of disclosure to Executive (provided that the disclosure is through no direct or indirect fault of Executive or persons acting on Executive's behalf); (ii) was rightfully in Executive's possession prior to commencing employment with the Company; (iii) was disclosed to Executive without a confidential restriction by a third-party who, to Executive's knowledge, rightfully possesses the information and did not obtain it, either directly or indirectly, from the Company; or (iv) was lawfully and independently developed by Executive without reference to and/or use of the Confidential Information and without violation of this Agreement. Confidential Information shall not be deemed to have been published merely because individual portions of the information have been separately published, but only if all material features comprising such information have been published. Nothing in this Section shall interfere with or impede Executive's rights under section 7 of the National Labor Relations Act, including the right to engage in concerted activity. Executive shall cooperate with Company representatives and allow such representatives to oversee the process of erasing and/or permanently removing any such Confidential Information or other property of the Company from any computer, personal digital assistant, phone, or other electronic device, or any cloud-based storage account or other electronic medium owned or controlled by Executive.

7.2 Company Ownership of Work Product.

(a) Work Made for Hire; Assignment. Executive hereby acknowledges and agrees that all deliverables, documentation, ideas, concepts, discoveries, inventions (whether or not protectable under patent laws), developments, modifications, know-how, information, results, data, databases, schematics, drawings, processes, algorithms, software, content, products, prototypes, systems, applications, other work product, technology, and Intellectual Property (as

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defined below), and all printed, physical, electronic, and other tangible embodiments thereof, and all rights and claims related to any of the foregoing (whether before or hereafter accrued), that are authored, conceived, developed, fabricated, made, reduced to practice, modified, or improved by Executive (either solely or jointly with others) (i) for the Company; (ii) during the course of, or as a result of, Executive's employment or engagement by the Company or its predecessors, whether before or after the execution of this Agreement; (iii) based on or derived from use of Confidential Information; or (iv) that relate in any manner to any of the Company's actual or proposed businesses, products, services, research, or development (collectively, "***Work Product***"), is a "work made for hire" that is owned exclusively (including, for the avoidance of doubt, all copyrights therein) by the Company or any of the Company's affiliates pursuant to the United States Copyright Act (17 U.S.C., Section 101) (as a result of which the Company shall be the author). To the extent that any Work Product is deemed not to be a "work made for hire" or is not a copyrightable work or that patents, trade secrets, or other Intellectual Property is embodied therein, Executive hereby irrevocably and perpetually assigns, transfers, grants and conveys to the Company or one of the Company's affiliates (as applicable), for no additional consideration, all right, title, and interest in and to any such Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(b) Executive understands that "***Intellectual Property***" means all intellectual and industrial property (in any form or medium), together with all rights, title and interests therein, in all jurisdictions throughout the world, including all of the following: (i) utility and design patents, patent applications and patent disclosures and registrations and applications for registration of industrial design rights (whether or not patentable or reduced to practice or including Confidential Information); (ii) trade secrets and other confidential information, inventions, industrial designs, modifications, methods, processes, and improvements; (iii) trademarks, service marks, trade dress, trade names, corporate names, logos and slogans (and all translations, adaptations, derivations and combinations of the foregoing), other indicia of source or origin, and Internet domain names, together with all goodwill associated with any of the foregoing; (iv) rights in computer software, including source code, executable code, firmware, systems, tools, data, databases, and other collections of data, and all information and documentation related to any of the foregoing; (v) other works of authorship, copyrights, and copyrightable works, including derivative works; and (vi) registrations, renewals, and applications for registration or renewal of any of the foregoing (i) through (v). Executive understands that in accordance with Section 2870(a) of the California Civil Code, any provision in this Agreement which provides that Executive shall assign, or offer to assign, any of his rights in an invention to the Company shall not apply to an invention that Executive developed entirely on his own time without using the Company's equipment, supplies, facilities, or trade secret information, except for those inventions that either: (1) relate at the time of conception or use to the Company's business, or actual or demonstrably anticipated research or development of the Company; or (2) result from any work Executive performs for the Company. All Intellectual Property that falls within the scope of Section 2870(a) of the California Civil Code shall be excluded from the assignment in Section 7.2(a).

(c) License. If, under applicable law notwithstanding the foregoing, Executive retains any right, title or interest (including any right, title or interest to Intellectual Property) with respect to any Work Product, Executive hereby grants and agrees to grant to the Company, without any limitations or additional remuneration, an exclusive, perpetual, irrevocable, transferable, worldwide, royalty-free license, with the right to sublicense (through multiple tiers

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of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit such Work Product and Executive agrees not to make any claim against the Company or its affiliates, suppliers or customers with respect to such Work Product.

(d) Records; Disclosure. Executive agrees to keep and maintain adequate and current written records regarding all inventions made, conceived, discovered or developed by Executive (either alone or jointly with others) during Executive's period of employment or after the termination of Executive's employment if based on or using Confidential Information or otherwise in connection with Executive's activities as an employee of the Company. Executive agrees to make available such records and disclose promptly and fully in writing to the Company all such inventions, regardless of whether Executive believes the invention is Work Product subject to this Section 7 or qualifies fully under the provisions of Section 2870(a) of the California Labor Code, and the Company will examine such disclosure in confidence to make such determination. Any such records related to Work Product shall be the sole property of the Company.

(e) Assistance and Cooperation. Executive agrees to cooperate with and assist the Company, and perform, during and after Executive's employment, all acts deemed necessary or desirable by the Company, to apply for, obtain, establish, perfect, maintain, evidence, enforce or otherwise protect any of the full benefits, enjoyment, right, title and interest throughout the world in the Work Product, in each case at the Company's expense. Such acts may include, but are not limited to execution of assignments of title and other documents and assistance or cooperation in legal proceedings. Should the Company be unable to secure Executive's signature on any such document, whether due to Executive's mental or physical incapacity or any other cause, Executive hereby irrevocably designates and appoints the Company and each of its duly authorized representatives as Executive's agent and attorney-in-fact, with full power of substitution and delegation, to undertake such acts in Executive's name as if executed and delivered by Executive (which appointment is coupled with an interest), and Executive waives and quitclaims to the Company any and all claims of any nature whatsoever that Executive may have or may later have for infringement of any rights to Intellectual Property in or to the Work Product.

(f) Moral Rights. Executive hereby irrevocably waives, and agrees not to assert against the Company (including any successor in interest), to the extent permitted by applicable law, any and all claims Executive may now or hereafter have in any jurisdiction to all rights of paternity, integrity, disclosure, withdrawal and any other rights that may be known as "moral rights" with respect to all Work Product (including, for the avoidance of doubt, all Intellectual Property therein).

(g) Duty to Disclosure Work Product. Executive shall promptly and fully communicate to the Company all Intellectual Property and/or Work Product as reasonably practicable under the circumstances and, in any event, whenever requested by the Company.

(h) Executive's Prior Inventions and Third-Party Materials. Executive has identified and listed on **Exhibit B** attached hereto, a complete list of all Intellectual Property that Executive authored, conceived, developed, reduced to practice, modified, or improved (either solely or jointly with

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others) prior to the Effective Date that has not been legally assigned or licensed to the Company (collectively, "***Prior Inventions***"). If no Prior Inventions are listed on

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Exhibit B, Executive represents and warrants that Executive has no Prior Inventions to disclose. If Executive incorporates or causes to be incorporated into any Work Product, or otherwise exploits therewith, any Prior Inventions, then the Company shall own all such Prior Inventions, and Executive hereby assigns all right, title, and interest in such Prior Inventions to the Company. Executive hereby grants to the Company a non-exclusive, perpetual, irrevocable, transferable, worldwide, fully-paid license, with the right to sublicense (through multiple tiers of sublicenses), to make, have made, use, import, sell, offer to sell, practice any method or process in connection with, copy, distribute, prepare derivative works of, display, perform or otherwise exploit any Prior Inventions that are incorporated into any Work Product, but that are not assigned to the Company pursuant to the preceding sentence. The Company shall own all right, title and interest in and to any derivative works of, or improvements, enhancements or updates to, the Prior Inventions made by or on behalf of the Company pursuant to the license granted herein.

(i) Representations; Warranties and Covenants. Executive represents, warrants and covenants that: (i) Executive has the right to grant the rights and assignments granted herein, without the need for any assignments, releases, consents, approvals, immunities or other rights not yet obtained; (ii) any Work Product that is a copyrightable work is Executive's original work of authorship; and (iii) neither the Work Product nor any element thereof are subject to any restrictions or to any mortgages, liens, pledges, security interests, encumbrances or encroachments.

(j) Adequate Consideration. Executive acknowledges that the Work Product may have substantial economic value and that all proceeds resulting from use and exploitation thereof shall belong solely to the Company. In addition, Executive acknowledges that the salary, equity incentives and/or other compensation Executive receives from the Company for Executive's employment or continued employment with the Company, and Executive's access to the Company's Confidential Information, constitutes fair and adequate consideration for all assignments, licenses and waivers hereunder.

7.3 Non-Competition. During the Employment Period, Executive shall not, and shall cause Executive's affiliates not to, directly or indirectly, own any interest in, manage, operate, control, be employed or engaged by (whether or not for compensation), render services or advice to, or lend Executive's name to, or any take any preparatory steps to engage in any of the foregoing with, any person or entity who or which is engaging or preparing to engage in any business activity that is competitive with the Company's business, provided, however, that Executive shall be permitted to own less than five percent (5%) of any class of securities of any corporation in competition with the Company that is traded on a national securities exchange (as long as Executive does not participate in the business activities of such entity).

7.4 Non-Solicitation of the Company's Customers or Potential Customers. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any customer or potential customer (as defined below), to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any customer or potential customer for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any customer or potential customer.

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7.5 Non-Solicitation of the Company's Business Relations. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce (or participate in or attempt to solicit or induce) any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, to terminate, diminish, or materially alter in a manner harmful to the Company or any of the Company's affiliates its relationship with the Company or any of the Company's affiliates; (b) solicit or assist in the solicitation of any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates for any purposes that are competitive to the Company or any of the Company's affiliates; or (c) use Confidential Information of the Company or any of the Company's affiliates to solicit any sourcer, supplier, vendor, licensor of intellectual property or other rights to the Company or any of the Company's affiliates, or subcontractor or other business relation of the Company or any of the Company's affiliates, in each case, other than for or on behalf of the Company or its affiliates.

7.6 Non-Solicitation of the Company's Employees or Contractors. During the Employment Period, Executive will not, directly or indirectly: (a) solicit, induce, or encourage (or participate in or attempt to solicit, induce, or encourage) any employee, consultant or independent contractor of the Company to terminate his or her relationship with the Company or any of the Company's affiliates or otherwise diminish his or her relationship with the Company or any of the Company's affiliates (other than for or on behalf of the Company or its affiliates); or (b) solicit, induce, encourage, or hire (or participate in or attempt to solicit, induce, encourage, or hire) any employee, consultant or independent contractor of the Company for purposes of rendering services that are competitive to the Company or any of the Company's affiliates.

7.7 Duty of Loyalty. Executive acknowledges and agrees that, during the Employment Period, Executive shall owe a fiduciary duty of loyalty to act at all times in the best interests of the Company and any of the Company's affiliates. In keeping with such duty, during Executive's employment, Executive shall fully disclose to the Company all business opportunities pertaining to the Company's business or the business of any of the Company's affiliates and shall not appropriate for Executive's own benefit or the benefit of another business opportunities concerning the Company's business or the business of any of the Company's affiliates.

7.8 Non-Disparagement. Executive hereby agrees and covenants that Executive shall not at any time make, publish, or communicate to any person or entity or in any public forum any defamatory, maliciously false, or disparaging remarks, comments, or statements concerning the Company, any of the Company's affiliates, or any of their employees, officers, directors, shareholders (or any of such shareholders' affiliates), or lenders. Nothing in this Section or this Agreement restricts or impedes either party from complying with any applicable law or regulation or a valid order of a court of competent jurisdiction or an authorized government agency, provided that such compliance does not exceed that required by the law, regulation, or order.

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7.9 Cooperation. The parties agree that certain matters in which Executive have been involved during Executive's employment or engagement may need Executive's cooperation with the Company or any of the Company's affiliates in the future. In consideration for the Severance Benefits and other consideration in this Agreement, during the Employment Period and thereafter, Executive agrees upon the Company's request to cooperate with the Company or any of the Company's affiliates in any pending or future matters arising out of or related to Executive's service to the Company or any of the Company's affiliates, including, but not limited to, any business transactions, business relationships, litigation, investigation or other dispute, in which Executive have knowledge or information, and including execution and delivery of any documents or other information reasonably requested to effect or register Executive's removal from positions as a director or officer of members of the Company or any of the Company's affiliates; provided that the Company shall make reasonable efforts to minimize disruption of Executive's other activities and shall reimburse Executive for reasonable expenses incurred in connection with this cooperation. In addition, the Company will pay Executive $500 per hour for Executive's time spent satisfying Executive's obligations pursuant to this Section 7.9 for any period of time Severance Benefits are not being paid to Executive (but excluding any period during which the Release is under review by Executive).

7.10 Permitted Disclosures. Nothing in this Agreement or any other agreement between the parties or any other policies of the Company prohibits or restricts any person or entity from: (a) making any disclosure of relevant and necessary information or documents in any action, investigation, or proceeding as required by law or legal process, including with respect to possible violations of law; (b) participating, cooperating, or testifying in any action, investigation, or proceeding with, or providing information to, any governmental agency or legislative body, any self-regulatory organization, and/or pursuant to the Sarbanes-Oxley Act; (c) accepting any U.S. Securities and Exchange Commission awards; or (d) initiating communications with, or responding to any inquiry from, any regulatory or supervisory authority regarding any good-faith concerns about possible violations of law or regulation. Nothing in this Agreement prevents Executive from discussing or disclosing information about unlawful acts in the workplace, such as harassment or discrimination or any other conduct that Executive has reason to believe is unlawful. Pursuant to 18 U.S.C. § 1833(b), Executive will not be held criminally or civilly liable under any Federal or state trade secret law for the disclosure of a trade secret of the Company that (i) is made (1) in confidence to a Federal, state, or local government official, either directly or indirectly, or to Executive's attorney and (2) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document that is filed under seal in a lawsuit or other proceeding. If Executive files a lawsuit for retaliation by the Company for reporting a suspected violation of law, Executive may disclose the trade secret to Executive's attorney and use the trade secret information in the court proceeding, if Executive files any document containing the trade secret under seal, and does not disclose the trade secret, except pursuant to court order.

7.11 Injunctive Relief; Remedies; Indemnification. Executive agrees that, due to the nature of the business of the Company, the restrictions set forth in this Agreement are reasonable as to time, geography and scope. Executive agrees that the obligations set forth in this Agreement are necessary and reasonable to protect the Company's legitimate business interests, Confidential Information, trade secrets, customer and employee relationships and the goodwill associated therewith. Executive agrees that the Company would suffer irreparable harm and continuing damage for which money damages would be

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insufficient if Executive were to breach, or threaten to breach, any of the restrictions in Section 7 of this Agreement. Executive furthermore

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agrees that the Company would by reason of such breach, or threatened breach, be entitled to an injunction, a decree for specific performance, or other equitable relief in a court of appropriate jurisdiction and all other relief as may be proper (including money damages if appropriate), to the extent permitted by law, without the need to post any bond. Executive further consents and stipulates to the entry of such injunctive relief in such a court prohibiting Executive from breaching the terms of any provision in Section 7 of this Agreement. Section 7 of this Agreement shall not diminish the right of the Company to claim and recover damages and other appropriate relief in addition to injunctive relief.

7.12 Third-Party Information. Executive agrees that the Company does not desire to acquire from Executive any intellectual property, trade secrets, know-how, or confidential business information that Executive may have acquired from others. Executive agrees not to disclose or use any such information in connection with Executive's employment or engagement with the Company in violation of any obligations to others. Executive represents Executive is not bound by any agreement or restriction that conflicts with or prevents the full performance of Executive's duties and obligations to the Company.

7.13 Termination; Return of Materials. In the event of the termination of Executive's employment or upon the earlier request of the Company, Executive agrees to promptly return all property of the Company, including, without limitation, (a) all source code, manuals, records, models, drawings, reports, notes, contracts, lists, blueprints, and other documents or materials and all copies thereof, (b) all equipment furnished to or prepared by Executive in the course of or incident to Executive's employment, and (c) all written or tangible materials containing Confidential Information or information pertaining to any Work Product. Executive understands that Executive's obligations contained in this Section 7 will survive the termination of Executive's employment and Executive will continue to make all disclosures required of Executive by Section 7.2(e) above. In the event of the termination of Executive's employment, Executive agrees, if requested by the Company, to sign and deliver the Termination Certificate, attached as **Exhibit C** hereto. Executive agrees that after the termination of Executive's employment, Executive will not enter into any agreement that conflicts with Executive's obligations under this Section 7 and will inform any subsequent employers of Executive's obligations under this Section 7. The termination of any employment or other agreement between the Company and Executive shall not terminate this Section 7 and each and all of the terms and conditions hereof shall survive and remain in full force and effect.

7.14 Severability; Reformation. In the event that any one or more of the provisions of this Agreement is held to be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall remain fully effective. If any one or more of the provisions contained in this Agreement is held to be excessively broad in scope or duration, if permitted by applicable law, such provisions shall be construed by modifying them so as to be enforceable to the maximum extent allowed by applicable law. A determination in any jurisdiction that this Agreement, in whole or in part, is invalid, illegal or unenforceable shall not in any way affect or impair the validity, legality or enforceability of this Agreement in any other jurisdiction.

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8. General Provisions.

8.1 Notices. Any notices, demands or other communications to be given or delivered under or by reason of the provisions of this Agreement shall be in writing and shall be deemed effectively given: (a) upon personal delivery to the party to be notified, (b) when sent by electronic mail if sent during normal business hours of the recipient, and if not, then on the next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) day after deposit with a nationally recognized overnight courier, specifying next day delivery, with written verification of receipt. Such notices, demands and other communications shall be sent to the parties at the addresses indicated below:

If to the Company:

Carlsmed, Inc.
Attention: Board of Directors
1800 Aston Ave.
Suite 100
Carlsbad, CA 92008

With copies to (which shall not constitute notice):

Morrison & Foerster LLP
Attention: James Krenn
12531 High Bluff Drive, Suite 200
San Diego, CA 92130
[***]

If to Executive:

Niall Casey
[***]

or such other address or to the attention of such other person as the recipient party shall have specified by prior written notice to the sending party.

8.2 Waiver. If either party should waive any breach of any provisions of this Agreement, Executive or the Company shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision of this Agreement.

8.3 Complete Agreement. This Agreement, including **Exhibits A, B and C**, together with the Indemnification Agreement, constitute the entire agreement between Executive and the Company with regard to the subject matter hereof. This Agreement is the complete, final, and exclusive embodiment of their agreement with regard to this subject matter and supersedes any prior oral discussions or written communications and agreements. This Agreement is entered into without reliance on any promise or

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representation other than those expressly contained herein, and it cannot be modified or amended except in writing signed by Executive and an authorized officer of the Company and approved by the Board. The parties may have entered into other agreements, which govern other aspects of the relationship between the parties, and may have

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provisions that survive termination of Executive's employment under this Agreement, may be amended or superseded by the parties without regard to this agreement and are enforceable according to their terms without regard to the enforcement provision of this Agreement.

8.4 Counterparts. This Agreement may be executed in separate counterparts, any one of which need not contain signatures of more than one party, but all of which taken together will constitute one and the same Agreement.

8.5 Headings. The headings of the sections hereof are inserted for convenience only and shall not be deemed to constitute a part hereof nor to affect the meaning thereof.

8.6 Successors and Assigns. The Company may assign this Agreement to any successor or assign (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company. This Agreement shall inure to the benefit of the Company and permitted successors and assigns. Executive may not assign or transfer this Agreement or any rights or obligations hereunder, other than to his estate upon his death.

8.7 Advice of Counsel. EXECUTIVE ACKNOWLEDGES THAT, IN EXECUTING THIS AGREEMENT, EXECUTIVE HAS HAD THE OPPORTUNITY TO SEEK THE ADVICE OF INDEPENDENT LEGAL COUNSEL, AND HAS READ AND UNDERSTOOD ALL OF THE TERMS AND PROVISIONS OF THIS AGREEMENT. THIS AGREEMENT WILL NOT BE CONSTRUED AGAINST ANY PARTY BY REASON OF THE DRAFTING OR PREPARATION OF THIS AGREEMENT.

8.8 Tax Withholding. The Company and its subsidiaries shall be entitled to deduct or withhold from any amounts owing from the Company or any of its subsidiaries to Executive (including withholding shares or other equity securities in the case of issuances of equity by the Company or its subsidiaries) any federal, state, local or foreign withholding taxes, excise taxes, or employment taxes ("***Taxes***") imposed with respect to Executive's compensation or other payments from the Company or its subsidiaries, including wages, bonuses, distributions, the receipt or exercise of equity options and/or the receipt or vesting of restricted equity. In the event any such deductions or withholdings are not made, Executive shall indemnify the Company and its subsidiaries for any amounts paid with respect to any such Taxes, together with any interest, penalties and related expenses thereto; provided, that, Executive shall not be obligated to indemnify the Company pursuant to this Section 8.8 for such interest, penalties or related expenses which are directly caused by the failure of the Company to take necessary action with respect to such deductions and withholdings as it is required by law to take.

8.9 Termination. This Agreement (except for the provisions of Sections 1, 2, and 3) shall survive the termination of Executive's employment or engagement with the Company and shall remain in full force and effect after such termination.

