

SECURITIES AND EXCHANGE COMMISSION

FORM DEF 14A

Definitive proxy statements

Filing Date: **2008-04-04** | Period of Report: **2008-05-08**
SEC Accession No. **0000950137-08-005078**

([HTML Version](#) on secdatabase.com)

FILER

ATS MEDICAL INC

CIK: **824068** | IRS No.: **411595629** | State of Incorporation: **MN** | Fiscal Year End: **1231**
Type: **DEF 14A** | Act: **34** | File No.: **000-18602** | Film No.: **08739549**
SIC: **3842** Orthopedic, prosthetic & surgical appliances & supplies

Mailing Address
3905 ANNAPOLIS LANE
SUITE 105
MINNEAPOLIS MN 55447

Business Address
3905 ANNAPOLIS LA
SUITE 105
MINNEAPOLIS MN 55447
6125537736

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

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the Securities
Exchange Act of 1934 (Amendment No.)

Filed by the Registrant
Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
- Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))**
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Pursuant to §240.14a-12

ATS Medical, Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1) Title of each class of securities to which transaction applies:

2) Aggregate number of securities to which transaction applies:

3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

4) Proposed maximum aggregate value of transaction:

5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

1) Amount Previously Paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:



**3905 Annapolis Lane, Suite 105
Minneapolis, Minnesota 55447**

Dear Fellow Shareholder:

You are cordially invited to attend the 2008 Annual Meeting of Shareholders of ATS Medical, Inc., which will be held at the offices of Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota (on the corner of Sixth Street and Nicollet Avenue in downtown Minneapolis) beginning at 4:00 p.m. local time on Thursday, May 8, 2008.

This booklet contains your official notice of the 2008 Annual Meeting and a Proxy Statement that includes information about the matters to be acted upon at the meeting. Our officers and directors will be on hand to review our operations and to answer questions and discuss matters that may properly arise.

I sincerely hope that you will be able to attend our 2008 Annual Meeting. However, whether or not you plan to attend, please complete and return the enclosed proxy in the accompanying envelope. If you attend the meeting, you may, if you wish, withdraw any proxy previously given and vote your shares in person.

Sincerely,

A handwritten signature in black ink that reads "Michael D. Dale".

Michael D. Dale
Chairman of the Board of Directors

April 7, 2008

2008 ANNUAL MEETING OF SHAREHOLDERS



**3905 Annapolis Lane, Suite 105
Minneapolis, Minnesota 55447**

NOTICE OF 2008 ANNUAL MEETING OF SHAREHOLDERS

The 2008 Annual Meeting of Shareholders of ATS Medical, Inc. will be held on Thursday, May 8, 2008 at 4:00 p.m. local time at the offices of Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota 55402, for the following purposes:

1. To elect six members to the Board of Directors to hold office for the ensuing year and until their successors are elected and qualified;
2. To amend our Second Restated Articles of Incorporation to increase the number of shares of our common stock authorized for issuance by 50,000,000 shares;
3. To approve the removal of certain share issuance limitations required by NASDAQ Marketplace Rule 4350(i)(1)(C) to be included in our common stock warrants issued in June 2007;
4. To amend our 2000 Stock Incentive Plan to increase the number of shares of our common stock available for awards granted under the plan by 4,000,000 shares;
5. To ratify the selection of Grant Thornton LLP as our independent registered public accounting firm for the year ending December 31, 2008; and
6. To consider and act upon any other matters that may properly come before the meeting or any adjournment thereof.

Only holders of record of our common stock at the close of business on March 14, 2008 will be entitled to receive notice of and to vote at the meeting.

Whether or not you plan to attend the meeting in person, you are requested to complete and return the enclosed proxy in the accompanying envelope. If you later decide to revoke your proxy, you may do so at any time before it is exercised.

By Order of the Board of Directors,

A handwritten signature in black ink, appearing to read 'Michael R. Kramer'.