8.10 Clawback. To the extent required by applicable law or any applicable securities exchange listing standards, or as otherwise determined by the Board (or a committee thereof), amounts paid or payable under this Agreement shall be subject to the provisions of any applicable clawback policies or

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procedures adopted by the Company or any of the Company's affiliates or subsidiaries, which clawback policies or procedures may provide for forfeiture and/or

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recoupment of amounts paid or payable under this Agreement. Notwithstanding any provision of this Agreement to the contrary, each of the Company or any of the Company's affiliates or subsidiaries reserves the right, without the consent of Executive, to adopt any such clawback policies and procedures, including such policies and procedures applicable to this Agreement with retroactive effect; provided, however, that such clawback policies and procedures shall not apply to compensation paid prior to the Employment Period.

8.11 Choice of Law. All questions concerning the construction, validity and interpretation of this Agreement will be governed by the law of the State of California without regard to conflicts of law principles.

8.12 Resolution of Disputes. Except for injunctive actions pursuant to Section 7.11 of this Agreement or any disputes or claims involving sexual assault and/or sexual harassment as defined by title 9 of the United States Code arising on or after March 3, 2022, the parties agree that any dispute between the parties arising out of or relating to the negotiation, execution, performance or termination of this Agreement or Executive's employment or relationship with the Company or its affiliates, including, but not limited to, any claim arising out of this Agreement, claims under Title VII of the Civil Rights Act of 1964, as amended, the Civil Rights Act of 1991, the Age Discrimination in Employment Act of 1967, the Americans with Disabilities Act of 1990, Section 1981 of the Civil Rights Act of 1966, as amended, the Family Medical Leave Act, the Employee Retirement Income Security Act, and any similar federal, state or local law, statute, regulation, or any common law doctrine, whether that dispute arises during or after employment, shall be settled by binding arbitration in accordance with the National Rules for the Resolution of Employment Disputes of the American Arbitration Association. The location for the arbitration shall be the Carlsbad, California metropolitan region. Any award made in such arbitration shall be final, binding and conclusive on the parties for all purposes, and judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof. The arbitrators' fees and expenses and all administrative fees and expenses associated with the filing of the arbitration shall be borne by the Company; *provided however*, that at Executive's option, Executive may voluntarily pay up to one-half the costs and fees. The parties acknowledge and agree that their obligations to arbitrate under this Section survive the termination of this Agreement and continue after the termination of the employment relationship between Executive and the Company. The parties each further agree that the arbitration provisions of this Agreement shall provide each party with its exclusive remedy, and each party expressly waives any right it might have to seek redress in any other forum, except as otherwise expressly provided in this Agreement. By electing arbitration as the means for final settlement of all claims, the parties hereby waive their respective rights to, and agree not to, sue each other in any action in a Federal, State or local court with respect to such claims, but may seek to enforce in court an arbitration award rendered pursuant to this Agreement or to pursue injunctive relief in aid of arbitration.

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In Witness Whereof, the parties have executed this Agreement effective as of the Effective Date.

Carlsmed, Inc.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: President and CEO

Executive

/s/ Niall Casey

Niall Casey

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Exhibit A

Release

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EXHIBIT B

Prior Inventions

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Exhibit C

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EXHIBIT 10.14

CARLSMED, INC.
NON-EMPLOYEE DIRECTOR
COMPENSATION POLICY
ADOPTED: [ ], 2025

Each member of the Board of Directors (the "***Board***") of Carlsmed, Inc. (the "***Company***") who is not also serving as an employee of, or consultant to, the Company or any of its subsidiaries (each such member, an "***Eligible Director***") will receive the compensation described in this Non-Employee Director Compensation Policy (the "***Policy***") for his or her Board service upon and following the date of the underwriting agreement among the Company and the representatives of the several underwriters managing the initial public offering of the Company's common stock (the "***Common Stock***"), pursuant to which the Common Stock is priced in such initial public offering (such date, the "***Effective Date***").

This Policy will be effective as of the Effective Date and may be amended at any time in the sole discretion of the Board or the Compensation Committee of the Board (the "***Compensation Committee***").

A.Annual Retainer

Commencing on the Effective Date, each Eligible Director will receive the compensation set forth below for service on the Board (the "***Annual Retainer***"). The Annual Retainer will be paid in cash in equal quarterly installments, payable in arrears on the last day of each fiscal quarter in which the service occurred, subject to any Retainer RSU Election (as defined below) made by such Eligible Director. If an Eligible Director joins the Board or a committee of the Board at a time other than effective as of the first day of a fiscal quarter, each Annual Retainer set forth below will be pro-rated based on days served in the applicable fiscal quarter, with the pro-rated amount paid for the first fiscal quarter in which the Eligible Director provides the service and regular full quarterly payments thereafter. The Annual Retainer is vested upon payment.

1.Annual Board Service Retainer:

(a)All Eligible Directors: $45,000

(b)Lead Independent Director of the Board (in addition to Eligible Director Annual Board Service Retainer): $25,000

2.Annual Committee Chair Service Retainer:

(a)Chair of the Audit Committee: $20,000

(b)Chair of the Compensation Committee: $15,000

(c)Chair of the Nominating and Governance Committee: $10,000

3.Annual Committee Member Compensation (not applicable to Committee Chairs):

(a)Member of the Audit Committee: $10,000

(b)Member of the Compensation Committee: $7,500

(c)Member of the Nominating and Governance Committee: $5,000

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B.Election to Receive Restricted Stock Units ("RSUs") in Lieu of Annual Retainers

1.General. The Board or the Compensation Committee may, in its discretion, provide Eligible Directors with the opportunity to elect to convert all or a portion of their Annual Retainers into awards of restricted stock units (the "***Retainer RSU Awards***") granted under the Company's 2025 Equity Incentive Plan, as may be amended from time to time, or any successor plan thereto (the "***Plan***"), with each such Retainer RSU Award covering a number of shares of Common Stock with a grant date value equal to the amount of the Annual Retainer that would have otherwise been paid to such Eligible Director in cash on the applicable grant date (such election, a "***Retainer RSU Election***"). The portion of the Annual Retainer not payable in the form of Retainer RSU Awards shall be payable in cash.

Each Retainer RSU Award automatically will be granted on the fifth day of the month immediately following the end of the quarter for which the corresponding portion of the Annual Retainer was earned. Each Retainer RSU Award will be fully vested on the grant date.

2.Election Method. Eligible Directors must make a Retainer RSU Election in writing in the form and manner specified by the Board or the Compensation Committee. An Eligible Director who fails to make a timely Retainer RSU Election will not receive a Retainer RSU Award and instead will receive the applicable Annual Retainer in cash. Retainer RSU Elections must comply with the following timing requirements:

(a)Initial Election. Each individual who first becomes an Eligible Director may make a Retainer RSU Election with respect to Annual Retainer scheduled to be paid in the same calendar year as such individual first becomes an Eligible Director (the "***Initial Retainer RSU Election***"). The Initial Retainer RSU Election must be submitted to the Company before the individual first becomes an Eligible Director (the "***Initial Election Deadline***"), and the Initial Retainer RSU Election will become final and irrevocable as of the Initial Election Deadline.

(b)Annual Election. No later than December 31 of each calendar year, or such other deadline as may be established by the Board or the Compensation Committee, in its discretion (the "***Annual Election Deadline***"), each Eligible Director as of immediately before the Annual Election Deadline may make a Retainer RSU Election with respect to the Annual Retainer relating to services to be performed in the following calendar year (the "***Annual Retainer RSU Election***"). The Annual Retainer RSU Election must be submitted to the Company on or before the applicable Annual Election Deadline and will become effective and irrevocable as of the Annual Election Deadline.

C.Equity Compensation

Equity awards will be granted under the Plan. All equity awards granted pursuant to this Policy will be in the form of RSUs.

1.Automatic Equity Grants.

(a)Initial Grant. Without any further action of the Board, each person who, after the Effective Date, is elected or appointed for the first time to be an Eligible Director will automatically, upon the date of his or her initial election or appointment to be an Eligible Director (or, if such date is not a market trading day, the first market trading day thereafter) (the "***Eligibility Date***"), be granted RSUs with an aggregate grant date value of $260,000 (the "***Initial RSU Award***"). One-third of the shares subject to the Initial RSU Award shall vest on each of the first three anniversaries of the applicable grant date, such that the shares subject to the Initial RSU Award shall be fully vested on the third anniversary of the grant date, subject to the Eligible Director's "*Continuous Service*" (as defined in the Plan) with the Company through the applicable vesting date.

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(b)Annual Grant. Without any further action of the Board, at the close of business on the date of each annual meeting of the Company's stockholders (the "***Annual Meeting***") following the Effective Date, each person who is then an Eligible Director will automatically be granted RSUs with an aggregate grant date value of $130,000 (the "***Annual RSU Award***"); provided that, for any Eligible Director whose Continuous Service is less than one year as of the date of such Annual Meeting, the number of shares subject to such Eligible Director's Annual RSU Award shall have a grant date value equal to $130,000 multiplied by the percentage obtained by dividing the total number of calendar days of such Eligible Director's Continuous Service through the date of such Annual Meeting by 365, provided that such percentage shall not exceed 100%. Each Annual RSU Award shall vest on the one-year anniversary of the date of grant or as of the day immediately preceding the next Annual Meeting, if sooner, subject to the Eligible Director's Continuous Service with the Company through the applicable vesting date.

2.Calculation of Number of Shares. The number of shares of Common Stock underlying each Initial RSU Award, Annual RSU Award and Retainer RSU Award shall be determined by dividing the applicable grant date value for such RSUs by the average per share closing trading price of the Common Stock over the most recent 30 trading days as of the grant date, as reported on the Nasdaq Global Select Market, on the applicable grant date, rounded down to the nearest whole number of shares.

3.Change in Control. Notwithstanding the vesting schedules provided in the Policy, for each Eligible Director who remains in Continuous Service with the Company until immediately prior to the closing of a "*Change in Control*" (as defined in the Plan), the shares subject to such Eligible Director's then-outstanding equity awards that were granted pursuant to this Policy or otherwise will become fully vested immediately prior to the closing of such Change in Control.

4.Remaining Terms. The remaining terms and conditions of each award, including transferability, will be as set forth in the Company's RSU Award Grant Notice and RSU Award Agreement in the forms adopted from time to time by the Board or the Compensation Committee, as applicable.

D.Election to Defer Issuance of RSUs

1.General. Each Eligible Director shall have the opportunity to defer the issuance of the shares underlying RSUs granted under the Policy (including, for clarity, Retainer RSU Awards, Initial RSU Awards and Annual RSU Awards) that would otherwise be issued to the Eligible Director in connection with the vesting or grant of the RSUs (including, for clarity, the Retainer RSU Awards, Initial RSU Awards and Annual RSU Awards) until the earliest of a fixed date properly elected by the Eligible Director, the Eligible Director's termination of Continuous Service or a Change in Control. Any such deferral election ("***Deferral Election***") shall be subject to such rules, conditions and procedures as shall be determined by the Board or the Compensation Committee, in its sole discretion, which rules, conditions and procedures shall at all times comply with the requirements of Section 409A of the Internal Revenue Code of 1986, as amended, unless otherwise specifically determined by the Board or the Compensation Committee. If an individual elects to defer the delivery of the shares underlying RSUs granted under the Policy, settlement of the deferred RSUs shall be made in accordance with the terms of the Deferral Election.

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2.Election Method. Each Deferral Election must be submitted to the Company in the form and manner specified by the Board or the Compensation Committee. Deferral Elections must comply with the following timing requirements:

(a)Initial Election. Each individual who first becomes an Eligible Director (or became an Eligible Director before the IPO) may make a Deferral Election with respect to the Eligible Director's RSUs to be granted in the same calendar year as such individual first becomes an Employee Director or, for individuals that are Eligible Directors prior to the IPO, prior to effectiveness of the IPO(in either case, the "***Initial Deferral Election***"). The Initial Deferral Election must be submitted to the Company on or before the Initial Election Deadline, and the Initial Deferral Election shall become final and irrevocable as of the Initial Election Deadline.

(b)Annual Election. No later than the Annual Election Deadline, each individual who is an Eligible Director as of immediately before the Annual Election Deadline may make a Deferral Election with respect to the RSUs to be granted in the following calendar year (the "***Annual Deferral Election***"). The Annual Deferral Election must be submitted to the Company on or before the applicable Annual Election Deadline and shall become final and irrevocable for the subsequent calendar year as of the applicable Annual Election Deadline.

No portion of an Initial RSU Award or Annual RSU Award which is unvested at the time of an Eligible Director's termination of Continuous Service on the Board will become vested and/or exercisable thereafter.

E.Expenses

The Company will reimburse an Eligible Director for ordinary, necessary and reasonable out-of-pocket travel expenses to cover in-person attendance at and participation in Board and committee meetings; *provided*, that such Eligible Director timely submit to the Company appropriate documentation substantiating such expenses in accordance with the Company's travel and expense policy, as in effect from time to time.

F.Non-Employee Director Compensation Limit

Notwithstanding the foregoing, the aggregate value of all compensation granted or paid, as applicable, to any individual for service as a Non-Employee Director (as defined in the Plan) shall in no event exceed the limits set forth in Section 3(d) of the Plan.

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Exhibit 10.15

CARLSMED, INC.

SIGNATURE BANK

LOAN AND SECURITY AGREEMENT

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This **LOAN AND SECURITY AGREEMENT** (this "**Agreement**") is entered into as of December 20, 2022, by and among **SIGNATURE BANK** ("**Bank**") and **CARLSMED, INC.** ("**Borrower**"), and Borrower's subsidiaries from time to time joined as guarantors hereto (each a "**Guarantor**" and, collectively, "**Guarantors**"; Borrower and each Guarantor are each a "**Loan Party**" and, collectively, "**Loan Parties**").

RECITALS

Borrower wishes to obtain credit from time to time from Bank, and Bank desires to extend credit to Borrower. This Agreement sets forth the terms on which Bank will advance credit to Borrower and Borrower will repay the amounts owing to Bank.

AGREEMENT

The parties agree as follows:

1. DEFINITIONS AND CONSTRUCTION.

1.1 Definitions. As used in this Agreement, the following terms shall have the following definitions:

"**Accounts**" means all presently existing and hereafter arising accounts, contract rights, payment intangibles, and all other forms of obligations owing to any Loan Party arising out of the sale or lease of goods (including, without limitation, the licensing of software and other technology) or the rendering of services by such Loan Party, whether or not earned by performance, and any and all credit insurance, guaranties, and other security therefor, as well as all merchandise returned to or reclaimed by such Loan Party and Loan Parties' Books relating to any of the foregoing.

"**Affiliate**" means, with respect to any Person, any Person that owns or controls directly or indirectly such Person, any Person that controls or is controlled by or is under common control with such Person, and each of such Person's senior executive officers, directors, and partners.

"**Agreement**" has the meaning assigned in the preamble hereof.

"**Availability End Date**" means June 20, 2024, provided that, if Borrower achieves the First Monthly Revenue Milestone and the Second Monthly Revenue Milestone, "**Availability End Date**" shall mean December 20, 2024.

"**Bank**" has the meaning assigned in the preamble hereof.

"**Bank Expenses**" means all reasonable costs or expenses (including reasonable and documented attorneys' fees and expenses) incurred in connection with the preparation, negotiation, administration, and enforcement of the Loan Documents; reasonable Collateral audit fees; and Bank's reasonable attorneys' fees and expenses incurred in amending, enforcing, or defending the Loan Documents (including fees and expenses of appeal), incurred before, during, and after an Insolvency Proceeding, whether or not suit is brought.

"**Borrower**" has the meaning assigned in the preamble hereof.

"**Business Day**" means any day that is not a Saturday, Sunday, or other day on which banks in the State of New York are authorized or required to close.

"**CFC**" means (a) a controlled foreign corporation within the meaning of Section 957 of the IRC in which any Loan Party is a "United States shareholder" within the meaning of Section 951(b) of the IRC and (b) any Subsidiary whose sole assets (other than a *de minimis* amount) are equity of one (1) or more entities described in clause (a) of this definition, in each case of clauses (a) and (b), with respect to which Borrower shall have made a determination, in its reasonable judgment, that a guaranty by, grant of a Lien by, or pledge of two-thirds (2/3) or more of the voting equity interests of such Subsidiary would result in material incremental income tax liability as a result of the application of Section 956 of the IRC, taking into account actual anticipated repatriation of funds, foreign tax credits, and other relevant factors.

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"**Change in Control**" means a transaction in which (a) any "person" or "group" (within the meaning of Sections 13(d) and 14(d)(2) of the Securities Exchange Act of 1934) becomes the "beneficial owner" (as defined in Rule 13d-3 under the Securities Exchange Act of 1934), directly or indirectly, of a sufficient number of shares of all classes of stock then outstanding of Borrower ordinarily entitled to vote in the election of directors, empowering such "person" or "group" to elect a majority of the Board of Directors of Borrower, who did not have such power before such transaction, or (b) Borrower ceases to own and control all of the economic and voting rights associated with all of the outstanding capital stock of each other Loan Party.

"**Client Reporting File**" means that certain Client Reporting File provided to Borrower by Bank in connection with the execution hereof, as may be amended from time to time.

"**Closing Date**" means the date of this Agreement.

"**Code**" means the New York Uniform Commercial Code.

"**Collateral**" means the property described on **Exhibit A** attached hereto, provided that the Collateral shall not include (a) more than sixty-five percent (65%) of the stock, units, or other evidence of ownership of any CFC if the pledge of two-thirds (2/3) or more of the voting equity interests of such Subsidiary would result in material incremental income tax liability as a result of the application of Section 956 of the IRC, taking into account actual anticipated repatriation of funds, foreign tax credits, and other relevant factors or (b) any Equipment financed by a third Person and permitted by this Agreement or rights of Borrower as a licensee to the extent the granting of a security interest therein (i) would be contrary to applicable law or (ii) is prohibited by or would constitute a default under any agreement or document governing such property (but only to the extent such prohibition is enforceable under applicable law); provided that, upon the termination or lapsing of any such prohibition, such property shall automatically be part of the Collateral; and provided, further, that the provisions of this paragraph shall in no case exclude from the definition of "Collateral" any Accounts, proceeds of the disposition of any property, or general intangibles consisting of rights to payment, all of which shall at all times constitute "Collateral".

"**Contingent Obligation**" means, as applied to any Person, any direct or indirect liability, contingent or otherwise, of that Person with respect to (a) any indebtedness, lease, dividend, letter of credit, or other obligation of another; (b) any obligations with respect to undrawn letters of credit, corporate credit cards, or merchant services issued or provided for the account of that Person; and (c) all obligations arising under any agreement or arrangement designed to protect such Person against fluctuation in interest rates, currency exchange rates, or commodity prices; provided, however, that the term "Contingent Obligation" shall not include endorsements for collection or deposit in the ordinary course of business. The amount of any Contingent Obligation shall be deemed to be an amount equal to the stated or determined amount of the primary obligation in respect of which such Contingent Obligation is made or, if not stated or determinable, the maximum reasonably anticipated liability in respect thereof as determined by Bank in good faith; provided, however, that such amount shall not in any event exceed the maximum amount of the obligations under the guarantee or other support arrangement.

"**Copyrights**" means any and all copyright rights, copyright applications, copyright registrations, and like protections in each work or authorship and derivative work thereof.

"**Credit Extension**" means each Term Loan Advance or any other extension of credit by Bank for the benefit of Borrower hereunder.

"**Daily Balance**" means the amount of the Obligations owed at the end of a given day.

"**Equipment**" means all present and future machinery, equipment, tenant improvements, furniture, fixtures, vehicles, tools, parts, and attachments in which any Loan Party has any interest.

"**ERISA**" means the Employee Retirement Income Security Act of 1974, as amended, and the regulations thereunder.

"**Event of Default**" has the meaning assigned in Article 8.

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"**First Monthly Revenue Milestone**" means Borrower's achievement of Trailing Six-Month Revenue of at least Seven Million Dollars ($7,000,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to September 30, 2023.

"**GAAP**" means generally accepted accounting principles as in effect from time to time.

"**Indebtedness**" means (a) all indebtedness for borrowed money or the deferred purchase price of property or services, including without limitation reimbursement and other obligations with respect to surety bonds and letters of credit, (b) all obligations evidenced by notes, bonds, debentures, or similar instruments, (c) all capital lease obligations, and (d) all Contingent Obligations.

"**Insolvency Proceeding**" means any proceeding commenced by or against any person or entity under any provision of the United States Bankruptcy Code, as amended, or under any other bankruptcy or insolvency law, including assignments for the benefit of creditors, formal or informal moratoria, compositions, extension generally with its creditors, or proceedings seeking reorganization, arrangement, or other relief.

"**Intellectual Property**" means all of Loan Parties' right, title, and interest in and to the following: Copyrights, Trademarks, and Patents; all trade secrets, all design rights, claims for damages by way of past, present, and future infringement of any of the rights included above, all licenses or other rights to use any of the Copyrights, Trademarks, or Patents, and all license fees and royalties arising from such use to the extent permitted by such license or rights; all amendments, renewals, and extensions of any of the Copyrights, Trademarks, or Patents; and all proceeds and products of the foregoing, including without limitation all payments under insurance or any indemnity or warranty payable in respect of any of the foregoing.

"**Inventory**" means all inventory in which a Loan Party has or acquires any interest, including work in process and finished products intended for sale or lease or to be furnished under a contract of service, of every kind and description now or at any time hereafter owned by or in the custody or possession, actual or constructive, of such Loan Party, including such inventory as is temporarily out of its custody or possession or in transit and including any returns upon any accounts or other proceeds, including insurance proceeds, resulting from the sale or disposition of any of the foregoing and any documents of title representing any of the above, and Loan Parties' Books relating to any of the foregoing.

"**Investment**" means any beneficial ownership of (including stock, partnership interest, or other securities) any Person, or any loan, advance, or capital contribution to any Person.

"**IRC**" means the Internal Revenue Code of 1986, as amended, and the regulations thereunder.

"**Lien**" means any mortgage, lien, deed of trust, charge, pledge, security interest, or other encumbrance.

"**Loan Documents**" means, collectively, this Agreement, the Success Fee Agreement, any note or notes executed by Borrower, and any other agreement entered into in connection with this Agreement, all as amended or extended from time to time.

"**Loan Party**" or "**Loan Parties**" has the meaning assigned in the preamble hereof.

"**Loan Parties' Books**" means all of Loan Parties' books and records including: ledgers; records concerning Loan Parties' assets or liabilities, the Collateral, business operations, or financial condition; and all computer programs, or tape files, and the equipment, containing such information.

"**Material Adverse Effect**" means a material adverse effect on (a) the operations, business, or financial condition of Loan Parties and their Subsidiaries taken as a whole, (b) the ability of Borrower to repay the Obligations or otherwise perform its obligations under the Loan Documents, or (c) Loan Parties' interest in, or the value, perfection, or priority of, Bank's security interest in the Collateral.

"**Negotiable Collateral**" means all letters of credit of which a Loan Party is a beneficiary, notes, drafts, instruments, securities, documents of title, and chattel paper, and Loan Parties' Books relating to any of the foregoing.

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"**Obligations**" means all debt, principal, interest, Bank Expenses, and other amounts owed to Bank by Borrower pursuant to this Agreement or any other agreement, whether absolute or contingent, due or to become due, now existing or hereafter arising, including any interest that accrues after the commencement of an Insolvency Proceeding and including any debt, liability, or obligation owing from Borrower to others that Bank may have obtained by assignment or otherwise.

"**Patents**" means all patents, patent applications, and like protections, including without limitation improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same.

"**Patient Implants**" means customized medical device implants and associated materials produced, manufactured and/or printed by Borrower in the ordinary course of Borrower's business.

"**Periodic Payments**" means all installments or similar recurring payments that Borrower may now or hereafter become obligated to pay to Bank pursuant to the terms and provisions of any instrument or agreement now or hereafter in existence between Borrower and Bank.

"**Permitted Indebtedness**" means:

(a)Indebtedness of Loan Parties in favor of Bank arising under this Agreement or any other Loan Document;

(b)Indebtedness existing on the Closing Date and disclosed in the Schedule;

(c)Indebtedness (including capital lease obligations and purchase money indebtedness) secured by a Lien described in clause (c) of the defined term "Permitted Liens," provided (i) such Indebtedness does not exceed the lesser of the cost or fair market value of the equipment financed with such Indebtedness and (ii) such Indebtedness does not exceed Two Hundred Fifty Thousand Dollars ($250,000) in the aggregate at any given time;

(d)Subordinated Debt;

(e)unsecured Indebtedness to trade creditors incurred in the ordinary course of business;

(f)either (i) the SVB Credit Card Account or (ii) unsecured Indebtedness under corporate credit cards provided by American Express used in the ordinary course of business not to exceed Three Hundred Thousand Dollars ($300,000);

(g)other unsecured Indebtedness in an aggregate amount not to exceed Two Hundred Fifty Thousand Dollars ($250,000) at any time; and

(h)extensions, refinancings and renewals of any items of Permitted Indebtedness listed in (a) through (g) above, provided that the principal amount is not increased or the terms modified to impose more burdensome terms upon Borrower or its Subsidiaries, as the case may be.

"**Permitted Investment**" means:

(a)Investments existing on the Closing Date disclosed in the Schedule;

(b)(i) marketable direct obligations issued or unconditionally guaranteed by the United States of America or any agency or any state thereof maturing within one (1) year from the date of acquisition thereof, (ii) commercial paper maturing no more than one (1) year from the date of creation thereof and currently having a rating of at least A-2 or P-2 from either Standard & Poor's Corporation or Moody's Investors Service, (iii) certificates of deposit maturing no more than one (1) year from the date of investment therein issued by Bank, and (iv) Bank's money market accounts;

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(c)Investments constituting deposit or securities accounts (but only to the extent that Borrower is permitted to maintain such accounts pursuant to Section 6.7) in which, to the extent required pursuant to Section 7.7, Bank has a first priority perfected security interest;

(d)Investments constituting the endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business;

(e)Investments (i) by any Loan Party in any other Loan Party for the ordinary and necessary current operating expenses of such Loan Party, (ii) by Borrower or any Subsidiary in any other Subsidiary (that is not a Loan Party) for the ordinary and necessary current operating expenses of such Subsidiary in an amount not to exceed Two Hundred Fifty Thousand Dollars ($250,000) in the aggregate in any fiscal year and (iii) by any Subsidiary that is not a Loan Party in Borrower, provided that in the case of this clause (iii), if any such Investment constitutes a loan, advance or other form of Indebtedness, such Investment must also be Permitted Indebtedness hereunder;

(f)repurchases of Borrower's equity interests to the extent permitted under Section 7.6;

(g)Investments accepted as consideration for Transfers permitted by Section 7.1;

(h)Investments (including debt obligations) received in connection with the bankruptcy or reorganization of customers or suppliers and in settlement of delinquent obligations of, and other disputes with, customers or suppliers arising in the ordinary course of Borrower's business;

(i)joint ventures or strategic alliances in the ordinary course of Borrower's business, provided that any cash Investments by Borrower therein does not exceed Two Hundred Fifty Thousand Dollars ($250,000) in the aggregate in any fiscal year;

(j)Investments not to exceed Two Hundred Fifty Thousand Dollars ($250,000) outstanding in the aggregate at any time constituting (i) travel advances and employee relocation loans and other employee loans and advances in the ordinary course of business and (ii) loans to employees, officers or directors relating to the purchase of equity securities of Borrower pursuant to employee stock purchase plan agreements approved by Borrower's board of directors;

(k)Investments constituting notes receivable of, or prepaid royalties and other credit extensions, to customers and suppliers who are not Affiliates, in the ordinary course of business; provided that this clause (k) shall not apply to Investments of Borrower in any Subsidiary; and

(l)other Investments not to exceed Two Hundred Fifty Thousand Dollars ($250,000) in the aggregate in any fiscal year.

"**Permitted Liens**" means the following:

(a)any Liens existing on the Closing Date and disclosed in the Schedule or arising under this Agreement or the other Loan Documents;

(b)Liens for taxes, fees, assessments, or other governmental charges or levies, either not delinquent or being contested in good faith by appropriate proceedings, provided that the same have no priority over any of Bank's security interests;

(c)Liens (i) upon or in any equipment which was not financed by Bank acquired or held by Loan Parties or any of their Subsidiaries to secure the purchase price of such equipment or indebtedness incurred solely for the purpose of financing the acquisition of such equipment, or (ii) existing on such equipment at the time of its acquisition, provided that the Lien is confined solely to the property so acquired and improvements thereon, and the proceeds of such equipment;

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(d)Liens incurred in connection with the extension, renewal, or refinancing of the indebtedness secured by Liens of the type described in clauses (a) through (c) above, provided that any extension, renewal, or replacement Lien shall be limited to the property encumbered by the existing Lien and the principal amount of the indebtedness being extended, renewed, or refinanced does not increase;

(e)Liens of carriers, warehousemen, suppliers, mechanics, contractors or other Persons that are possessory in nature arising in the ordinary course of business so long as such Liens attach only to Inventory, securing liabilities in the aggregate amount not to exceed Two Hundred Fifty Thousand Dollars ($250,000) and which are not delinquent or remain payable without penalty or which are being contested in good faith and by appropriate proceedings which proceedings have the effect of preventing the forfeiture or sale of the property subject thereto;

(f)Liens to secure payment of workers' compensation, employment insurance, old-age pensions, social security and other like obligations incurred in the ordinary course of business (other than Liens imposed by ERISA);

(g)non-exclusive licenses of Intellectual Property granted to third parties in the ordinary course of business;

(h)customary Liens of any bank in connection with statutory, common law and contractual rights of setoff and recoupment with respect to any deposit account or securities account of Borrower, provided that (i) Bank has a first priority perfected security interest in such account and (ii) such account is permitted to be maintained pursuant to Section 6.7 of this Agreement;

(i)pledges of deposits to secure the performance of bids, trade contracts, leases, statutory or regulatory obligations, surety and appeal bonds, performance bonds and other obligations of a like nature incurred in the ordinary course of business; provided that the aggregate amount of such deposits do not exceed Two Hundred Fifty Thousand Dollars ($250,000) at any time; and

(j)Liens arising from judgments, decrees or attachments in circumstances not constituting an Event of Default under Sections 8.5 (Attachment) or 8.8 (Judgments).

"**Person**" means any individual, sole proprietorship, partnership, limited liability company, joint venture, trust, unincorporated organization, association, corporation, institution, public benefit corporation, firm, joint stock company, estate, entity, or governmental agency.

"**Prime Rate**" means the variable rate of interest, per annum, most recently announced by Bank, as its "prime rate," whether or not such announced rate is the lowest rate available from Bank.

"**Reg W Affiliate**" means an "affiliate" as such term is set forth in Section 23A(b)(1) of the Federal Reserve Act (12 USC 371c).

"**Responsible Officer**" means each of the Chief Executive Officer, the Chief Operating Officer, the Chief Financial Officer, and the Controller of Borrower.

"**Revenue**" means revenue recognized in accordance with GAAP.

"**SAFE**" means a simple agreement for future equity by and between Borrower and one or more purchasers, pursuant to which Borrower agrees to issue certain future shares of its capital stock in exchange for a present cash payment or payments.

"**Schedule**" means the schedule of exceptions attached hereto and approved by Bank, if any.

"**Second Monthly Revenue Milestone**" means Borrower's achievement of Trailing Six-Month Revenue of at least Nine Million Five Hundred Thousand Dollars ($9,500,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to March 31, 2024.

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"**Shares**" means one hundred percent (100%) of the issued and outstanding capital stock, membership units, general partnership interest, or other securities owned or held of record by Loan Parties directly in any Person; provided, however, that Shares shall not include the equity interests described in clause (a) of the definition of "Collateral".

"**Shipped Patient Implants**" means Patient Implants shipped to a hospital to be promptly implanted in a patient once delivered.

"**Subordinated Debt**" means any debt incurred by Borrower that is subordinated to the debt owing by Borrower to Bank on terms reasonably acceptable to Bank (and identified as being such by Borrower and Bank).

"**Subsidiary**" means any corporation, company, or partnership in which (a) any general partnership interest or (b) more than fifty percent (50%) of the stock or other units of ownership which by the terms thereof has the ordinary voting power to elect the Board of Directors, managers, or trustees of the entity, at the time as of which any determination is being made, is owned by Loan Parties, either directly or through an Affiliate.

"**Success Fee Agreement**" means that certain Success Fee Agreement dated as of the Closing Date made by Borrower in favor of Bank, as amended, restated, supplemented or otherwise modified from time to time.

"**SVB Credit Card Account**" has the meaning assigned in the Schedule.

"SVB Credit Card Cash Collateral Account" has the meaning assigned in the Schedule.

"**SVB LC**" has the meaning assigned in the Schedule.

"**SVB LC Cash Collateral Account**" has the meaning assigned in the Schedule.

"**Term Loan Advance**" or "**Term Loan Advances**" means a cash advance under Section 2.1(a).

"**Term Loan**" means credit extensions of up to Six Million Two Hundred Fifty Thousand Dollars ($6,250,000); provided that, (a) upon achievement of the First Monthly Revenue Milestone, "**Term Loan**" shall mean credit extensions of up to Nine Million Three Hundred Seventy Five Thousand Dollars ($9,375,000) and (b) upon achievement of the First Monthly Revenue Milestone and the Second Monthly Revenue Milestone, "**Term Loan**" shall mean credit extensions of up to Twelve Million Five Hundred Thousand Dollars ($12,500,000).

"**Term Loan Maturity Date**" means December 20, 2026.

"**Trademarks**" means any trademark and service mark rights, whether registered or not, applications to register and registrations of the same and like protections, and the entire goodwill of the business of Loan Parties connected with and symbolized by such trademarks.

"**Trailing Six-Month Revenue**" means Revenue for the most recent six (6) calendar months for which Borrower has delivered to Bank the monthly financial reporting required by Section 6.3(a).

"**Transfer**" has the meaning assigned in Section 7.1.

1.2 Accounting Terms. All accounting terms not specifically defined herein shall be construed in accordance with GAAP, and all calculations made hereunder shall be made in accordance with GAAP. When used herein, the terms "financial statements" shall include the notes and schedules thereto.

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2. Loan and Terms of Payment.

2.1 Credit Extensions.

Borrower promises to pay to the order of Bank, in lawful money of the United States of America, the aggregate unpaid principal amount of all Credit Extensions made by Bank to Borrower hereunder. Borrower shall also pay interest on the unpaid principal amount of such Credit Extensions at rates in accordance with the terms hereof.

(a)Term Loan Advances.

(i)Term Loan. Subject to and upon the terms and conditions of this Agreement, Borrower may request, at any time from the date hereof through the Availability End Date, and Bank agrees to make Term Loan Advances to Borrower in an aggregate amount not to exceed the Term Loan. Interest shall accrue from the date of each Term Loan Advance at the rate specified in Section 2.3, and shall be payable monthly on the 20th day of each month so long as any Term Loan Advances are outstanding. Any Term Loan Advances that are outstanding on the Availability End Date shall be payable in thirty (30) equal monthly installments of principal (provided, however, upon achievement of the First Monthly Revenue Milestone and the Second Monthly Revenue Milestone, any Term Loan Advances that are outstanding on the Availability End Date shall be payable twenty-four (24) equal monthly installments), plus all accrued interest, beginning on the date one (1) month following the Availability End Date, and continuing on the same day of each month thereafter through the Term Loan Maturity Date, at which time all amounts owing under this Section 2.1(a) and any other amounts owing under this Agreement shall be immediately due and payable. Term Loan Advances, once repaid, may not be reborrowed. Borrower may prepay any Term Loan Advances, in whole or in part, without penalty or premium. Notwithstanding anything to the contrary set forth herein, Borrower hereby authorizes Bank to disburse a portion of the proceeds of any Term Loan Advance made on the Closing Date directly to Silicon Valley Bank to repay in full all Indebtedness owed by Borrower to Silicon Valley Bank (other than as set forth in the Schedule).

(ii)Advance Request Form. When Borrower desires to obtain a Term Loan Advance, Borrower shall notify Bank (which notice shall be irrevocable) by electronic mail to be received no later than 3:00 p.m. Eastern time three (3) Business Days before the day on which the Term Loan Advance is to be made. Such notice shall be substantially in the form set forth in the Client Reporting File. The notice shall be signed by a Responsible Officer or its designee.

2.2 [Reserved].

2.3 Interest Rates, Payments, and Calculations.

(a) **Interest Rates**. Except as set forth in Section 2.3(b), the Term Loan Advances shall bear interest, on the outstanding Daily Balance thereof, at a rate equal to the greater of (A) one percent (1.00%) below the Prime Rate or (B) five and one quarter percent (5.25%).

(b) **Late Fee; Default Rate**. If any payment is not made within ten (10) days after the date such payment is due, Borrower shall pay Bank a late fee equal to the lesser of (i) five percent (5%) of the amount of such unpaid amount or (ii) the maximum amount permitted to be charged under applicable law, not in any case to be less than Twenty-Five Dollars ($25.00). All Obligations shall bear interest, from and after the occurrence and during the continuance of an Event of Default, at a rate equal to five (5) percentage points above the interest rate applicable immediately prior to the occurrence and continuance of the Event of Default.

(c) **Payments**. Bank may, at its option, charge accrued interest, all Bank Expenses, all Periodic Payments and all other amounts due and owing in accordance with the terms of this Agreement against any of Borrower's deposit accounts. Any interest not paid when due shall be compounded by becoming a part of the Obligations, and such interest shall thereafter accrue interest at the rate then applicable hereunder. All payments shall be free and clear of any taxes, withholdings, duties, impositions or other charges to the end that Bank will receive the entire amount of any Obligations payable hereunder, regardless of source of payment.

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(d) **Computation**. In the event that the Prime Rate is changed from time to time hereafter, the applicable rate of interest hereunder shall be increased or decreased, effective as of the day the Prime Rate is changed, by an amount equal to such change in the Prime Rate. All interest chargeable under the Loan Documents shall be computed on the basis of a three hundred sixty (360)-day year for the actual number of days elapsed.

2.4 Crediting Payments. Prior to the occurrence of an Event of Default and after any such Event of Default is waived by Bank (in its sole discretion), Bank shall credit a wire transfer of funds, check, or other item of payment to such deposit account or Obligation as Borrower specifies. During the continuance of an Event of Default, the receipt by Bank of any wire transfer of funds, check, or other item of payment shall be immediately applied to conditionally reduce Obligations, but shall not be considered a payment on account unless such payment is of immediately available federal funds or unless and until such check or other item of payment is honored when presented for payment. Notwithstanding anything to the contrary contained herein, any wire transfer or payment received by Bank after 12:00 noon Eastern time shall be deemed to have been received by Bank as of the opening of business on the immediately following Business Day. Whenever any payment to Bank under the Loan Documents would otherwise be due (except by reason of acceleration) on a date that is not a Business Day, such payment shall instead be due on the next Business Day, and additional fees or interest, as the case may be, shall accrue and be payable for the period of such extension.

2.5 Fees. Borrower shall pay to Bank the following:

(a) **Facility Fee**. On the Closing Date, a Facility Fee equal to Thirty One Thousand Two Hundred Fifty Dollars ($31,250), which shall be nonrefundable; and

(b) **Final Payment Fee**. On the earlier to occur of (i) the Term Loan Maturity Date or (ii) such other date that the Term Loan Advances are repaid in full or become payable in full, a final payment fee equal to the aggregate original principal amount of the Term Loan funded hereunder multiplied by four and twenty one hundredths of a percent (4.21%).

(c) **Bank Expenses**. On the Closing Date, all Bank Expenses incurred through the Closing Date, including reasonable attorneys' fees and expenses, and, after the Closing Date, all Bank Expenses, including reasonable attorneys' fees and expenses, as and when they are incurred by Bank.

2.6 Term. This Agreement shall become effective on the Closing Date and, subject to Section 13.7, shall continue in full force and effect for so long as any Obligations remain outstanding or Bank has any obligation to make Credit Extensions under this Agreement. Notwithstanding the foregoing, Bank shall have the right to terminate its obligation to make Credit Extensions under this Agreement immediately and without notice upon the occurrence and during the continuance of an Event of Default. Notwithstanding termination, Bank's Lien on the Collateral shall remain in effect for so long as any Obligations are outstanding.

3. CONDITIONS OF LOANS.

3.1 Conditions Precedent to Effectiveness. The effectiveness of the Loan Documents is subject to the condition precedent that Bank shall have received, in form and substance satisfactory to Bank, the following:

(a) this Agreement;

(b) a certificate of the Secretary of each Loan Party with respect to incumbency and resolutions authorizing the execution and delivery of this Agreement;

(c) UCC National Form Financing Statement;

(d) the Success Fee Agreement;

(e) payment of the fees and Bank Expenses then due specified in Section 2.5 hereof;

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(f) initial reporting which includes: (i) the information required by Section 6.3(a) herein; (ii) year-to-date financial statements; (iii) unaudited financial statements for Borrower's most recently completed fiscal year; and (iv) such other financial information as Bank may reasonably request;

(g) a current Compliance Certificate in accordance with Section 6.3 herein;

(h) evidence that Borrower has opened and funded not less than eighty percent (80%) of its unrestricted cash in deposit accounts held with Bank;

(i) evidence satisfactory to Bank that the insurance policies and endorsements required by Section 6.6 hereof are in full force and effect, together with appropriate evidence showing lender loss payable and/or additional insured clauses or endorsements in favor of Bank;

(j) a payoff letter from Silicon Valley Bank providing for (i) repayment in full of all Indebtedness owed by Borrower to Silicon Valley Bank (other than as set forth in the Schedule) and (ii) termination of all Liens of Silicon Valley Bank in Borrower's properties and assets (other than as set forth in the Schedule).

(k) confirmation that Borrower is not involved in material litigation;

(l) the representations and warranties contained in Article 5 shall be true and correct in all material respects on and as of Closing Date, and no Event of Default shall have occurred and be continuing, or would exist after giving effect to the closing of the Loan Documents; and

(m) such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

3.2 Conditions Precedent to All Credit Extensions. The obligation of Bank to make each Credit Extension, including the initial Credit Extension, is further subject to the following conditions:

(a) timely receipt by Bank of the Advance Request Form as provided in Section 2.1;

(b) each Loan Party shall be in compliance with Section 6.7 hereof;

(c) the representations and warranties contained in Article 5 shall be true and correct in all material respects on and as of the date of such Advance Request Form and on the effective date of each Credit Extension as though made at and as of each such date, and no Event of Default shall have occurred and be continuing, or would exist after giving effect to such Credit Extension. The making of each Credit Extension shall be deemed to be a representation and warranty by each Loan Party on the date of such Credit Extension as to the accuracy of the facts referred to in this Section 3.2; and

(d) Bank reasonably determines to its satisfaction that (i) it is the intention of Borrower's investors to continue to fund Borrower in the amounts and timeframe necessary to enable Borrower to satisfy its financial obligations as they become due and payable, and (ii) there has been no material impairment in the priority of Bank's security interest in the Collateral or the value of the Collateral.