Michael R. Kramer
Chief Financial Officer and Secretary

April 7, 2008

PROXY STATEMENT

TABLE OF CONTENTS

<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	2
<u>SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE</u>	3
<u>PROPOSAL 1 – ELECTION OF DIRECTORS</u>	3
<u>DIRECTOR INDEPENDENCE</u>	5
<u>COMMITTEES OF THE BOARD OF DIRECTORS AND ATTENDANCE</u>	5
<u>SHAREHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS</u>	6
<u>NOMINATIONS</u>	6
<u>RELATED PERSON TRANSACTIONS</u>	7
<u>REPORT OF THE AUDIT, FINANCE AND INVESTMENT COMMITTEE OF THE BOARD OF DIRECTORS</u>	8
<u>COMPENSATION OF DIRECTORS</u>	9
<u>EXECUTIVE COMPENSATION</u>	10
<u>Compensation Discussion and Analysis</u>	10
<u>Compensation Committee Report</u>	13
<u>Summary Compensation Table</u>	14
<u>Grants of Plan-Based Awards</u>	15
<u>Outstanding Equity Awards at Fiscal Year-End</u>	16
<u>Option Exercises and Stock Vested Table</u>	17
<u>Employment Agreements and Potential Payments Upon Termination or Change in Control</u>	17
<u>PROPOSAL 2 – APPROVAL OF AN AMENDMENT TO THE ATS MEDICAL, INC. SECOND RESTATED</u>	
<u>ARTICLES OF INCORPORATION TO INCREASE AUTHORIZED SHARES</u>	19
<u>Reasons for the Increase in Authorized Capital Stock</u>	19
<u>Change in Capitalization</u>	19
<u>Recommendation of the Board of Directors; Vote Required for Approval</u>	20
<u>PROPOSAL 3 – APPROVAL OF THE REMOVAL OF CERTAIN SHARE ISSUANCE LIMITATIONS IN</u>	
<u>COMMON STOCK WARRANTS ISSUED IN JUNE 2007</u>	20
<u>Background</u>	20
<u>The CryoCath Acquisition and Alta Financing</u>	20
<u>NASDAQ Marketplace Rules</u>	21
<u>Impact of Failure to Approve Proposal</u>	21
<u>Recommendation of the Board of Directors; Vote Required for Approval</u>	21
<u>PROPOSAL 4 – APPROVAL OF AN AMENDMENT TO THE ATS MEDICAL, INC. 2000 STOCK</u>	
<u>INCENTIVE PLAN</u>	21
<u>Share Increases</u>	22
<u>Summary of the Plan</u>	22
<u>Historical Awards under the Plan</u>	25
<u>New Plan Benefits</u>	25
<u>Federal Income Tax Consequences</u>	26
<u>Equity Compensation Plans</u>	27
<u>Recommendation of the Board of Directors; Vote Required for Approval</u>	27
<u>PROPOSAL 5 – RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC</u>	
<u>ACCOUNTING FIRM</u>	27
<u>INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES</u>	29
<u>PROPOSALS FOR THE 2009 ANNUAL MEETING</u>	29
<u>ANNUAL REPORT ON FORM 10-K</u>	29
<u>OTHER MATTERS</u>	30
<u>PROPOSED AMENDMENT TO OUR SECOND RESTATED ARTICLES OF INCORPORATION</u>	A-1
<u>2000 STOCK INCENTIVE PLAN, AS PROPOSED TO BE AMENDED</u>	B-1

ATS MEDICAL, INC.

PROXY STATEMENT

The Board of Directors of ATS Medical, Inc. is soliciting proxies for use at the 2008 Annual Meeting of Shareholders to be held on Thursday, May 8, 2008 at 4:00 p.m. local time at the offices of Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500, Minneapolis, Minnesota 55402, and at any adjournments thereof. This proxy statement and the enclosed proxy card are first being mailed to shareholders on or about April 7, 2008.