4. CREATION OF SECURITY INTEREST.

4.1 Grant of Security Interest. Each Loan Party grants and pledges to Bank a continuing security interest in all presently existing and hereafter acquired or arising Collateral in order to secure prompt repayment of any and all Obligations and in order to secure prompt performance by such Loan Party of each of its covenants and duties under the Loan Documents. Except as set forth in the Schedule, such security interest constitutes a valid, first priority security interest in the presently existing Collateral and will constitute a valid, first priority security interest in Collateral acquired after the date hereof.

4.2 Delivery of Additional Documentation Required. Each Loan Party shall from time to time execute and deliver to Bank, at the request of Bank, all Negotiable Collateral, all financing statements, and other documents that Bank may

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reasonably request, in form reasonably satisfactory to Bank, to perfect and continue the perfection of Bank's security interests in the Collateral and in order to fully consummate all of the transactions

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contemplated under the Loan Documents. Loan Parties from time to time may deposit with Bank specific time deposit accounts to secure specific Obligations. Each Loan Party authorizes Bank to hold such balances in pledge and to decline to honor any drafts thereon or any request by a Loan Party or any other Person to pay or otherwise transfer any part of such balances for so long as the Obligations are outstanding.

4.3 Right to Inspect. Bank (through any of its officers, employees, or agents) shall have the right, upon reasonable prior notice (but in any event no less than five (5) Business Days' notice), from time to time during Loan Parties' usual business hours but no more than once a year (unless an Event of Default has occurred and is continuing), to inspect Loan Parties' Books and to make copies thereof and to check, test, and appraise the Collateral in order to verify Loan Parties' financial condition or the amount, condition of, or any other matter relating to, the Collateral.

4.4 Pledge of Collateral. Each Loan Party hereby pledges, assigns, and grants to Bank a security interest in all of the Shares, together with all proceeds and substitutions thereof, all cash, stock, and other moneys and property paid thereon, all rights to subscribe for securities declared or granted in connection therewith, and all other cash and noncash proceeds of the foregoing, as security for the performance of the Obligations. On the Closing Date, the certificate or certificates for the Shares will be delivered to Bank, accompanied by an instrument of assignment duly executed in blank by Borrower and the other Loan Parties. To the extent required by the terms and conditions governing the Shares, Borrower shall cause the books of each entity whose Shares are part of the Collateral and any transfer agent to reflect the pledge of the Shares. Upon the occurrence of an Event of Default hereunder, Bank may effect the transfer of any securities included in the Collateral (including but not limited to the Shares) into the name of Bank and cause new certificates representing such securities to be issued in the name of Bank or its transferee. Each Loan Party will execute and deliver such documents, and take or cause to be taken such actions, as Bank may reasonably request to perfect or continue the perfection of Bank's security interest in the Shares. Unless an Event of Default shall have occurred and be continuing, Loan Parties shall be entitled to exercise any voting rights with respect to the Shares and to give consents, waivers, and ratifications in respect thereof, provided that no vote shall be cast or consent, waiver, or ratification given or action taken which would be inconsistent with any of the terms of this Agreement or which would constitute or create any violation of any of such terms. All such rights to vote and give consents, waivers, and ratifications shall terminate upon the occurrence and continuance of an Event of Default.

5. Representations and Warranties.

Each Loan Party represents and warrants as follows:

5.1 Due Organization and Qualification. Each Loan Party and each Subsidiary is a corporation or limited liability company duly existing under the laws of its state of incorporation or formation and is qualified and licensed to do business in any state in which the conduct of its business or its ownership of property requires that it be so qualified, except where the failure to be so qualified or licensed could not reasonably be expected to cause a Material Adverse Effect.

5.2 Due Authorization; No Conflict. The execution, delivery, and performance of the Loan Documents are within each Loan Party's powers, have been duly authorized, and are not in conflict with nor constitute a breach of any provision contained in any Loan Party's Certificate of Incorporation or Bylaws, or Certificate of Organization or Formation or Limited Liability Company or Operating Agreement, as applicable, nor will they constitute an event of default under any material agreement to which any Loan Party is a party or by which any Loan Party is bound. Borrower is not in default under any material agreement to which it is a party or by which it is bound.

5.3 No Prior Encumbrances. Each Loan Party and each Subsidiary has good and marketable title to its property, free and clear of Liens, except for Permitted Liens.

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5.4 Revenue Contracts. The contracts yielding Revenue (included in the calculation of the First Monthly Revenue Milestone and the Second Monthly Revenue Milestone) are bona fide existing obligations. The property and services giving rise to such contracts has been delivered or rendered to the account debtor or to the account debtor's agent for immediate and unconditional acceptance by the account debtor. No Loan Party has received notice of an actual or imminent Insolvency Proceeding of any account debtor under a contract yielding Revenue (included in the calculation of the First Monthly Revenue Milestone and the Second Monthly Revenue Milestone).

5.5 Merchantable Inventory. All Inventory is in all material respects of good and marketable quality, free from all material defects, except for Inventory for which adequate reserves have been made.

5.6 Intellectual Property. Each Loan Party is the sole owner of the Intellectual Property, except for non-exclusive licenses granted by such Loan Party to its customers in the ordinary course of business or licenses for the use of Intellectual Property granted by such Loan Party to third parties in the ordinary course of business that could not result in a legal transfer of title of the licensed property that may be exclusive in respects other than territory and that may be exclusive as to territory only as to discrete geographical areas outside of the United States. Each of the Patents is valid and enforceable, and no part of the Intellectual Property that is material to any Loan Party's business has been judged invalid or unenforceable, in whole or in part, and no claim has been made that any part of the Intellectual Property violates the rights of any third party. Except as set forth in the Schedule or as disclosed in writing from time to time pursuant to Section 6.9, Borrower's rights as a licensee of intellectual property do not give rise to more than five percent (5%) of its gross revenue in any given month, including without limitation revenue derived from the sale, licensing, rendering, or disposition of any product or service. Except as set forth in the Schedule, no Loan Party is a party to, or bound by, any agreement that restricts the grant by such Loan Party of a security interest in such Loan Party's rights under such agreement.

5.7 Name; Location of Chief Executive Office. Except as disclosed in the Schedule, no Loan Party has done business under any name other than that specified on the signature page hereof. The chief executive office of Loan Parties is located at the address indicated in Article 10 hereof or for which notice has been provided in accordance with Section 7.2. Except as permitted pursuant to Section 7.10, each Loan Party's Inventory and Equipment (other than Shipped Patient Implants) is located only at the location set forth in Article 10 hereof.

5.8 Litigation. Except as set forth in the Schedule or for which notice has been provided in accordance with Section 6.3(d)(ii), there are no actions or proceedings pending by or against any Loan Party or any Subsidiary before any court or administrative agency in which an adverse decision could reasonably be expected to have a Material Adverse Effect or a material adverse effect on such Loan Party's interest or Bank's security interest in the Collateral.

5.9 No Material Adverse Change in Financial Statements. All consolidated and consolidating financial statements related to Loan Parties and any Subsidiaries that Bank has received from Loan Parties fairly present in all material respects Loan Parties' financial condition as of the date thereof and Loan Parties consolidated and consolidating results of operations for the period then ended. There has not been a material adverse change in the consolidated or the consolidating financial condition of Loan Parties since the date of the most recent of such financial statements submitted to Bank.

5.10 Solvency; Payment of Debts. (a) Borrower is able to pay its debts (including trade debts) as they mature; the fair saleable value of Borrower's assets (including goodwill minus disposition costs) exceeds the fair value of its liabilities; and Borrower is not left with unreasonably small capital after the transactions contemplated by this Agreement and (b) the Loan Parties are able to pay their consolidated debts (including trade debts) as they mature; the fair saleable value of the Loan Parties' assets, on a consolidated basis (including goodwill minus disposition costs), exceeds the fair value of their liabilities; and the Loan Parties, on a consolidated basis, are not left with unreasonably small capital after the transactions contemplated by this Agreement.

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5.11 Regulatory Compliance. Each Loan Party and each Subsidiary have met the minimum funding requirements of ERISA with respect to any employee benefit plans subject to ERISA, and no event has occurred resulting from any Loan Party's failure to comply with ERISA that could reasonably be expected to result in any Loan Party incurring any material liability. No Loan Party is an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940. No Loan Party is engaged principally, or as one of the important activities, in the business of extending credit for the purpose of purchasing or carrying margin stock (within the meaning of Regulations T and U of the Board of Governors of the Federal Reserve System). Each Loan Party has complied with all of the provisions of the Federal Fair Labor Standards Act. No Loan Party has violated any statutes, laws, ordinances, or rules applicable to it, violation of which could reasonably be expected to have a Material Adverse Effect.

5.12 Environmental Condition. Except as disclosed in the Schedule, no Loan Party's or any Subsidiary's properties or assets have ever been used by any Loan Party or any Subsidiary or, to the best of each Loan Party's knowledge, by previous owners or operators, in the disposal of, or to produce, store, handle, treat, release, or transport, any hazardous waste or hazardous substance other than in accordance with applicable law; to the best of Borrower's knowledge, no Loan Party's properties or assets have ever been designated or identified in any manner pursuant to any environmental protection statute as a hazardous waste or hazardous substance disposal site or as a candidate for closure pursuant to any environmental protection statute; no lien arising under any environmental protection statute has attached to any revenues or to any real or personal property owned by any Loan Party or any Subsidiary; and no Loan Party nor any Subsidiary has received a summons, citation, notice, or directive from the Environmental Protection Agency or any other federal, state, or other governmental agency concerning any action or omission by any Loan Party or any Subsidiary resulting in the releasing or otherwise disposing of hazardous waste or hazardous substances into the environment.

5.13 Taxes. Each Loan Party and each Subsidiary have filed or caused to be filed all tax returns required to be filed, and have paid or have made adequate provision for the payment of, all taxes reflected therein, except (a) to the extent such taxes are being contested in good faith by appropriate proceedings promptly instituted and diligently conducted, so long as such reserve or other appropriate provision, if any, as shall be required in conformity with GAAP shall have been made therefor, or (b) if such taxes are not federal or state income taxes and do not, individually or in the aggregate, exceed Fifty Thousand Dollars ($50,000).

5.14 Subsidiaries. No Loan Party owns any stock, partnership interest, or other equity securities of any Person, except for Permitted Investments.

5.15 Government Consents. Each Loan Party and each Subsidiary have obtained all material consents, approvals, and authorizations of, made all declarations or filings with, and given all notices to, all governmental authorities that are necessary for the continued operation of each Loan Parties' business as currently conducted.

5.16 Accounts. Except as permitted by Section 6.7, no Loan Party's nor any Subsidiary's property is maintained or invested with a Person other than Bank.

5.17 Shares. Each Loan Party has full power and authority to create a first lien on the Shares, and no disability or contractual obligation exists that would prohibit any Loan Party from pledging the Shares pursuant to this Agreement. To each Loan Party's knowledge, there are no subscriptions, warrants, rights of first refusal, or other restrictions on transfer relative to, or options exercisable with respect to the Shares. The Shares have been and will be duly authorized and validly issued and are fully paid and non-assessable. To each Loan Party's knowledge, the Shares are not the subject of any present or threatened suit, action, arbitration, administrative, or other proceeding, and no Loan Party knows of reasonable grounds for the institution of any such proceedings. Except for certificates of Shares delivered to Bank, if any, no interest in any limited liability company or limited partnership controlled by any Loan Party is represented by a certificate. With respect to each limited liability company or limited partnership controlled by any Loan Party whose interests are uncertificated, such limited liability company or limited partnership has not elected, whether in its limited liability company agreement or limited partnership agreement or otherwise, to have such interests be treated as a "Security" within the meaning of Article 8 of the Code.

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5.18 Full Disclosure. No representation, warranty, or other statement made by any Loan Party in any certificate or written statement furnished to Bank contains any untrue statement of a material fact or omits to state a material fact necessary in order to make the statements contained in such certificates or statements not misleading in light of the circumstances under which such statements were made (after giving effect to all supplements and updates thereto from time to time), it being recognized by Bank that the projections and forecasts provided by Loan Party in good faith and based upon the reasonable assumptions are not to be viewed as facts and that actual results during the period or periods covered by any such projections and forecasts may differ from the projected or forecasted results.

6. Affirmative Covenants.

Each Loan Party shall do all of the following:

6.1 Good Standing. Each Loan Party shall maintain its and each of its Subsidiaries' corporate existence and good standing in its jurisdiction of incorporation and shall maintain qualification in each jurisdiction in which it is required under applicable law. Each Loan Party shall maintain, and shall cause each of its Subsidiaries to maintain, in force all licenses, approvals, and agreements, the loss of which could reasonably be expected to have a Material Adverse Effect.

6.2 Government Compliance. Each Loan Party shall meet, and shall cause each Subsidiary to meet, the minimum funding requirements of ERISA with respect to any employee benefit plans subject to ERISA. Each Loan Party shall comply, and shall cause each Subsidiary to comply, with all statutes, laws, ordinances, and government rules and regulations to which it is subject, noncompliance with which could reasonably be expected to have a Material Adverse Effect.

6.3 Financial Statements, Reports, Certificates. Borrower shall deliver the following to Bank: (a) as soon as available, but in any event within thirty (30) days after the end of each calendar month, (i) a company prepared consolidated balance sheet, income statement, and cash flow statement covering Loan Parties' consolidated operations during such period, prepared in accordance with GAAP, consistently applied, (ii) aged listings of accounts receivable and accounts payable and (iii) a report of Revenue and Trailing Six-Month Revenue, in each case, in a form reasonably acceptable to Bank and certified by a Responsible Officer; (b) as soon as available, but in any event before August 31 of each fiscal year, audited consolidated financial statements of Loan Parties for the prior fiscal year, prepared in accordance with GAAP, consistently applied, together with an unqualified opinion on such financial statements of an independent certified public accounting firm reasonably acceptable to Bank (or an opinion qualified for going concern so long as Borrower's investors provide additional equity as needed); (c) copies of all statements, reports, and notices sent or made available generally by Borrower to its security holders or to any holders of Subordinated Debt and, if applicable, all reports on Forms 10-K and 10-Q filed with the Securities and Exchange Commission; (d) promptly upon receipt of notice thereof, a report of any legal actions pending or threatened by or against any Loan Party or any Subsidiary that could reasonably be expected to (i) result in damages or costs of Two Hundred Fifty Thousand Dollars ($250,000) or more or (ii) have a Material Adverse Effect or a material adverse effect on a Loan Party's interest or Bank's security interest in the Collateral; (e) as soon as available, but in any event within forty-five (45) days after the end of each fiscal year of Borrower, (i) annual operating budgets (including income statements, balance sheets, and cash flow statements, by month) for the upcoming fiscal year of Borrower, and (ii) annual financial projections for the following fiscal year as approved by Borrower's Board of Directors, together with any related business forecasts used in the preparation of such annual financial projections; (f) in the event that Borrower conducts a new or updated written report of valuation of the shares of Borrower's common stock conducted for purposes of Borrower's compliance with 409A of the IRC, Borrower shall provide Bank a copy thereof within thirty (30) days of receipt by Borrower; and (g) such budgets, sales projections, operating plans, or other financial information as Bank may reasonably request from time to time.

Borrower shall deliver to Bank with the monthly financial statements a Compliance Certificate signed by a Responsible Officer in substantially the form set forth in the Client Reporting File.

Bank shall have a right from time to time hereafter to audit Borrower's Accounts and appraise Collateral at Borrower's expense, provided that such audits will be conducted no more often than every twelve (12) months unless an Event of Default has occurred and is continuing.

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As soon as possible and in any event within three (3) calendar days after a Responsible Officer or any other officer of Borrower becoming aware of the occurrence or existence of an Event of Default hereunder, Borrower shall deliver to Bank a written statement of a Responsible Officer setting forth details of the Event of Default and the action which Borrower has taken or proposes to take with respect thereto.

6.4 Inventory; Returns. Each Loan Party shall keep all Inventory in good and marketable condition, free from all material defects except for Inventory for which adequate reserves have been made. Returns and allowances, if any, as between a Loan Party and its account debtors shall be on the same basis and in accordance with the usual customary practices of such Loan Party, as they exist at the time of the execution and delivery of this Agreement. Each Loan Party shall promptly notify Bank of all returns and recoveries and of all disputes and claims, where the return, recovery, dispute, or claim involves more than Two Hundred Fifty Thousand Dollars ($250,000).

6.5 Taxes. Each Loan Party shall make, and shall cause each Subsidiary to make, due and timely payment or deposit of all material federal, state, and local taxes, assessments, or contributions required of it by law, and will execute and deliver to Bank, on demand, appropriate certificates attesting to the payment or deposit thereof; and each Loan Party will make, and will cause each Subsidiary to make, timely payment or deposit of all material tax payments and withholding taxes required of it by applicable laws, including, but not limited to, those laws concerning F.I.C.A., F.U.T.A., state disability, and local, state, and federal income taxes, and will, upon request, furnish Bank with proof reasonably satisfactory to Bank indicating that Borrower or such Loan Party and Subsidiary has made such payments or deposits; provided that no Loan Party or Subsidiary needs to make any payment if the amount or validity of such payment is contested in good faith by appropriate proceedings and is reserved against (to the extent required by GAAP) by such Loan Party or Subsidiary.

6.6 Insurance.

(a) Each Loan Party, at its expense, shall keep the Collateral insured against loss or damage by fire, theft, explosion, sprinklers, and all other hazards and risks, and in such amounts, as ordinarily insured against by other owners in similar businesses conducted in the locations where such Loan Party's business is conducted on the date hereof. Each Loan Party shall also maintain insurance relating to such Loan Party's business, ownership, and use of the Collateral in amounts and of a type that are customary to businesses similar to such Loan Party.

(b) All such policies of insurance shall be in such form, with such companies, and in such amounts as are reasonably satisfactory to Bank. All such policies of property insurance shall contain a lender's loss payable endorsement, in a form reasonably satisfactory to Bank, showing Bank as an additional lender's loss payee thereof, and all liability insurance policies shall show Bank as an additional insured and shall specify that the insurer must give at least twenty (20) days' notice (or ten (10) days in the case of non-payment of premium) to Bank before canceling its policy for any reason. Upon Bank's request, each Loan Party shall deliver to Bank certified copies of such policies of insurance and evidence of the payments of all premiums therefor. All proceeds payable under any such policy shall, at the option of Bank, be payable to Bank to be applied on account of the Obligations.

6.7 Accounts. Each Loan Party shall (a) maintain and shall cause each of its Subsidiaries to maintain all of its depository and operating accounts and its primary investment accounts with Bank and (b) endeavor to utilize and shall cause each of its Subsidiaries to endeavor to utilize Bank for all ACH activity and other banking services required by such Loan Party, including, but not limited to, foreign currency wires, hedges, swaps, foreign exchange contracts, letters of credit and Bank's International Banking Division for any international banking services related to the foregoing. Notwithstanding the foregoing, Loan Parties may keep, outside Bank, (x) their existing deposit accounts until the date that is sixty (60) days after the Closing Date and such accounts will not be required to be subject to an account control agreement; provided that (i) any amounts funded to a deposit account held with Bank pursuant to Section 3.1(h) shall not be transferred to any Loan Party deposit account outside Bank during such sixty (60) day period and (ii) Loan Parties shall maintain at least eighty percent (80%) of their unrestricted cash in deposit accounts held with Bank at all times during such sixty (60) day period; provided further that the SVB Credit Card Cash Collateral Account and the SVB LC Cash Collateral Account shall not be subject to such sixty (60) day period, (y) credit cards described in clause (f) of the definition of "Permitted Indebtedness" and (z) the SVB LC until the expiration date thereof.

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6.8 Creation/Acquisition of Subsidiaries. In the event that any Loan Party creates or acquires any Subsidiary, such Loan Party shall promptly notify Bank of such creation or acquisition, and such Loan Party shall take all actions reasonably requested by Bank to achieve any of the following with respect to such "New Subsidiary" (defined as a Subsidiary formed after the date hereof during the term of this Agreement): (a) to cause such New Subsidiary, if such New Subsidiary is not a CFC, to become either a co-borrower hereunder or a secured guarantor with respect to the Obligations, and (b) to grant and pledge to Bank a perfected security interest in the Shares held by such Loan Party of any such New Subsidiary.

6.9 Consent of Inbound Licensors. Prior to entering into or becoming bound by any material inbound license or agreement, Borrower shall: (a) provide written notice to Bank of the material terms of such license or agreement with a description of its likely impact on Borrower's business or financial condition; and (b) upon Bank's request, in good faith use commercially reasonable efforts to obtain the consent of, or waiver by, any Person whose consent or waiver is necessary for Borrower's interest in such licenses or contract rights to be deemed Collateral and for Bank to have a security interest in it that might otherwise be restricted by the terms of the applicable license or agreement, whether now existing or entered into in the future, provided, however, that the failure to obtain any such consent or waiver shall not constitute a default under this Agreement.

6.10 Further Assurances. At any time and from time to time each Loan Party shall execute and deliver such further instruments and take such further action as may reasonably be requested by Bank to effect the purposes of this Agreement.

7. Negative Covenants.

No Loan Party will do any of the following:

7.1 Dispositions. Convey, sell, lease, transfer, or otherwise dispose of (collectively, a "**Transfer**"), or permit any of its Subsidiaries to Transfer, all or any part of its business or property, other than: (a) Transfers of Inventory (including, for the avoidance of doubt, the sale of Patient Implants) in the ordinary course of business; (b) Transfers of non-exclusive licenses and similar arrangements for the use of the property of any Loan Party or its Subsidiaries in the ordinary course of business and licenses of Intellectual Property to third parties in the ordinary course of business that could not result in a legal transfer of title of the licensed property that may be exclusive in respects other than territory and that may be exclusive as to territory only as to discrete geographical areas outside of the United States; (c) Transfers of worn-out or obsolete Equipment which was not financed by Bank; (d) Transfers of Cash or cash equivalents in the ordinary course of business and not otherwise prohibited by this Agreement; (e) Transfers constituting Permitted Liens; and (f) Transfers of other assets of Borrower and its Subsidiaries that do not in the aggregate exceed Two Hundred Fifty Thousand Dollars ($250,000) in any fiscal year.

7.2 Change in Business; Change in Control or Executive Office. Engage in any business, or permit any of its Subsidiaries to engage in any business, other than the businesses currently engaged in by Loan Parties and any business substantially similar or related thereto (or incidental thereto); or cease to conduct business in the manner conducted by Loan Parties as of the Closing Date; or suffer or permit a Change in Control; or without fifteen (15) days' prior written notification to Bank, relocate its chief executive office or state of incorporation or change its legal name; or, without Bank's prior written consent, change the date on which its fiscal year ends; or suffer a change on its Board of Directors which results in the failure of at least one (1) partner of (a) B Capital Group or any of its Affiliates or (b) U.S. Venture Partners or any of its Affiliates to serve as a voting member, in such case without the prior written consent of Bank which may be withheld in Bank's sole discretion.

7.3 Mergers or Acquisitions. Merge or consolidate, or permit any of its Subsidiaries to merge or consolidate, with or into any other business organization, or acquire, or permit any of its Subsidiaries to acquire, all or substantially all of the capital stock or property of another Person.

7.4 Indebtedness. Create, incur, assume, or be or remain liable with respect to any Indebtedness, or permit any Subsidiary so to do, other than Permitted Indebtedness, or enter into or remain liable under any SAFE (or similar agreement) containing terms providing for a cash payment to be made to the purchaser or purchasers thereunder, the return of any purchase price to the purchaser or purchasers thereunder or any similar payment or payments, other than Permitted Indebtedness.

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7.5 Encumbrances. Create, incur, assume, or suffer to exist any Lien with respect to any of its property (including without limitation its Intellectual Property), or assign or otherwise convey any right to receive income, including the sale of any Accounts, or permit any of its Subsidiaries to do so, except for Permitted Liens, or agree with any Person other than Bank not to grant a security interest in, or otherwise encumber, any of its property (including without limitation its Intellectual Property), or permit any Subsidiary to do so.

7.6 Distributions. Pay any dividends or make any other distribution or payment on account of or in redemption, retirement, or purchase of any capital stock, except that such Loan Party may (a) repurchase the stock or other equity interests of former employees or directors pursuant to stock repurchase agreements, employee stock purchase plans, employee restricted stock agreements, stockholder rights plans, director or consultant stock option plans, or similar plans or agreements in an aggregate amount not to exceed Two Hundred Fifty Thousand Dollars ($250,000) in any fiscal year, so long as an Event of Default does not exist prior to such repurchase or would not exist after giving effect to such repurchase, (b) repurchase the stock of former employees or directors pursuant to stock repurchase agreements by the cancellation of indebtedness owed by such former employees or directors to such Loan Party regardless of whether an Event of Default exists, (c) convert any of its convertible securities into equity securities pursuant to the terms of such convertible securities or otherwise in exchange thereof and (d) pay dividends solely in the form of common stock.

7.7 Investments. Directly or indirectly acquire or own, or make any Investment in or to any Person, or permit any of its Subsidiaries so to do, other than Permitted Investments; or maintain or invest any of its property with a Person other than Bank or permit any of its Subsidiaries to do so unless such Person has entered into an account control agreement with Bank in form and substance reasonably satisfactory to Bank (except as expressly permitted in Section 6.7); or suffer or permit any Subsidiary to be a party to, or be bound by, an agreement that restricts such Subsidiary from paying dividends or otherwise distributing property to any Loan Party.

7.8 Transactions with Affiliates. Directly or indirectly enter into or permit to exist any material transaction with any Affiliate of any Loan Party except for (a) transactions that are in the ordinary course of such Loan Party's business, upon fair and reasonable terms that are no less favorable to such Loan Party than would be obtained in an arm's-length transaction with a non-affiliated Person, (b) Subordinated Debt, (c) reasonable and customary director, officer and employee compensation and other ordinary course benefits approved by Borrower's board of directors, (d) distributions permitted under Section 7.6 and (e) transactions constituting bona fide equity financing rounds which do not cause a Change in Control and are on reasonable and customary terms. Without the prior written consent of Bank in its sole and absolute discretion, no part of the proceeds of the Credit Extensions may be used (a) to purchase any asset or securities (i) issued by any Reg W Affiliate of Bank, (ii) in respect of which, and during any period when, any Reg W Affiliate of Bank has acted as an underwriter, (iii) sold by any Reg W Affiliate of Bank acting as a principal, (iv) if the transaction would otherwise result in a violation of Regulation W issued by the Board of Governors of the Federal Reserve System of the United States, as may be amended from time to time, or (v) if the transaction would not comply with 12 C.F.R. 223.16; (b) to pay, in whole or in part, directly or indirectly, any loan made by any Reg W Affiliate of Bank; or (c) for the benefit of, or to transfer such proceeds to, any Reg W Affiliate of Bank.

7.9 Subordinated Debt. Make any payment in respect of any Subordinated Debt, or permit any of its Subsidiaries to make any such payment, except in compliance with the terms of such Subordinated Debt, or amend any provision contained in any documentation relating to the Subordinated Debt without Bank's prior written consent.

7.10 Inventory and Equipment. Store Inventory or Equipment (other than Shipped Patient Implants) in excess of Two Hundred Fifty Thousand Dollars ($250,000) with a bailee, warehouseman, or other third party unless the third party has been notified of Bank's security interest and Bank (a) has received an acknowledgment from the third party that it is holding or will hold the Inventory or Equipment for Bank's benefit or (b) is in pledge possession of the warehouse receipt, where negotiable, covering such Inventory or Equipment. Store or maintain any Equipment or Inventory (other than Shipped Patient Implants) at any location where Borrower's net fixed assets exceed Five Hundred Thousand Dollars ($500,000), unless the landlord has been notified of Bank's security interest and Bank has received a landlord waiver in form and substance reasonably satisfactory to Bank, duly executed by such Loan Party and such landlord.

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7.11 Compliance. Become an "investment company" or be controlled by an "investment company," within the meaning of the Investment Company Act of 1940, or become principally engaged in, or undertake as one of its important activities, the business of extending credit for the purpose of purchasing or carrying margin stock, or use the proceeds of any Credit Extension for such purpose. Fail to meet the minimum funding requirements of ERISA, permit a Reportable Event or Prohibited Transaction, as defined in ERISA, to occur, fail to comply with the Federal Fair Labor Standards Act or violate any law or regulation, which violation could have a Material Adverse Effect, or a material adverse effect on the Collateral or the priority of Bank's Lien on the Collateral, or permit any of its Subsidiaries to do any of the foregoing.

8. EVENTS OF DEFAULT.

Any one (1) or more of the following events shall constitute an event of default under this Agreement (each an "**Event of Default**").

8.1 Payment Default. If Borrower or any other Loan Party fails to pay, when due, any of the Obligations;

8.2 Covenant Default.

(a) If any Loan Party fails to perform any obligation under Sections 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8 or 6.9 or violates any of the covenants contained in Article 7 of this Agreement; or

(b) If any Loan Party fails or neglects to perform or observe any other material term, provision, condition, covenant contained in this Agreement, in any of the Loan Documents, or in any other present or future agreement between any Loan Party and Bank and as to any default under such other term, provision, condition, or covenant that can be cured, has failed to cure such default within ten (10) days after any Loan Party receives notice thereof or any officer of any Loan Party becomes aware thereof; provided, however, that, if the default cannot by its nature be cured within the ten (10)-day period or cannot after diligent attempts by such Loan Party be cured within such ten (10)-day period and such default is likely to be cured within a reasonable time, such Loan Party shall have an additional reasonable period (which shall not in any case exceed thirty (30) days) to attempt to cure such default, so long as each Loan Party continues to diligently attempt to cure such default, and within such reasonable time period the failure to have cured such default shall not be deemed an Event of Default but no Credit Extensions will be made;

8.3 Investor Abandonment. Bank determines, in its good faith judgment, that it is the intention of Borrower's investors to not continue to fund Borrower in the amounts and timeframe necessary to enable Borrower to satisfy its financial obligations as they become due and payable;

8.4 Impairment. Bank determines, in its good faith judgment, that there is a material impairment in the priority of Bank's security interest in the Collateral or the value of the Collateral;

8.5 Attachment. If any portion of any Loan Party's assets is attached, seized, subjected to a writ or distress warrant, or is levied upon, or comes into the possession of any trustee, receiver, or Person acting in a similar capacity and such attachment, seizure, writ or distress warrant, or levy has not been removed, discharged, or rescinded within ten (10) days, or if any Loan Party is enjoined, restrained, or in any way prevented by court order from continuing to conduct all or any material part of its business affairs, or if a judgment or other claim becomes a lien or encumbrance upon any material portion of any Loan Party's assets, or if a notice of lien, levy, or assessment is filed of record with respect to any Loan Party's assets by the United States Government, or any department, agency, or instrumentality thereof, or by any state, county, municipal, or governmental agency, and the same is not paid within ten (10) days after such Loan Party receives notice thereof, provided that none of the foregoing shall constitute an Event of Default where such action or event is stayed or an adequate bond has been posted pending a good faith contest by such Loan Party (provided, further, that no Credit Extensions will be required to be made during such cure period);

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8.6 Insolvency. If any Loan Party becomes insolvent, or if an Insolvency Proceeding is commenced by any Loan Party, or if an Insolvency Proceeding is commenced against any Loan Party and is not dismissed or stayed within forty-five (45) days (provided that no Credit Extensions will be made prior to the dismissal of such Insolvency Proceeding);

8.7 Other Agreements. If there is a default or other failure to perform in any agreement to which any Loan Party is a party or by which it is bound resulting in a right by a third party or parties, whether or not exercised, to accelerate the maturity of any Indebtedness in an amount in excess of Two Hundred Fifty Thousand Dollars ($250,000) or which could reasonably be expected to have a Material Adverse Effect;

8.8 Judgments. If a judgment or judgments for the payment of money in an amount, individually or in the aggregate, of at least Two Hundred Fifty Thousand Dollars ($250,000) (not covered by independent third party insurance that meets the requirements of Section 6.6 as to which liability has been accepted by such insurance carrier) shall be rendered against any Loan Party and shall remain unsatisfied and unstayed for a period of ten (10) days (provided that no Credit Extensions will be made prior to the satisfaction or stay of such judgment); or

8.9 Misrepresentations. If any material misrepresentation or material misstatement exists now or hereafter in any warranty or representation set forth herein or in any certificate delivered to Bank by any Responsible Officer pursuant to this Agreement or to induce Bank to enter into this Agreement or any other Loan Document.

9. Bank's Rights and Remedies.

9.1 Rights and Remedies. Upon the occurrence and during the continuance of an Event of Default, Bank may, at its election, without notice of its election and without demand, do any one (1) or more of the following, all of which are authorized by each Loan Party:

(a) declare all Obligations, whether evidenced by this Agreement, by any of the other Loan Documents, or otherwise, immediately due and payable (provided that, upon the occurrence of an Event of Default described in Section 8.6, all Obligations shall become immediately due and payable without any action by Bank);

(b) cease advancing money or extending credit to or for the benefit of Borrower under this Agreement or under any other agreement between Borrower and Bank;

(c) settle or adjust disputes and claims directly with account debtors for amounts, upon terms, and in whatever order that Bank reasonably considers advisable;

(d) make such payments and do such acts as Bank considers necessary or reasonable to protect its security interest in the Collateral. Upon the occurrence and during the continuance of an Event of Default, (i) each Loan Party agrees to assemble the Collateral if Bank so requires, and to make the Collateral available to Bank as Bank may designate, (ii) each Loan Party authorizes Bank to enter the premises where the Collateral is located, to take and maintain possession of the Collateral, or any part of it, and to pay, purchase, contest, or compromise any encumbrance, charge, or lien which in Bank's determination appears to be prior or superior to its security interest and to pay all expenses incurred in connection therewith and (iii) with respect to any of a Loan Party's owned premises, such Loan Party hereby grants Bank a license to enter into possession of such premises and to occupy the same, without charge, in order to exercise any of Bank's rights or remedies provided herein, at law, in equity, or otherwise;

(e) set off and apply to the Obligations any and all (i) balances and deposits of any Loan Party held by Bank, or (ii) indebtedness at any time owing to or for the credit or the account of any Loan Party held by Bank;

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(f) ship, reclaim, recover, store, finish, maintain, repair, prepare for sale, advertise for sale, and sell (in the manner provided for herein) the Collateral. Bank is hereby granted a license or other right, solely pursuant to the provisions of this Section 9.1, to use, without charge, each Loan Party's labels, patents, copyrights, rights of use of any name, trade secrets, trade names, trademarks, service marks, and advertising matter, or any property of a similar nature, as it pertains to the Collateral, in completing production of, advertising for sale, and selling any Collateral and, in connection with Bank's exercise of its rights under this Section 9.1, each Loan Party's rights under all licenses and all franchise agreements shall inure to Bank's benefit;

(g) dispose of the Collateral by way of one (1) or more contracts or transactions, for cash or on terms, in such manner, and at such places (including any Loan Party's premises) as Bank determines is commercially reasonable, and apply any proceeds to the Obligations in whatever manner or order Bank deems appropriate;

(h) Bank may credit bid and purchase at any public sale; and

(i) any deficiency that exists after disposition of the Collateral as provided above will be paid immediately by Borrower.

9.2 Power of Attorney. Effective only upon the occurrence and during the continuance of an Event of Default, each Loan Party hereby irrevocably appoints Bank (and any of Bank's designated officers or employees) as such Loan Party's true and lawful attorney to: (a) send requests for verification of Accounts or notify account debtors of Bank's security interest in the Accounts; (b) endorse such Loan Party's name on any checks or other forms of payment or security that may come into Bank's possession; (c) sign such Loan Party's name on any invoice or bill of lading relating to any Account, drafts against account debtors, schedules and assignments of Accounts, verifications of Accounts, and notices to account debtors; (d) dispose of any Collateral; (e) make, settle, and adjust all claims under and decisions with respect to such Loan Party's policies of insurance; and (f) settle and adjust disputes and claims respecting the accounts directly with account debtors, for amounts and upon terms which Bank determines to be reasonable. In addition, each Loan Party hereby irrevocably appoints Bank (and any of Bank's designated officers or employees) to file, in its sole discretion, one (1) or more financing or continuation statements and amendments thereto, relative to any of the Collateral. The appointment of Bank as each Loan Party's attorney in fact, and each and every one of Bank's rights and powers, being coupled with an interest, is irrevocable until all of the Obligations have been fully repaid and performed and Bank's obligation to provide Credit Extensions hereunder is terminated.

9.3 Accounts Collection. At any time after the occurrence and during the continuance of an Event of Default, (a) Bank may notify any Person owing funds to any Loan Party of Bank's security interest in such funds and verify the amount of such Account and (b) Borrower shall collect all amounts owing to such Loan Party for Bank, receive in trust all payments as Bank's trustee, and immediately deliver such payments to Bank in their original form as received from the account debtor, with proper endorsements for deposit.

9.4 Bank Expenses. If any Loan Party fails to pay any amounts or furnish any required proof of payment due to third persons or entities, as required under the terms of this Agreement, Bank may do any or all of the following after reasonable notice to Borrower: (a) make payment of the same or any part thereof; (b) set up such reserves under a loan facility in Section 2.1 as Bank deems necessary to protect Bank from the exposure created by such failure; or (c) obtain and maintain insurance policies of the type discussed in Section 6.6 of this Agreement, and take any action with respect to such policies as Bank deems prudent. Any amounts so paid or deposited by Bank shall constitute Bank Expenses, shall be immediately due and payable, shall bear interest at the then applicable rate hereinabove provided, and shall be secured by the Collateral. Any payments made by Bank shall not constitute an agreement by Bank to make similar payments in the future or a waiver by Bank of any Event of Default under this Agreement.

9.5 Bank's Liability for Collateral. So long as Bank complies with reasonable banking practices, Bank shall not in any way or manner be liable or responsible for: (a) the safekeeping of the Collateral; (b) any loss or damage thereto occurring or arising in any manner or fashion from any cause; (c) any diminution in the value thereof; or (d) any act or default of any carrier, warehouseman, bailee, forwarding agency, or other Person whomsoever. All risk of loss, damage, or destruction of the Collateral shall be borne by Loan Parties, except such loss, damage or destruction that is directly caused by Bank's gross negligence or willful misconduct.

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9.6 Remedies Cumulative. Bank's rights and remedies under this Agreement, the Loan Documents, and all other agreements shall be cumulative. Bank shall have all other rights and remedies not inconsistent herewith as provided under the Code, by law, or in equity. No exercise by Bank of one right or remedy shall be deemed an election, and no waiver by Bank of any Event of Default on any Loan Party's part shall be deemed a continuing waiver. No delay by Bank shall constitute a waiver, election, or acquiescence by it. No waiver by Bank shall be effective unless made in a written document signed on behalf of Bank and then shall be effective only in the specific instance and for the specific purpose for which it was given.

9.7 Demand; Protest. Each Loan Party waives demand, protest, notice of protest, notice of default or dishonor, notice of payment and nonpayment, notice of any default, nonpayment at maturity, release, compromise, settlement, extension, or renewal of accounts, documents, instruments, chattel paper, and guarantees at any time held by Bank on which any Loan Party may in any way be liable.

10. NOTICES. All notices, consents, requests, approvals, demands, or other communication by any party to this Agreement or any other Loan Document must be in writing and shall be deemed to have been validly served, given, or delivered: (a) upon the earlier of actual receipt and three (3) Business Days after deposit in the U.S. mail, first class, registered or certified mail return receipt requested, with proper postage prepaid; (b) upon transmission, when sent by electronic mail; (c) one (1) Business Day after deposit with a reputable overnight courier with all charges prepaid; or (d) when delivered, if hand-delivered by messenger, all of which shall be addressed to the party to be notified and sent to the address or email address indicated below. Bank or Borrower may change its mailing or electronic mail address by giving the other party written notice thereof in accordance with the terms of this Article 10.

If to a Loan Party:	CARLSMED, INC. 1800 Aston Avenue, Suite 100 Carlsbad, CA 92008 Attn: Michael Cordonnier, Chief Executive Officer **[***]**
With a copy to:	Morrison & Foerster LLP 12531 High Bluff Drive San Diego, CA 92130-2040 Attn: Jim Krenn **[***]**
If to Bank:	SIGNATURE BANK Signature Bank – Venture

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Banking
Group
565 Fifth
Avenue
New York,
NY 10017
Attn: Justin
McDonie
[***]

The parties hereto may change the address at which they are to receive notices hereunder, by notice in writing in the foregoing manner given to the other.

11. Governing Law. This Agreement shall be deemed to have been made under and shall be governed by the laws of the State of New York (without regard to choice of law principles except as set forth in Section 5-1401 of the New York General Obligations Law) in all respects, including matters of construction, validity, and performance, and that none of its terms or provisions may be waived, altered, modified, or amended except as Bank may consent thereto in writing duly signed for and on its behalf.

12. Jurisdiction and Jury Trial Waiver.

12.1 Each Loan Party hereby irrevocably consents that any suit, legal action or proceeding against such Loan Party or any of its properties with respect to any of the rights or obligations arising directly or indirectly under or relating to this Agreement or any other Loan Document may be brought in any jurisdiction, including, without limitation, any New York State or United States Federal Court located in the Southern District of New York, as Bank

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may elect, and by execution and delivery of this Agreement, each Loan Party hereby irrevocably submits to and accepts with regard to any such suit, legal action, or proceeding, for itself and in respect of its property, generally and unconditionally, the jurisdiction of the aforesaid courts. Each Loan Party hereby irrevocably consents to the service of process in any such suit, legal action, or proceeding by the mailing of copies thereof by registered or certified mail, postage prepaid, return receipt requested, to Borrower at its address set forth herein. The foregoing shall not limit the right of Bank to serve process in any other manner permitted by law or to bring any suit, legal action, or proceeding or to obtain execution of judgment in any other jurisdiction.

12.2 Each Loan Party hereby irrevocably waives any objection which such Loan Party may now or hereafter have to the laying of venue of any suit, legal action, or proceeding arising directly or indirectly under or relating to this Agreement or any other Loan Document in any state or federal court located in any jurisdiction, including without limitation any state or federal court located in the Southern District of New York chosen by Bank in accordance with this Article 12 and hereby further irrevocably waives any claim that a court located in the Southern District of New York is not a convenient forum for any such suit, legal action, or proceeding.