The Board has set March 14, 2008 as the record date for the 2008 Annual Meeting. Each shareholder of record at the close of business on March 14, 2008 will be entitled to vote at the 2008 Annual Meeting. As of the record date, 59,811,423 shares of our common stock were issued and outstanding and, therefore, eligible to vote at the 2008 Annual Meeting. Holders of our common stock are entitled to one vote per share. Therefore, a total of 59,811,423 votes are entitled to be cast at the meeting. There is no cumulative voting.

Shareholders who sign and return a proxy may revoke it at any time before it is voted by giving written notice to our Corporate Secretary.

Expenses in connection with this solicitation of proxies will be paid by us. Proxies are being solicited primarily by mail, but, in addition, our officers and employees, who will receive no extra compensation for their services, may solicit proxies by telephone or personally. We also will request that brokers or other nominees who hold shares of our common stock in their names for the benefit of others forward proxy materials to, and obtain voting instructions from, the beneficial owners of such stock at our expense.

Proxies that are completed, signed and returned to us prior to the 2008 Annual Meeting will be voted as specified. If no direction is given, the proxy will be voted FOR the election of the nominees for director named in this proxy statement, FOR the management proposals discussed herein and in accordance with the judgment of the persons named in the proxy as to any other matters that properly come before the meeting. If a shareholder abstains from voting as to any matter (or indicates a "withhold vote for" as to directors), then the shares held by such shareholder shall be deemed present at the 2008 Annual Meeting for purposes of determining a quorum and for purposes of calculating the vote with respect to such matter, but shall not be deemed to have been voted in favor of such matter. If a broker returns a "non-vote" proxy, indicating a lack of authority to vote on such matter, then the shares covered by such non-vote shall be deemed present at the 2008 Annual Meeting for purposes of determining a quorum but shall not be deemed to be represented at the 2008 Annual Meeting for purposes of calculating the vote with respect to such matters. A broker has discretionary authority to vote on the election of directors, the amendment to our Second Restated Articles of Incorporation and the ratification of Grant Thornton LLP as our independent registered public accounting firm even if the broker does not receive voting instructions from the shareholder. A broker, however, may not vote on the other proposals without instructions from the shareholder.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth security ownership information pertaining to persons known by us to beneficially own more than 5% of our common stock, our directors and director nominees, the executive officers named in the Summary Compensation Table and all of our directors and executive officers as a group as of February 15, 2008.

Unless otherwise noted, the shareholders listed in the table have sole voting and investment power with respect to the shares of common stock owned by them, and such shares are not subject to any pledge.

Name of Beneficial Owner	Common Stock Beneficially Owned			
	Amount and Nature of Beneficial Ownership		Percent of Class Outstanding	
Alta Partners One Embarcadero Center, Suite 3700 San Francisco, CA 94111	9,800,000	(1)	16.4	%
Accipiter Life Sciences Funds 399 Park Avenue, 38th Floor New York, NY 10022	6,020,820	(2)	10.1	%
Steven M. Anderson	27,900	(3)	*	
Jeremy J. Curtis	0	(3)	*	
Richard A. Curtis	0	(3)(4)	*	
Michael D. Dale	633,120	(3)	1.1	%
David R. Elizondo	20,167	(3)	*	
Michael R. Kramer	16,724	(3)	*	
Robert E. Munzenrider	20,625	(3)	*	
Guy P. Nohra	9,800,000	(3)(5)	16.4	%
Eric W. Sivertson	18,125	(3)	*	
Theodore C. Skokos	3,028,416	(3)(6)	5.1	
Marc R. Sportsman	35,246	(3)(4)	*	
All directors and executive officers as a group (9 persons)	13,565,077	(3)	22.7	%