12.3 Each Loan Party hereby irrevocably agrees that any suit, legal action, or proceeding commenced by any Loan Party with respect to any rights or obligations arising directly or indirectly under or relating to this Agreement or any other Loan Document (except as expressly set forth therein to the contrary) shall be brought exclusively in any New York State or United States Federal Court located in the Southern District of New York.

12.4 Each Loan Party hereby waives any defense or claim based on marshaling of assets or election or remedies or guaranties.

12.5 Each Loan Party and Bank (by its acceptance of this Agreement) hereby irrevocably waive all right to trial by jury in any action, proceeding, or counterclaim arising out of or relating to any obligation of any Loan Party or this Agreement or any other Loan Document.

13. General Provisions.

13.1 Successors and Assigns. This Agreement shall bind and inure to the benefit of the respective successors and permitted assigns of each of the parties and shall bind all persons who become bound as a debtor to this Agreement; provided, however, that neither this Agreement nor any rights hereunder may be assigned by any Loan Party without Bank's prior written consent, which consent may be granted or withheld in Bank's sole discretion. Bank shall have the right without the consent of or notice to any Loan Party to sell, transfer, negotiate, or grant participation in all or any part of, or any interest in, Bank's obligations, rights, and benefits hereunder; provided, however, so long as no Event of Default has occurred and is continuing, Bank may not transfer its obligations, rights or benefits hereunder without Borrower's consent to (a) any Person which is known to Bank to be a competitor of Borrower or (b) a hedge fund or private equity fund that invests primarily in debt considered to be distressed or in default.

13.2 Indemnification. Borrower shall defend, indemnify, and hold harmless Bank and its officers, employees, and agents against: (a) all obligations, demands, claims, and liabilities claimed or asserted by any other party in connection with the transactions contemplated by this Agreement; and (b) all losses or Bank Expenses in any way suffered, incurred, or paid by Bank as a result of or in any way arising out of, following, or consequential to transactions between Bank and any Loan Party whether under this Agreement, or otherwise (including without limitation reasonable attorneys' fees and expenses), except for losses caused by Bank's gross negligence or willful misconduct.

13.3 Time of Essence. Time is of the essence for the performance of all obligations set forth in this Agreement.

13.4 Severability of Provisions. Each provision of this Agreement shall be severable from every other provision of this Agreement for the purpose of determining the legal enforceability of any specific provision.

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13.5 Amendments in Writing; Integration. Neither this Agreement nor the Loan Documents can be amended or terminated orally. All prior agreements, understandings, representations, warranties, and negotiations between the parties hereto with respect to the subject matter of this Agreement and the Loan Documents, if any, are merged into this Agreement and the Loan Documents.

13.6 Counterparts/Acceptance. This Agreement may be executed in any number of counterparts and by different parties on separate counterparts, each of which, when executed and delivered, shall be deemed to be an original, and all of which, when taken together, shall constitute but one and the same Agreement. Bank hereby acknowledges and agrees that this Agreement has been executed and accepted by Bank in the State of New York.

13.7 Survival. All covenants, representations, and warranties made in this Agreement shall continue in full force and effect so long as any Obligations remain outstanding or Bank has any obligation to make Credit Extensions to Borrower. The obligations of Borrower to indemnify Bank with respect to the expenses, damages, losses, costs, and liabilities described in Section 13.2 shall survive until all applicable statute of limitations periods with respect to actions that may be brought against Bank have run.

13.8 Confidentiality. In handling any confidential information, Bank and all employees and agents of Bank, including but not limited to accountants, shall exercise the same degree of care that it exercises with respect to its own proprietary information of the same types to maintain the confidentiality of any non-public information thereby received or received pursuant to this Agreement except that disclosure of such information may be made (a) to the subsidiaries or affiliates of Bank in connection with their present or prospective business relations with Loan Parties, (b) to prospective transferees or purchasers of any interest in the Loans, (c) as required by law, regulations, rule or order, subpoena, judicial order, or similar order, (d) as may be required in connection with the examination, audit, or similar investigation of Bank, and (e) as Bank may determine in connection with the enforcement of any remedies hereunder. Confidential information hereunder shall not include information that either: (x) is in the public domain or in the knowledge or possession of Bank when disclosed to Bank, or becomes part of the public domain after disclosure to Bank through no fault of Bank; or (y) is disclosed to Bank by a third party, provided that Bank does not have actual knowledge that such third party is prohibited from disclosing such information.

13.9 Patriot Act Notice. Bank notifies each Loan Party that, pursuant to the requirements of the USA Patriot Act, Title III of Pub. L. 107-56 (signed into law on October 26, 2001) (the "**Patriot Act**"), it is required to obtain, verify, and record information that identifies such Loan Party, which information includes names and addresses and other information that will allow Bank to identify such Loan Party in accordance with the Patriot Act.

13.10 Marketing Consent. Borrower hereby authorizes Bank and its affiliates, at their respective sole expense, but without any prior approval by Borrower, to publish such tombstones and give such other publicity to this Agreement as each may from time to time determine in its sole discretion. The foregoing authorization shall remain in effect unless Borrower notifies Bank in writing that such authorization is revoked.

13.11 Reinstatement. This Agreement shall remain in full force and effect and continue to be effective should any petition or other proceeding be filed by or against any Loan Party for liquidation or reorganization, should any Loan Party become insolvent or make an assignment for the benefit of any creditor or creditors or should an interim receiver, receiver, receiver and manager, or trustee be appointed for all or any significant part of any Loan Party's assets, and shall continue to be effective or to be reinstated, as the case may be, if at any time payment and performance of the Obligations, or any part thereof, is, pursuant to applicable law, rescinded or reduced in amount, or must otherwise be restored or returned by any obligee of the Obligations, whether as a fraudulent preference reviewable transaction or otherwise, all as though such payment or performance had not been made. In the event that any payment, or any part thereof, is rescinded, reduced, restored, or returned, the Obligations shall be reinstated and deemed reduced only by such amount paid and not so rescinded, reduced, restored, or returned.

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14. GUARANTY.

14.1 For and in consideration of the Credit Extensions by Bank to Borrower hereunder, and acknowledging that Bank would not enter into this Agreement without the benefit of this guaranty, each Guarantor hereby unconditionally and irrevocably guarantees the prompt and complete payment of all amounts that Borrower owes to Bank under this Agreement and performance by Borrower of this Agreement and the other Loan Documents in strict accordance with their respective terms. This guaranty is a continuing guaranty that covers, without limitation, new debts incurred by Borrower under the Loan Documents.

14.2 If Borrower does not pay any amount or perform its Obligations in strict accordance with the Loan Documents, each Guarantor shall immediately pay all amounts due thereunder (including, without limitation, all principal, interest, and fees) and otherwise proceed to complete the same and satisfy all of Borrower's Obligations under the Loan Documents.

14.3 The obligations hereunder are joint and several, and the obligations hereunder are independent of the Obligations of Borrower and any other Person or entity, and a separate action or actions may be brought and prosecuted against any Guarantor whether action is brought against Borrower or whether Borrower be joined in any such action or actions. Each Guarantor waives the benefit of any statute of limitations affecting their liability hereunder, or the enforcement thereof, to the extent permitted by law. Guarantors' liability under this guaranty is not conditioned or contingent upon the genuineness, validity, regularity, or enforceability of the Loan Documents.

14.4 Each Guarantor authorizes Bank, without notice or demand and without affecting its liability hereunder, from time to time to (a) renew, extend, or otherwise change the terms of the Loan Documents or any part thereof; (b) take and hold security for the payment of this guaranty or the Loan Documents, and exchange, enforce, waive, and release any such security; and (c) apply such security and direct the order or manner of sale thereof as Bank in its sole discretion may determine.

14.5 Each Guarantor waives any right to require Bank to (a) proceed against Borrower, any other guarantor, or any other Person; (b) proceed against or exhaust any security held from Borrower; or (c) pursue any other remedy in Bank's power whatsoever. Bank may, at its election, exercise or decline or fail to exercise any right or remedy it may have against Borrower or any security held by Bank, including without limitation the right to foreclose upon any such security by judicial or nonjudicial sale, without affecting or impairing in any way the liability of Guarantors hereunder. Each Guarantor waives any defense arising by reason of any disability or other defense of Borrower or by reason of the cessation from any cause whatsoever of the liability of Borrower. Each Guarantor waives any setoff, defense, or counterclaim that Borrower may have against Bank. Each Guarantor waives any defense arising out of the absence, impairment, or loss of any right of reimbursement or subrogation or any other rights against Borrower. Until all of the amounts that Borrower owes to Bank have been paid in full, no Guarantor shall have any right of subrogation or reimbursement, contribution, or other rights against Borrower, and each Guarantor waives any right to enforce any remedy that Bank now has or may hereafter have against Borrower. Each Guarantor waives all presentments, demands for performance, notices of nonperformance, protests, notices of protest, notices of dishonor, and notices of acceptance of this guaranty and of the existence, creation, or incurring of new or additional indebtedness. Guarantors assume the responsibility for being and keeping themselves informed of the financial condition of Borrower and of all other circumstances bearing upon the risk of nonpayment of any indebtedness or nonperformance of any Obligation of Borrower, warrant to Bank that they will keep so informed and agree that, absent a request for particular information by a Guarantor, Bank shall not have any duty to advise any Guarantor of information known to Bank regarding such condition or any such circumstances. Each Guarantor waives any benefits that it has that permits a subordinating creditor to assert suretyship defenses or that gives a subordinating creditor rights to require a senior creditor to marshal assets. No Guarantor will assert any such defense or right.

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14.6 If Borrower becomes insolvent or is adjudicated bankrupt or files a petition for reorganization, arrangement, composition, or similar relief under any present or future provision of the United States Bankruptcy Code, or if such a petition is filed against Borrower, and in any such proceeding some or all of any indebtedness or Obligations under the Loan Documents are terminated or rejected or any Obligation of Borrower is modified or abrogated, or if Borrower's Obligations are otherwise avoided for any reason, each Guarantor agrees that its liability hereunder shall not thereby be affected or modified and such liability shall continue in full force and effect as if no such action or proceeding had occurred. This guaranty shall continue to be effective or be reinstated, as the case may be, if any payment must be returned by Bank upon the insolvency, bankruptcy, or reorganization of Borrower, any Guarantor, or otherwise, as though such payment had not been made.

14.7 Any indebtedness of Borrower now or hereafter held by a Guarantor is hereby subordinated to any indebtedness of Borrower to Bank; and such indebtedness of Borrower to a Guarantor shall be collected, enforced, and received by such Guarantor as trustee for Bank and be paid over to Bank on account of the indebtedness of Borrower to Bank but without reducing or affecting in any manner the liability of any Guarantor under the other provisions of this guaranty.

14.8 Each Guarantor agrees to pay all Bank Expenses which may be incurred by Bank in the enforcement of this guaranty. No terms or provisions of this guaranty may be changed, waived, revoked, or amended without Bank's prior written consent. Should any provision of this guaranty be determined by a court of competent jurisdiction to be unenforceable, all of the other provisions shall remain effective. This guaranty, together with any agreements (including without limitation any security agreements or any pledge agreements) executed in connection with this guaranty, embodies the entire agreement among the parties hereto with respect to the matters set forth herein and supersedes all prior agreements among the parties with respect to the matters set forth herein. No course of prior dealing among the parties, no usage of trade, and no parol or extrinsic evidence of any nature shall be used to supplement, modify, or vary any of the terms hereof. There are no conditions to the full effectiveness of this guaranty. Bank may assign this guaranty without in any way affecting any Guarantor's liability under it. This guaranty shall inure to the benefit of Bank and its successors and assigns. This guaranty is in addition to the guarantees of any other guarantors and any and all other guarantees of Borrower's indebtedness or liabilities to Bank.

14.9 All payments made by a Guarantor hereunder will be made free and clear of, and without deduction or withholding for, any present or future taxes, levies, imposts, duties, fees, assessments, or other charges of whatever nature now or hereafter imposed by any governmental authority or by any political subdivision or taxing authority thereof or therein with respect to such payments (but excluding any tax imposed on or measured by the net income or profits of Bank pursuant to the laws of the jurisdiction in which it is organized or the jurisdiction in which the principal office or applicable lending office of Bank is located or any subdivision thereof or therein) and all interest, penalties, or similar liabilities with respect thereto (all such non-excluded taxes, levies, imposts, duties, fees, assessments, or other charges being referred to collectively as "**Taxes**"). If any Taxes are so levied or imposed, Guarantors agree to pay the full amount of such Taxes, and such additional amounts as may be necessary so that every payment of all amounts due under this guaranty, after withholding or deduction for or on account of any Taxes, will not be less than the amount provided for herein and in this Agreement.

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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed as of the date first above written.

CARLSMED, INC.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: Chairman, CEO, President, Treasurer

SIGNATURE BANK

By: /s/ Matthew K. Jacobs

Name: Matthew K. Jacobs

Title: Senior Vice President

[Signature Page to Loan and Security Agreement]

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EXHIBIT A

COLLATERAL DESCRIPTION ATTACHMENT
TO LOAN AND SECURITY AGREEMENT

A-1

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SCHEDULE OF EXCEPTIONS

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CORPORATE RESOLUTIONS TO BORROW

1

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ATTACHMENT A

CERTIFICATE OF INCORPORATION

Attachment A

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ATTACHMENT B

BYLAWS OF THE CORPORATION

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Exhibit 10.16

FIRST AMENDMENT TO LOAN AND SECURITY AGREEMENT

This First Amendment to the Loan and Security Agreement (this "**Amendment**") is entered into as of March 21, 2023, by and between SIGNATURE BRIDGE BANK, N.A. ("**Bank**") and CARLSMED, INC. ("**Borrower**").

RECITALS

A.Borrower and Bank are parties to that certain Loan and Security Agreement dated as of December 20, 2022 (as amended from time to time, including by this Amendment, the "**Loan Agreement**"). All capitalized terms used in this Amendment (including in the recitals hereof) and not otherwise defined herein shall have the meanings assigned to them in the Loan Agreement (as amended by this Amendment).

B.From and after the date hereof, Bank and Borrower desire to supplement the terms and provisions of the Loan Agreement as provided herein.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the agreements contained herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto (intending to be legally bound) hereby agree as follows:

1.Amendment to Agreement. Subject to the terms and conditions of this Amendment, including, without limitation, the conditions to effectiveness set forth in Section 6 below, the Loan Agreement is hereby amended as follows:

1.1.The following defined terms are hereby added to Section 1.1 of the Loan Agreement in proper alphabetical order:

"**First Amendment Effective Date**" means March 21, 2023.

"**Liquidity**" means the sum of (a) Borrower's unrestricted cash at Bank plus (b) Borrower's unrestricted cash at another financial institution subject to an account control agreement in favor of Bank.

1.2.Section 6.7 of the Loan Agreement is hereby amended and restated in its entirety as follows:

6.7 Accounts. Each Loan Party shall (a) maintain and shall cause each of its Subsidiaries to maintain all of its depository and operating accounts and its primary investment accounts with Bank and (b) endeavor to utilize and shall cause each of its Subsidiaries to endeavor to utilize Bank for all ACH activity and other banking services required by such Loan Party, including, but not limited to, foreign currency wires, hedges, swaps, foreign exchange contracts, letters of credit and Bank's International Banking Division for any international banking services related to the foregoing. Notwithstanding the foregoing, Loan Parties may keep, outside Bank, (x) the SVB Credit Card Cash Collateral Account and the SVB LC Cash Collateral Account, and such accounts shall not be required to be subject to an account control agreement, (y) other accounts so long as (i) the aggregate balance therein does not exceed One Million Dollars ($1,000,000) at any time and (ii) (A) such accounts maintained on the First Amendment Effective Date are subject to an account control agreement in favor of Bank on or before the date sixty (60) days after (or such longer period as Bank may permit in its reasonable discretion) the First Amendment Effective Date and (B) such accounts opened after the First Amendment Effective Date are subject to an account control agreement in favor of Bank on or before (1) in the event that Liquidity is less than Borrower's outstanding Indebtedness to Bank at such time, promptly after the date such account is opened (and in any event prior to the date such account is funded) or (2) in the event Liquidity is equal to or greater than Borrower's outstanding Indebtedness to Bank at such time, the date sixty (60) days after (or such longer period as Bank may permit in its reasonable discretion) the date such account is opened, and (z)

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the credit cards described in clause (f) of the definition of "Permitted Indebtedness" and the SVB LC until the expiration date thereof.

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1.3.A new Section 6.11 is hereby added to the Loan Agreement, as follows:

6.11 Post-Closing.

(a) With respect to any bank account maintained under Section 6.7(y)(ii)(A) of the Loan Agreement, on or before the date sixty (60) days after (or such longer period as Bank may permit in its reasonable discretion) the First Amendment Effective Date, Borrower shall deliver to Bank a deposit account control agreement, in form and substance satisfactory to Bank, duly executed by Borrower and the depository institution at which such account is maintained.

(b) With respect to any bank account maintained under Section 6.7(y)(ii)(B) of the Loan Agreement, (i) in the event that Liquidity is less than Borrower's outstanding Indebtedness to Bank at such time, promptly after the date such account is opened (and in any event prior to the date such account is funded) or (ii) in the event Liquidity is equal to or greater than Borrower's outstanding Indebtedness to Bank at such time, the date sixty (60) days after (or such longer period as Bank may permit in its reasonable discretion) the date such account is opened, Borrower shall deliver to Bank a deposit account control agreement, in form and substance satisfactory to Bank, duly executed by Borrower and the depository institution at which such account is maintained.

2.Release.

2.1.Borrower acknowledges that Bank would not enter into this Amendment, without Borrower's assurance hereunder. Except for the obligations arising hereafter under the Loan Agreement, Borrower hereby absolutely discharges and releases Bank, any person or entity that has obtained any interest from Bank under the Loan Agreement, and each of Bank's and such entity's former and present partners, stockholders, officers, directors, employees, successors, assignees, agents, and attorneys from any known or unknown claims which Borrower now has against Bank of any nature, including any claims that Borrower and its successors may in the future discover they would have now had if they had known facts not now known to them, whether founded in contract, in tort, or pursuant to any other theory of liability, including but not limited to any claims arising out of or related to the Loan Agreement or the transactions contemplated thereby.

2.2.The provisions, waivers, and releases set forth in this Section are binding upon Borrower and Borrower's shareholders, agents, employees, assigns, and successors in interest. The provisions, waivers, and releases of this Section shall inure to the benefit of Bank and its agents, employees, officers, directors, assigns, and successors in interest.

2.3.Borrower warrants and represents that Borrower is the sole and lawful owner of all right, title, and interest in and to all of the claims released hereby, and Borrower has not heretofore voluntarily, by operation of law or otherwise, assigned or transferred or purported to assign or transfer to any person any such claim or any portion thereof. Borrower shall indemnify and hold harmless Bank from and against any claim, demand, damage, debt, or liability (including payment of attorneys' fees and costs actually incurred whether or not litigation is commenced) based on or arising out of any assignment or transfer.

2.4.The provisions of this Section shall survive payment in full of the Obligations, full performance of all of the terms of this Amendment and the Loan Agreement, and/or Bank's actions to exercise any remedy available under the Loan Agreement or otherwise.

3.No Course of Dealing; Strict Performance. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

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4.Ratification; No Amendment. The Loan Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Loan Agreement, as in effect prior to the date hereof.

5.Representations and Warranties; No Event of Default. Borrower represents and warrants that the representations and warranties contained in the Loan Agreement are true and correct as of the date of this Amendment and that no Event of Default, has occurred and is continuing.

6.Conditions to Effectiveness.

6.1.As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a)this Amendment, duly executed by Borrower;

(b)all reasonable and documented out-of-pocket Bank Expenses incurred through the date of this Amendment, which may be debited from any of Borrower's accounts; and

(c)such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

6.2.As a condition to the effectiveness of this Amendment, Borrower shall have received, in form and substance satisfactory to Borrower, this Amendment, duly executed by Bank.

7.Governing Law. This Amendment shall be deemed to have been made under and shall be governed by the laws of the State of New York (without regard to choice of law principles except as set forth in Section 5-1401 of the New York General Obligations Law) in all respects, including matters of construction, validity, and performance, and that none of its terms or provisions may be waived, altered, modified, or amended except as Bank may consent thereto in writing duly signed for and on its behalf.

8.Incorporation of Loan Agreement Provisions. The provisions contained in Article 12 (Jurisdiction and Jury Trial Waiver) and in Section 13.2 (Indemnification) of the Loan Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

9.Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument.

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IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

CARLSMED, INC.

By: /s/ Michael Cordonnier
Name: Michael Cordonnier
Title: Chairman, CEO, President, Treasurer

SIGNATURE BRIDGE BANK, N.A.

By: /s/ Matthew Jacobs
Name: Matthew Jacobs
Title: SVP, Life Sciences

[Signature Page to First Amendment to Loan and Security Agreement]

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Exhibi 10.17

SECOND AMENDMENT TO LOAN AND SECURITY AGREEMENT

This Second Amendment to the Loan and Security Agreement (this "**Amendment**") is entered into as of October 2, 2023, by and between CUSTOMERS BANK ("**Bank**") and CARLSMED, INC. ("**Borrower**").

RECITALS

A.Borrower and Bank (as successor in interest to Signature Bank) are parties to that certain Loan and Security Agreement dated as of December 20, 2022, as amended by that certain First Amendment to Loan and Security Agreement dated as of March 21, 2023 (the "**Original Loan Agreement**", as amended from time to time, including by this Amendment, the "**Loan Agreement**").

B.From and after the date hereof, Bank and Borrower desire to supplement the terms and provisions of the Original Loan Agreement as provided herein.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the agreements contained herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto (intending to be legally bound) hereby agree as follows:

1.Amendment to Agreement. Subject to the terms and conditions of this Amendment, including, without limitation, the conditions to effectiveness set forth in Section 6 below, the Original Loan Agreement is hereby amended as follows:

1.1.The following defined terms are hereby added to Section 1.1 of the Original Loan Agreement in their proper alphabetical order:

"**Flagstar LC**" means that certain letter of credit issued by Flagstar Bank, N.A. to Borrower in the face amount of One Hundred Fifty Thousand Dollars ($150,000).

"**Second Amendment Effective Date**" means October 2, 2023.

1.2.Section 6.7 of the Original Loan Agreement is hereby amended and restated in its entirety as follows:

6.7 Accounts. Each Loan Party shall (a) maintain and shall cause each of its Subsidiaries to maintain all of its depository and operating accounts and its primary investment accounts with Bank and (b) endeavor to utilize and shall cause each of its Subsidiaries to endeavor to utilize Bank for all ACH activity and other banking services required by such Loan Party, including, but not limited to, foreign currency wires, hedges, swaps, foreign exchange contracts, letters of credit and Bank's International Banking Division for any international banking services related to the foregoing. Notwithstanding the foregoing, Loan Parties may keep, outside Bank, (w) the SVB Credit Card Cash Collateral Account and the SVB LC Cash Collateral Account, and such accounts shall not be required to be subject to an account control agreement, (x) other accounts so long as the aggregate balance therein does not exceed (i) Two Million Dollars ($2,000,000) from the Second Amendment Effective Date to March 31, 2024 and (ii) One Million Dollars ($1,000,000) on or after April 1, 2024, and such accounts shall not be required to be subject to an account control agreement so long as Borrower is in compliance with this clause (x) and (y) the credit cards described in clause (f) of the definition of "Permitted Indebtedness", the SVB LC until the expiration date thereof, and the Flagstar LC until the expiration date thereof, or replacement thereof by a Letter of Credit issued by Bank.

1.3.Article 10 of the Loan Agreement is hereby amended and restated in its entirety as follows:

10. Notices. All notices, consents, requests, approvals, demands, or other communication by any party to this Agreement or any other Loan Document must be in writing and shall be deemed to have been validly served, given, or delivered: (a) upon the earlier of actual receipt and three (3) Business Days after deposit in the U.S. mail, first class,

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registered or certified mail return receipt requested, with proper postage prepaid; (b) upon transmission, when sent by electronic mail or facsimile transmission; (c) one (1)

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Business Day after deposit with a reputable overnight courier with all charges prepaid; or (d) when delivered, if hand-delivered by messenger, all of which shall be addressed to the party to be notified and sent to the address, facsimile number, or email address indicated below. Bank or Borrower may change its mailing or electronic mail address or facsimile number by giving the other party written notice thereof in accordance with the terms of this Article 10.

If to a Loan Party:	CARLSMED, INC. 1800 Aston Avenue, Suite 100 Carlsbad, CA 92008 Attn: Michael Cordonnier, Chief Executive Officer **[***]**
With a copy to:	Morrison & Foerster LLP 12531 High Bluff Drive San Diego, CA 92130-2040 Attn: Jim Krenn **[***]**
If to Bank:	CUSTOMERS BANK 701 Reading Avenue West Reading, PA 19611 Attn: Matthew Jacobs **[***]**

2.Release.

2.1.Borrower acknowledges that Bank would not enter into this Amendment, without Borrower's assurance hereunder. Except for the obligations arising hereafter under the Loan Agreement, Borrower hereby absolutely discharges and releases Bank, any person or entity that has obtained any interest from Bank under the Loan Agreement, and each of Bank's and such entity's former and present partners, stockholders, officers, directors, employees, successors, assignees, agents, and attorneys from any known or unknown claims which Borrower now has against Bank of any nature, including any claims that Borrower and its successors may in the future discover they would have now had if they had known facts not now known to them, whether founded in contract, in tort, or pursuant to any other theory of liability, including but not limited to any claims arising out of or related to the Loan Agreement or the transactions contemplated thereby.

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2.2.The provisions, waivers, and releases set forth in this Section are binding upon Borrower and Borrower's shareholders, agents, employees, assigns, and successors in interest. The provisions, waivers, and releases of this Section shall inure to the benefit of Bank and its agents, employees, officers, directors, assigns, and successors in interest.

2.3.Borrower warrants and represents that Borrower is the sole and lawful owner of all right, title, and interest in and to all of the claims released hereby, and Borrower has not heretofore voluntarily, by operation of law or otherwise, assigned or transferred or purported to assign or transfer to any person any such claim or any portion thereof. Borrower shall indemnify and hold harmless Bank from and against any claim, demand, damage, debt, or liability (including payment of attorneys' fees and costs actually incurred whether or not litigation is commenced) based on or arising out of any assignment or transfer.

2.4.The provisions of this Section shall survive payment in full of the Obligations, full performance of all of the terms of this Amendment and the Loan Agreement, and/or Bank's actions to exercise any remedy available under the Loan Agreement or otherwise.

3.No Course of Dealing; Strict Performance. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require

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strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

4.Ratification; No Amendment. The Loan Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Loan Agreement, as in effect prior to the date hereof.

5.Representations and Warranties; No Event of Default. Borrower represents and warrants that the representations and warranties contained in the Loan Agreement are true and correct as of the date of this Amendment and that no Event of Default, has occurred and is continuing.

6.Affirmation of Success Fee Agreement. Bank (as successor in interest to Signature Bank) and Borrower are parties to that certain Success Fee Agreement, dated as of December 20, 2022 (the "**Success Fee Agreement**"). The Success Fee Agreement shall be and remain in full force and effect in accordance with its terms and hereby is ratified and confirmed in all respects.

7.Conditions to Effectiveness.

7.1.As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a)this Amendment, duly executed by Borrower;

(b)an officer's certificate of Borrower with respect to incumbency and resolutions authorizing the execution and delivery of this Amendment;

(c)updated insurance documentation under Section 6.6(b) hereof naming Bank as an additional lender's loss payee and as an additional insured;

(d)all reasonable Bank Expenses incurred through the date of this Amendment, which may be debited from any of Borrower's accounts; and

(e)such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

7.2.As a condition to the effectiveness of this Amendment, Borrower shall have received, in form and substance satisfactory to Borrower, this Amendment, duly executed by Bank.

8.Governing Law. This Amendment shall be deemed to have been made under and shall be governed by the laws of the State of New York (without regard to choice of law principles except as set forth in Section 5-1401 of the New York General Obligations Law) in all respects, including matters of construction, validity, and performance, and that none of its terms or provisions may be waived, altered, modified, or amended except as Bank may consent thereto in writing duly signed for and on its behalf.

9.Incorporation of Loan Agreement Provisions. The provisions contained in Article 12 (Jurisdiction and Jury Trial Waiver) and in Section 13.2 (Indemnification) of the Loan Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

10.Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument.

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IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

CARLSMED, INC.

By: /s/ Michael Cordonnier
Name: Michael Cordonnier
Title: President and CEO

CUSTOMERS BANK

By: /s/ Matthew K. Jacobs
Name: Matthew K. Jacobs
Title: SVP

[Signature Page to Second Amendment to Loan and Security Agreement]

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Exhibit 10.18

THIRD AMENDMENT TO LOAN AND SECURITY AGREEMENT

This Third Amendment to Loan and Security Agreement (this "**Amendment**") is entered into as of March 7, 2024, by and between CUSTOMERS BANK ("**Bank**") and CARLSMED, INC. ("**Borrower**").

RECITALS

A.Borrower and Bank are parties to (i) that certain Loan and Security Agreement dated as of December 20, 2022, as amended by that certain First Amendment to Loan and Security Agreement dated as of March 21, 2023 and that certain Second Amendment to Loan and Security Agreement dated as of October 2, 2023 (the "**Original Loan Agreement**", as amended from time to time, including by this Amendment, the "**Loan Agreement**") and (ii) that certain Success Fee Agreement, dated as of December 20, 2022, as amended, restated, supplemented or otherwise modified from time to time (the "**Success Fee Agreement**"). All capitalized terms used in this Amendment (including in the recitals hereof) and not otherwise defined herein shall have the meanings assigned to them in the Loan Agreement.

B.From and after the date hereof, Bank and Borrower desire to (i) supplement the terms and provisions of the Original Loan Agreement as provided herein and (ii) terminate the Success Fee Agreement in its entirety.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the agreements contained herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto (intending to be legally bound) hereby agree as follows:

1.Amendment to Loan Agreement. Subject to the terms and conditions of this Amendment, including, without limitation, the conditions to effectiveness set forth in Section 7 below, the Original Loan Agreement is hereby amended as follows:

1.1.The following defined terms are hereby added to Section 1.1 of the Loan Agreement, as follows:

"**Credit Card Accounts**" has the meaning assigned in the Schedule.

"**Credit Card Cash Collateral Accounts**" has the meaning assigned in the Schedule.

"**Fourth Monthly Revenue Milestone**" means Borrower's achievement of Trailing Three-Month Revenue of at least Six Million Five Hundred Thousand Dollars ($6,500,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to August 31, 2024.

"**Term Sheet Milestone**" means Bank's receipt, on or before December 20, 2024, of a signed and accepted term sheet providing for (i) the sale or issuance of Borrower's equity securities to investors reasonably acceptable to Bank, (ii) Borrower to receive gross cash proceeds of at least Thirty Million Dollars ($30,000,000) from such sale or issuance, (iii) such proceeds to be received within sixty (60) days after the date of such term sheet, and (iv) that otherwise contains terms reasonably acceptable to Bank (provided that that certain term sheet dated January 24, 2024 and executed by Borrower, U.S. Venture Partners XII, L.P., B Capital Global Growth III, L.P., and B Capital Healthcare I, L.P. is deemed acceptable to Bank).

"**Third Amendment Effective Date**" means March 7, 2024.

"**Third Monthly Revenue Milestone**" means Borrower's achievement of Trailing Three-Month Revenue of at least Five Million Five Hundred Thousand Dollars ($5,500,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to May 31, 2024.

"**Trailing Three-Month Revenue**" means Revenue for the most recent three (3) calendar months for which Borrower has delivered to Bank the monthly financial reporting required by Section 6.3(a).

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"**Warrant**" means that certain Warrant to Purchase Stock dated as of the Third Amendment Effective Date issued by Borrower to Bank, together with any other warrant issued by Borrower to Bank thereafter, each as amended, restated, supplemented, or otherwise modified from time to time.

1.2.The following defined terms in Section 1.1 of the Loan Agreement are hereby amended and restated, as follows:

"**Availability End Date**" means June 20, 2024; provided that

(a) if Borrower achieves the Second Monthly Revenue Milestone, "**Availability End Date**" will instead mean December 20, 2024;

(b) if Borrower achieves the Second Monthly Revenue Milestone, the Third Monthly Revenue Milestone, the Fourth Monthly Revenue Milestone, and the Term Sheet Milestone, "**Availability End Date**" will instead mean June 20, 2025; and

(c) upon the funding of the equity financing described in 'Term Sheet Milestone', "**Availability End Date**" will instead mean December 20, 2025.

"**Loan Documents**" means, collectively, this Agreement, the Warrant, any note or notes executed by Borrower, and any other agreement entered into in connection with this Agreement, all as amended or extended from time to time.

"**Obligations**" means all debt, principal, interest, Bank Expenses, and other amounts owed to Bank by Borrower pursuant to this Agreement or any other agreement (other than the Warrant, but including Bank Expenses attributable to the documentation and negotiation of the Warrant), whether absolute or contingent, due or to become due, now existing or hereafter arising, including any interest that accrues after the commencement of an Insolvency Proceeding and including any debt, liability, or obligation owing from Borrower to others that Bank may have obtained by assignment or otherwise.

"**Second Monthly Revenue Milestone**" means Borrower's achievement of Trailing Six-Month Revenue of at least Nine Million Five Hundred Thousand Dollars ($9,500,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to April 30, 2024.

"**Term Loan**" means credit extensions of up to Nine Million Three Hundred Seventy-Five Thousand Dollars ($9,375,000); provided that

(a) upon achievement of the Second Monthly Revenue Milestone, "**Term Loan**" will instead mean credit extensions of up to Twelve Million Five Hundred Thousand Dollars ($12,500,000);

(b) upon achievement of the Second Monthly Revenue Milestone and the Third Monthly Revenue Milestone, "**Term Loan**" will instead mean credit extensions of up to Fifteen Million Six Hundred Twenty-Five Thousand Dollars ($15,625,000); and

(c) upon achievement of the Second Monthly Revenue Milestone, the Third Monthly Revenue Milestone, the Fourth Monthly Revenue Milestone, and the Term Sheet Milestone, "**Term Loan**" will instead mean credit extensions of up to Eighteen Million Seven Hundred Fifty Thousand Dollars ($18,750,000).

"**Term Loan Maturity Date**" means December 20, 2026; provided that

(a) if Borrower achieves the Second Monthly Revenue Milestone, the Third Monthly Revenue Milestone, the Fourth Monthly Revenue Milestone, and the Term Sheet Milestone, "**Term Loan Maturity Date**" will instead mean June 20, 2027; and

(b) upon the funding of the equity financing described in 'Term Sheet Milestone', "**Term Loan Maturity Date**" will instead mean December 20, 2027.

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1.3.Clause (f) of the definition of "Permitted Indebtedness" in Section 1.1 of the Loan Agreement is hereby amended and restated, as follows:

(f) either (i) unsecured Indebtedness under corporate credit cards provided by American Express used in the ordinary course of business not to exceed Three Hundred Thousand Dollars ($300,000), or (ii) Indebtedness under the Credit Card Accounts;

1.4.The defined terms "**First Monthly Revenue Milestone**", "**Flagstar LC**", "**Liquidity**", "**Success Fee Agreement**", "**SVB Credit Card Account**", "**SVB Credit Card Cash Collateral Account**", "**SVB LC**", and "**SVB LC Cash Collateral Account**" and their respective definitions in Section 1.1 of the Loan Agreement are hereby deleted.

1.5.Section 2.1(a) of the Loan Agreement is hereby amended and restated, as follows:

(a) Term Loan Advances.

(i) Outstanding Term Loan Advances. Bank has previously made Term Loan Advances to Borrower. As of the Third Amendment Effective Date, the aggregate principal amount of Term Loan Advances outstanding is Nine Million Three Hundred Seventy-Five Thousand Dollars ($9,375,000).

(ii) Term Loan. Subject to and upon the terms and conditions of this Agreement, Borrower may request, at any time from the date hereof through the Availability End Date, and Bank agrees to make Term Loan Advances to Borrower in an aggregate amount not to exceed the Term Loan (inclusive of Term Loan Advances advanced prior to the Third Amendment Effective Date). Interest shall accrue from the date of each Term Loan Advance at the rate specified in Section 2.3 and shall be payable monthly on the 20th day of each month so long as any Term Loan Advances are outstanding. Any Term Loan Advances that are outstanding on the Availability End Date shall be payable in thirty (30) equal monthly installments of principal (provided, however, upon achievement of the Second Monthly Revenue Milestone, any Term Loan Advances that are outstanding on the Availability End Date shall be payable twenty-four (24) equal monthly installments), plus all accrued interest, beginning on the date one (1) month following the Availability End Date, and continuing on the same day of each month thereafter through the Term Loan Maturity Date, at which time all amounts owing under this Section 2.1(a) and any other amounts owing under this Agreement shall be immediately due and payable. Term Loan Advances, once repaid, may not be reborrowed. Borrower may prepay any Term Loan Advances, in whole or in part, without penalty or premium.

(iii) Advance Request Form. When Borrower desires to obtain a Term Loan Advance, Borrower shall notify Bank (which notice shall be irrevocable) by electronic mail to be received no later than 3:00 p.m. Eastern time three (3) Business Days before the day on which the Term Loan Advance is to be made. Such notice shall be substantially in the form set forth in the Client Reporting File. The notice shall be signed by a Responsible Officer or its designee.

1.6.Section 2.3(a) of the Loan Agreement is hereby amended and restated, as follows:

(a) Interest Rates. Except as set forth in Section 2.3(b), the Term Loan Advances shall bear interest, on the outstanding Daily Balance thereof, at an annual rate equal to the greater of (i) twenty-five hundredths percent (0.25%) above the Prime Rate and (ii) five and twenty-five hundredths percent (5.25%).

1.7.Section 5.4 of the Loan Agreement is hereby amended and restated, as follows:

5.4 Revenue Contracts. The contracts yielding Revenue (included in the calculation of the Second Monthly Revenue Milestone, the Third Monthly Revenue Milestone, and the Fourth Monthly Revenue Milestone) are bona fide existing obligations. The property and services giving rise to such contracts has been delivered or rendered to the account debtor or to the account debtor's agent for immediate and unconditional acceptance by the account debtor. No Loan Party has received notice of an actual or

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imminent Insolvency Proceeding of any account debtor under a contract yielding Revenue (included in the calculation of the Second Monthly Revenue Milestone, the Third Monthly Revenue Milestone, and the Fourth Monthly Revenue Milestone).

1.8.Section 6.3(a) of the Loan Agreement is hereby amended and restated, as follows:

(a) as soon as available, but in any event within thirty (30) days after the end of each calendar month, (i) a company prepared consolidated balance sheet, income statement, and cash flow statement covering Loan Parties' consolidated operations during such period, prepared in accordance with GAAP, consistently applied, and (ii) aged listings of accounts receivable and accounts payable, in each case, in a form reasonably acceptable to Bank and certified by a Responsible Officer;

1.9.Section 6.7 of the Loan Agreement is hereby amended and restated, as follows:

6.7 Accounts. Each Loan Party shall (a) maintain and shall cause each of its Subsidiaries to maintain all of its depository and operating accounts and its primary investment accounts with Bank and (b) endeavor to utilize and shall cause each of its Subsidiaries to endeavor to utilize Bank for all ACH activity and other banking services required by such Loan Party, including, but not limited to, foreign currency wires, hedges, swaps, foreign exchange contracts, letters of credit and Bank's International Banking Division for any international banking services related to the foregoing. Notwithstanding the foregoing, Loan Parties may keep, outside Bank,

(w) a Credit Card Cash Collateral Account, and such account need not be subject to an account control agreement;

(x) other accounts so long as the aggregate balance therein does not exceed

(i) Two Million Dollars ($2,000,000) on and before March 31, 2024, and

(ii) One Million Dollars ($1,000,000) on and after April 1, 2024; except that, at all times after the funding of the equity financing described in 'Term Sheet Milestone' when Loan Parties' unrestricted cash at Bank exceeds the product of (A) Loan Parties' outstanding Indebtedness to Bank multiplied by (B) 1.25, then such limit will instead be Three Million Dollars ($3,000,000),

and such accounts need not be subject to an account control agreement so long as Loan Parties comply with this clause (x); and

(y) the credit cards described in clause (f) of the definition of "Permitted Indebtedness".

1.10.Section 6.11 of the Loan Agreement is hereby amended and restated, as follows:

6.11 Financial Covenants. Loan Parties shall maintain at all times *at least one of* the covenants in clauses (a) and (b) below.

(a) Minimum Cash at Bank. Loan Parties shall maintain a balance of unrestricted cash at Bank of not less than Four Million Dollars ($4,000,000), tested on a continuous basis.

(b) Minimum Revenue. Measured monthly as of the last day of each month and calculated (i) on a trailing-three-months basis for the measurement period ending January 31, 2024, (ii) on a trailing-four-months basis for the measurement period ending February 29, 2024, (iii) on a trailing-five-months basis for the measurement period ending March 31, 2024, and (iv) on a trailing-six-months basis for all subsequent measurement periods, Loan Parties shall achieve consolidated Revenue of at least the amounts shown in the table immediately below for the corresponding measurement periods. For subsequent measurement periods, Bank and Loan Parties hereby agree that Bank may use the Board-approved

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annual financial projections provided pursuant to Section 6.3(e) above to establish the minimum Revenue amounts for such year, which amounts shall be determined by Bank in good faith in consultation with Borrower using

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substantially similar methodology as Bank used in setting the levels below and shall be incorporated herein by an amendment, which Loan Parties hereby agree to execute by March 1 of such year.

Measurement Period Ending	Minimum Revenue
January 31, 2024	$3,873,450
February 29, 2024	$5,349,900
March 31, 2024	$7,050,750
April 30, 2024	$8,769,450
May 31, 2024	$9,160,450
June 30, 2024	$10,085,250
July 31, 2024	$10,638,600
August 31, 2024	$11,176,650
September 30, 2024	$11,644,575
October 31, 2024	$12,220,875
November 30, 2024	$12,909,375
December 31, 2024	$12,830,325

1.11.Section 8.2(a) of the Loan Agreement is hereby amended and restated, as follows:

(a) If any Loan Party fails to perform any obligation under Sections 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, 6.9, or 6.11 of this Agreement or violates any of the covenants contained in Article 7 of this Agreement; or

1.12.The first entry under each of "Permitted Indebtedness" and "Permitted Liens" in the Schedule (relating to the SVB LC and the SVB LC Cash Collateral Account) are hereby deleted.

1.13.The second entry under "Permitted Indebtedness" in the Schedule (relating to the SVB Credit Card Account) is hereby amended and restated, as follows:

One or more credit card accounts with third-party financial institutions, having an outstanding balance not to exceed an aggregate amount of Three Hundred Thousand Dollars ($300,000) (the "**Credit Card Accounts**").

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1.14. The second entry under "Permitted Liens" in the Schedule (relating to the SVB Credit Card Cash Collateral Account) is hereby amended and restated, as follows:

> Liens in cash collateral securing Borrower's reimbursement obligations in connection with any Credit Card Accounts. Borrower may maintain one or more bank accounts with any provider of a Credit Card Account, so long as the aggregate balance in all such accounts does not exceed Three Hundred Thousand Dollars ($300,000) at any time (the "**Credit Card Cash Collateral Accounts**").

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2.Termination of Success Fee Agreement. Effective as of the Third Amendment Effective Date, the Success Fee Agreement is hereby terminated in its entirety and shall have no further force or effect, and neither Bank nor Borrower shall have any further obligations or liabilities thereunder.

3.Release.

3.1.Borrower acknowledges that Bank would not enter into this Amendment without Borrower's assurance hereunder. Except for the obligations arising hereafter under the Loan Agreement, Borrower hereby absolutely discharges and releases Bank, any person or entity that has obtained any interest from Bank under the Loan Agreement, and each of Bank's and such entity's former and present partners, stockholders, officers, directors, employees, successors, assignees, agents, and attorneys from any known or unknown claims which Borrower now has against Bank of any nature, including any claims that Borrower and its successors may in the future discover they would have now had if they had known facts not now known to them, whether founded in contract, in tort, or pursuant to any other theory of liability, including but not limited to any claims arising out of or related to the Loan Agreement or the transactions contemplated thereby.

3.2.The provisions, waivers, and releases set forth in this Section are binding upon Borrower and Borrower's shareholders, agents, employees, assigns, and successors in interest. The provisions, waivers, and releases of this Section shall inure to the benefit of Bank and its agents, employees, officers, directors, assigns, and successors in interest.

3.3.Borrower warrants and represents that Borrower is the sole and lawful owner of all right, title, and interest in and to all of the claims released hereby, and Borrower has not heretofore voluntarily, by operation of law or otherwise, assigned or transferred or purported to assign or transfer to any person any such claim or any portion thereof. Borrower shall indemnify and hold harmless Bank from and against any claim, demand, damage, debt, or liability (including payment of attorneys' fees and costs actually incurred whether or not litigation is commenced) based on or arising out of any assignment or transfer.

3.4.The provisions of this Section shall survive payment in full of the Obligations, full performance of all of the terms of this Amendment and the Loan Agreement, and/or Bank's actions to exercise any remedy available under the Loan Agreement or otherwise.

4.No Course of Dealing; Strict Performance. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

5.Ratification; No Waiver. The Loan Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Loan Agreement, as in effect prior to the date hereof.

6.Representations and Warranties; No Event of Default. Borrower represents and warrants that the representations and warranties contained in the Loan Agreement are true and correct as of the date of this Amendment and that no Event of Default has occurred and is continuing.

7.Conditions to Effectiveness.

7.1.As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a)this Amendment, duly executed by Borrower;

(b)an officer's certificate of Borrower with respect to incumbency and resolutions authorizing the execution and delivery of this Amendment;

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(c)a warrant to purchase stock, duly executed by Borrower;

(d)payment of a $15,000 facility fee, which may be debited from any of Borrower's accounts;

(e)payment of all reasonable Bank Expenses incurred through the date of this Amendment, including up to $15,000 of Bank's reasonable and documented out-of-pocket expenses for the documentation of this Amendment and any related documents and any UCC, good standing, or intellectual property search or filing fees in connection therewith, which may be debited from any of Borrower's accounts; and

(f)such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

7.2.As a condition to the effectiveness of this Amendment, Borrower shall have received, in form and substance satisfactory to Borrower, this Amendment, duly executed by Bank.

8.Governing Law. This Amendment shall be deemed to have been made under and shall be governed by the laws of the State of New York (without regard to choice of law principles except as set forth in Section 5-1401 of the New York General Obligations Law) in all respects, including matters of construction, validity, and performance, and none of its terms or provisions may be waived, altered, modified, or amended except as Bank may consent thereto in writing duly signed for and on its behalf.

9.Incorporation of Loan Agreement Provisions. The provisions contained in Article 12 (Jurisdiction and Jury Trial Waiver) and in Section 13.2 (Indemnification) of the Loan Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

10.Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument.

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IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

CARLSMED, INC.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: CEO

CUSTOMERS BANK

By: /s/ Matthew K. Jacobs

Name: Matthew K. Jacobs

Title: SVP

[Signature Page to Third Amendment to Loan and Security Agreement]

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Exhibit 10.19

FOURTH AMENDMENT TO LOAN AND SECURITY AGREEMENT

This Fourth Amendment to Loan and Security Agreement (this "**Amendment**") is entered into as of December 31, 2024, by and between CUSTOMERS BANK ("**Bank**") and CARLSMED, INC. ("**Borrower**").

RECITALS

A.Borrower and Bank are parties to that certain Loan and Security Agreement dated as of December 20, 2022, as amended by that certain First Amendment to Loan and Security Agreement dated as of March 21, 2023, that certain Second Amendment to Loan and Security Agreement dated as of October 2, 2023, and that certain Third Amendment to Loan and Security Agreement dated as of March 7, 2024 (the "**Original Loan Agreement**", as amended from time to time, including by this Amendment, the "**Loan Agreement**"). All capitalized terms used in this Amendment (including in the recitals hereof) and not otherwise defined herein shall have the meanings assigned to them in the Loan Agreement.

B.From and after the date hereof, Bank and Borrower desire to supplement the terms and provisions of the Original Loan Agreement as provided herein.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and the agreements contained herein, and for other good and valuable consideration, the receipt, adequacy and sufficiency of which are hereby acknowledged, the parties hereto (intending to be legally bound) hereby agree as follows:

1.Amendment to Loan Agreement. Subject to the terms and conditions of this Amendment, including, without limitation, the conditions to effectiveness set forth in Section 6 below, the Original Loan Agreement is hereby amended as follows:

1.1.The following defined terms are hereby added to Section 1.1 of the Loan Agreement, as follows:

"**Cumulative Revenue Milestone**" means Loan Parties' achievement of at least Thirty-Nine Million Dollars ($39,000,000) in Revenue during the 2025 calendar year, as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof.

"**Fifth Monthly Revenue Milestone**" means Loan Parties' achievement of Trailing Six-Month Revenue of at least Twenty-Five Million Dollars ($25,000,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to June 30, 2026.

"**Fourth Amendment Effective Date**" means December 30, 2024.

"**Liquidity Ratio**" means the ratio of (a) (i) Loan Parties' unrestricted cash at Bank plus (ii) Loan Parties' unrestricted cash maintained at financial institutions other than Bank and subject to a perfected security interest in favor of Bank plus (iii) fifty percent (50%) of Loan Parties' net trade Accounts, to (b) all of Loan Parties' outstanding Indebtedness to Bank. The inputs in clauses (a)(i) and (b) above will be the amount of unrestricted cash at Bank or Indebtedness to Bank, as applicable, at the time of testing. The input in clause (a)(ii) above will be the balance for each applicable bank account as reflected in the most recent account balance reporting delivered in accordance with Section 6.3. The input in clause (a)(iii) above will be the amount reported with the most recent monthly reporting delivered in accordance with Section 6.3.

"**Sixth Monthly Revenue Milestone**" means Loan Parties' achievement of Trailing Six-Month Revenue of at least Thirty Million Dollars ($30,000,000), as determined by Bank in its good-faith business judgment with reference to the financial information provided under Section 6.3(a) hereof, prior to December 31, 2026.

1.2.The following defined terms in Section 1.1 of the Loan Agreement are hereby amended and restated, as follows:

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"**Availability End Date**" means July 31, 2026; provided that

(a) if Loan Parties achieve the Fifth Monthly Revenue Milestone, "**Availability End Date**" will instead mean January 31, 2027; and

(b) if Loan Parties achieve the Fifth Monthly Revenue Milestone and the Sixth Monthly Revenue Milestone, "**Availability End Date**" will instead mean July 31, 2027.

"**Term Loan**" means credit extensions of up to Twenty-Three Million One Hundred Twenty-Five Thousand Dollars ($23,125,000); provided that, upon achievement of the Fifth Monthly Revenue Milestone, "**Term Loan**" will instead mean credit extensions of up to Twenty-Seven Million Five Hundred Thousand Dollars ($27,500,000).

"**Term Loan Maturity Date**" means October 31, 2029.

"**Warrant**" means each of (a) that certain Amended and Restated Warrant to Purchase Stock dated on or about the Fourth Amendment Effective Date issued by Borrower to Bank, (b) that certain Second Warrant to Purchase Stock dated on or about the Fourth Amendment Effective Date issued by Borrower to Bank, and (c) any other warrant issued by Borrower to Bank thereafter, each as amended, restated, supplemented, or otherwise modified from time to time.

1.3.Section 2.1(a) of the Loan Agreement is hereby amended and restated, as follows:

(a)Term Loan Advances.

(i)Outstanding Term Loan Advances. Bank has previously made Term Loan Advances to Borrower. As of the Fourth Amendment Effective Date, the aggregate principal amount of Term Loan Advances outstanding is Fifteen Million Six Hundred Twenty-Five Thousand Dollars ($15,625,000).

(ii)Term Loan. Subject to and upon the terms and conditions of this Agreement, Borrower may request, at any time from the date hereof through the Availability End Date, and Bank agrees to make Term Loan Advances to Borrower in an aggregate amount not to exceed the Term Loan (inclusive of Term Loan Advances advanced prior to the Fourth Amendment Effective Date). Interest shall accrue from the date of each Term Loan Advance at the rate specified in Section 2.3 and shall be payable monthly on the last day of each month so long as any Term Loan Advances are outstanding. Any Term Loan Advances that are outstanding on the Availability End Date shall be payable in thirty-nine (39) equal monthly installments of principal (provided, however, that (A) upon achievement of the Fifth Monthly Revenue Milestone, any Term Loan Advances that are outstanding on the Availability End Date shall be payable in thirty-three (33) equal monthly installments of principal, and (B) upon achievement of the Fifth Monthly Revenue Milestone and the Sixth Monthly Revenue Milestone, any Term Loan Advances that are outstanding on the Availability End Date shall be payable in twenty-seven (27) equal monthly installments of principal), plus all accrued interest, beginning on the date one (1) month following the Availability End Date, and continuing on the same day of each month thereafter through the Term Loan Maturity Date, at which time all amounts owing under this Section 2.1(a) and any other amounts owing under this Agreement shall be immediately due and payable. Term Loan Advances, once repaid, may not be reborrowed. Borrower may prepay any Term Loan Advances, in whole or in part, without penalty or premium.

(iii)Advance Request Form. When Borrower desires to obtain a Term Loan Advance, Borrower shall notify Bank (which notice shall be irrevocable) by electronic mail to be received no later than 3:00 p.m. Eastern time three (3) Business Days before the day on which the Term Loan Advance is to be made. Such notice shall be substantially in the form set forth in the Client Reporting File. The notice shall be signed by a Responsible Officer or its designee.

1.4.Section 5.4 of the Loan Agreement is hereby amended and restated, as follows:

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5.4 Revenue Contracts. The contracts yielding Revenue (included in the calculation of the Fifth Monthly Revenue Milestone and the Sixth Monthly Revenue Milestone) are bona fide existing obligations. The property and services giving rise to such contracts has been delivered or rendered to the account debtor or to the account debtor's agent for immediate and unconditional acceptance by the account debtor. No Loan Party has received notice of an actual or imminent Insolvency Proceeding of any account debtor under a contract yielding Revenue (included in the calculation of the Fifth Monthly Revenue Milestone and the Sixth Monthly Revenue Milestone).

1.5. Section 6.3 of the Loan Agreement is hereby amended by adding the following paragraph at the end thereof:

As soon as available, but in any event within thirty (30) days after the end of each calendar month, account statements for each account maintained by a Loan Party at any bank or financial institution outside Bank and, upon Bank's request, an inter-month snapshot of any such account.

1.6. Section 6.11 of the Loan Agreement is hereby amended and restated, as follows:

6.11 Financial Covenants. Loan Parties shall maintain at all times *at least one of* the covenants in clauses (a) and (b) below, provided that, if, as of the last day of a month, no minimum Revenue covenant level has been established in Section 6.11(b) below, then Loan Parties must maintain the financial covenant in Section 6.11(a) below on that day and at all times thereafter until minimum Revenue covenant levels for future periods have again been established in Section 6.11(b).

(a) Minimum Liquidity Ratio.

(i) Loan Parties shall maintain, on a consolidated basis, a Liquidity Ratio of at least 1.00 to 1.00 (the "**Required LQR**"), tested on a continuous basis; provided that, if Loan Parties achieve the Cumulative Revenue Milestone, then, beginning on January 1, 2026 and at all times thereafter, the Required LQR will instead be 0.80 to 1.00.

(ii) Notwithstanding the foregoing, if, after achievement of the Cumulative Revenue Milestone, Loan Parties fail to maintain a Liquidity Ratio of at least 0.80 to 1.00 at any time (the "**Liquidity Trigger Event**"), Loan Parties shall not be in violation of this Section 6.11(a) if, within thirty (30) days after the applicable Liquidity Trigger Event, Loan Parties receive additional funding from their existing investors in the amount required to restore Loan Parties' Liquidity Ratio to at least 1.00 to 1.00.

(iii) In the event that Loan Parties satisfy the requirement in clause (ii) above with respect to a Liquidity Trigger Event, Loan Parties shall be deemed to have cured the associated violation. For the avoidance of doubt, Loan Parties shall thereafter maintain the requisite Liquidity Ratio in accordance with clause (i) above (subject to the cure right in clause (ii) above).

(b) Minimum Revenue. Measured monthly as of the last day of each month and calculated on a trailing-six-months basis, Loan Parties shall achieve consolidated Revenue of at least the amounts shown in the table immediately below for the corresponding measurement periods. For subsequent measurement periods, Bank and Loan Parties hereby agree that, by January 31 of each year during the term of this Agreement, Loan Parties shall provide Bank with a budget for such year approved by Borrower's Board of Directors, and Bank and Loan Parties shall establish minimum Revenue amounts for such periods at 80% of the amounts identified in the applicable budget. Such amounts shall be incorporated herein by an amendment, which Loan Parties agree to execute by the last day of February of the applicable year.

Measurement Period Ending	Minimum Revenue
November 30, 2024	$12,909,375

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December 31, 2024	$12,830,325
January 31, 2025	$12,275,840
February 28, 2025	$12,888,640
March 31, 2025	$13,779,840

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April 30, 2025	$14,307,680
May 31, 2025	$14,857,840
June 30, 2025	$15,672,000
July 31, 2025	$16,488,000
August 31, 2025	$17,208,000
September 30, 2025	$17,856,000
October 31, 2025	$18,744,000
November 30, 2025	$19,608,000
December 31, 2025	$20,328,000

1.7.Section 7.2 of the Loan Agreement is hereby amended and restated, as follows:

7.2 Change in Business; Change in Control or Executive Office. Engage in any business, or permit any of its Subsidiaries to engage in any business, other than the businesses currently engaged in by Loan Parties and any business substantially similar or related thereto (or incidental thereto); or cease to conduct business in the manner conducted by Loan Parties as of the Closing Date; or suffer or permit a Change in Control; or without fifteen (15) days' prior written notification to Bank, relocate its chief executive office or state of incorporation or change its legal name; or, without Bank's prior written consent, change the date on which its fiscal year ends; or, at any time prior to an initial public offering of Borrower's equity securities, suffer a change on Borrower's Board of Directors that results in the failure of at least one (1) partner of either (a) B Capital or any of its Affiliates or (b) U.S. Venture Partners or any of its Affiliates to serve as a voting member without the prior written consent of Bank, which may be withheld in Bank's sole discretion.

2.Release.

2.1.Borrower acknowledges that Bank would not enter into this Amendment without Borrower's assurance hereunder. Except for the obligations arising hereafter under the Loan Agreement, Borrower hereby absolutely discharges and releases Bank, any person or entity that has obtained any interest from Bank under the Loan Agreement, and each of Bank's and such entity's former and present partners, stockholders, officers, directors, employees, successors, assignees, agents, and attorneys from any known or unknown claims which Borrower now has against Bank of any nature, including any claims that Borrower and its successors may in the future discover they would have now had if they had known facts not now known to them, whether founded in contract, in tort, or pursuant to any other theory of liability, including but not limited to any claims arising out of or related to the Loan Agreement or the transactions contemplated thereby.

2.2.The provisions, waivers, and releases set forth in this Section are binding upon Borrower and Borrower's shareholders, agents, employees, assigns, and successors in interest. The provisions, waivers, and releases of this Section shall inure to the benefit of Bank and its agents, employees, officers, directors, assigns, and successors in interest.

2.3.Borrower warrants and represents that Borrower is the sole and lawful owner of all right, title, and interest in and to all of the claims released hereby, and Borrower has not heretofore voluntarily, by operation of law or otherwise, assigned or transferred or purported to assign or transfer to any person any such claim or any portion thereof. Borrower shall indemnify and hold harmless Bank from and against any claim, demand, damage, debt, or liability (including payment of attorneys' fees and costs actually incurred whether or not litigation is commenced) based on or arising out of any assignment or transfer.

2.4.The provisions of this Section shall survive payment in full of the Obligations, full performance of all of the terms of this Amendment and the Loan Agreement, and/or Bank's actions to exercise any remedy available under the Loan Agreement or otherwise.

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3.No Course of Dealing; Strict Performance. No course of dealing on the part of Bank or its officers, nor any failure or delay in the exercise of any right by Bank, shall operate as a waiver thereof, and any single or partial exercise of any such right shall not preclude any later exercise of any such right. Bank's failure at any time to require

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strict performance by Borrower of any provision shall not affect any right of Bank thereafter to demand strict compliance and performance. Any suspension or waiver of a right must be in writing signed by an officer of Bank.

4.Ratification; No Waiver. The Loan Agreement, as amended hereby, shall be and remain in full force and effect in accordance with its respective terms and hereby is ratified and confirmed in all respects. Except as expressly set forth herein, the execution, delivery, and performance of this Amendment shall not operate as a waiver of, or as an amendment of, any right, power, or remedy of Bank under the Loan Agreement, as in effect prior to the date hereof.

5.Representations and Warranties; No Event of Default. Borrower represents and warrants that the representations and warranties contained in the Loan Agreement are true and correct as of the date of this Amendment and that no Event of Default has occurred and is continuing.

6.Conditions to Effectiveness.

6.1.As a condition to the effectiveness of this Amendment, Bank shall have received, in form and substance satisfactory to Bank, the following:

(a)this Amendment, duly executed by Borrower;

(b)an officer's certificate of Borrower with respect to incumbency and resolutions authorizing the execution and delivery of this Amendment;

(c)a Second Warrant to Purchase Stock, duly executed by Borrower;

(d)an Amended and Restated Warrant to Purchase Stock, duly executed by Borrower;

(e)payment of a $25,000 facility fee, which may be debited from any of Borrower's accounts;

(f)payment of all reasonable Bank Expenses incurred through the date of this Amendment, including up to $15,000 of Bank's reasonable and documented out-of-pocket expenses for the documentation of this Amendment and any related documents and any UCC, good standing, or intellectual property search or filing fees in connection therewith, which may be debited from any of Borrower's accounts; and

(g)such other documents, and completion of such other matters, as Bank may reasonably deem necessary or appropriate.

6.2.As a condition to the effectiveness of this Amendment, Borrower shall have received, in form and substance satisfactory to Borrower, this Amendment, duly executed by Bank.

7.Governing Law. This Amendment shall be deemed to have been made under and shall be governed by the laws of the State of New York (without regard to choice of law principles except as set forth in Section 5-1401 of the New York General Obligations Law) in all respects, including matters of construction, validity, and performance, and none of its terms or provisions may be waived, altered, modified, or amended except as Bank may consent thereto in writing duly signed for and on its behalf.

8.Incorporation of Loan Agreement Provisions. The provisions contained in Article 12 (Jurisdiction and Jury Trial Waiver) and in Section 13.2 (Indemnification) of the Loan Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

9.Counterparts. This Amendment may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one instrument.

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IN WITNESS WHEREOF, the undersigned have executed this Amendment as of the first date above written.

CARLSMED, INC.

By: /s/ Michael Cordonnier

Name: Michael Cordonnier

Title: CEO

CUSTOMERS BANK

By: /s/ Matthew K. Jacobs

Name: Matthew K. Jacobs

Title: Managing Director

[Signature Page to Fourth Amendment to Loan and Security Agreement]

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Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" and to the use of our report dated April 23, 2025, in the Registration Statement (Form S-1) and related Prospectus of Carlsmed, Inc. for the registration of shares of its common stock.

/s/ Ernst & Young LLP

San Diego, California
June 26, 2025

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Exhibit 107

Calculation of Filing Fee Tables

Form S-1
(Form Type)

Carlsmed, Inc.
(Exact Name of Registrant as Specified in its Charter)

Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Security	Maximum Aggregate Offering Price[(1)(2)]	Fee Rate	Amount of Registration Fee
Fees to be paid	Equity	Common Stock, $0.00001 par value per share	Rule 457(o)	—	—	$100,000,000	0.00015310	$15,310.00
		Total Offering Amounts			$100,000,000		$15,310.00	
		Total Fees Previously Paid					—	
		Total Fee Offsets					—	
		Net Fee Due					$15,310.00	

(1)Includes the aggregate offering price of additional shares of common stock that the underwriters have the option to purchase to cover over-allotments, if any.
(2)Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(o) under the Securities Act of 1933, as amended.

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