* Less than 1%

- (1) Based on a Schedule 13D jointly filed with the Securities and Exchange Commission on July 10, 2007, by Alta Partners IV Inc. (“AP-IV”), Alta Partners VIII, L.P. (“AP-VIII”), Alta Partners Management VIII, LLC (“APM-VIII”), Farah Champs, Guy P. Nohra and Daniel Janney. APM-VIII is the sole general partner of AP-VIII, AP-IV is the management advisory company of AP-VIII and APM-VIII, and Ms. Champs and Messrs. Nohra and Janney are the managing directors (the “Managing Directors”) of APM-VIII and officers or employees of AP-IV. AP-VIII has the power to dispose of and vote 9,800,000 shares. APM-VIII, AP-IV and each Managing Director may be deemed to share voting power and to direct the disposition of 9,800,000 shares. The number of shares reported as beneficially owned excludes 1,960,000 shares potentially issuable to APV-III pursuant to a seven-year warrant subject to approval of our shareholders. See Proposal 3 in this proxy statement.
- (2) Based on a Schedule 13G jointly filed with the Securities and Exchange Commission on February 14, 2008, by (i) five Accipiter Life Sciences funds, including Accipiter Life Sciences Fund, LP (Offshore), Ltd. (1,396,783 shares) (“Offshore”), Accipiter Life Sciences Fund, LP (1,393,607 shares) (“ALSF”), Accipiter Life Sciences Fund II, LP (791,174 shares) (“ALSF-II”), Accipiter Life Sciences Fund II, QP (890,979 shares) (“QP-II”) and Accipiter Life Sciences Fund II (Offshore), Ltd. (1,548,277 shares) (“Offshore-II”), (ii) Candens Capital, LLC (“Candens”), (iii) Accipiter Capital Management, LLC (“Management”) and (iv) Gabe Hoffman. Mr. Hoffman is the managing member of Candens, which is the general partner of ALSF, ALSF-II and QP-II and the managing member of Management, which is the investment manager of Offshore and Offshore-II. Mr. Hoffman has shared voting and dispositive power with respect to the shares held by each of the Accipiter Life Sciences funds. Mr. Hoffman disclaims beneficial ownership of such shares. The reporting persons do not admit existence of a group. The number of shares reported as beneficially owned includes warrants to purchase

219,594 shares of our common stock that are exercisable within 60 days after February 14, 2008. Pursuant to the terms of the warrants, none of the reporting persons may acquire shares of our common stock upon exercise of the warrants to the extent that, upon exercise, the number of shares of common stock beneficially owned by the reporting person and its affiliates would exceed 9.99% of the issued and outstanding shares of our common stock.

- (3) Includes the following shares that may be acquired within 60 days of February 15, 2008 through the exercise of stock options or vesting of RSU awards: Mr. Anderson, 5,000 shares; Mr. Jeremy Curtis, 0 shares; Mr. Richard Curtis, 0 shares; Mr. Dale, 382,559 shares; Mr. Elizondo, 8,838 shares; Mr. Kramer, 5,210 shares; Mr. Munzenrider, 15,625 shares; Mr. Nohra, 0 shares; Mr. Sivertson, 18,125 shares; Mr. Skokos, 0 shares, Mr. Sportsman, 0 shares; and all executive officers and directors as a group, 435,357 shares.
- (4) Mr. Sportsman's employment with us terminated effective February 2, 2007. Mr. Richard Curtis's employment with us terminated effective November 15, 2007.
- (5) Includes shares beneficially owned by entities of which Mr. Nohra is a managing director, officer or employee as described in footnote 1 above. Mr. Nohra's address is c/o ATS Medical, Inc., 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447.
- (6) Mr. Skokos's address is c/o ATS Medical, Inc., 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), requires our executive officers and directors to file with the Securities and Exchange Commission initial reports of ownership and reports of changes in ownership of such common stock. Executive officers and directors are required to furnish us with copies of all Section 16(a) reports they file. Based solely on a review of the copies of such forms furnished to us, we believe that our executive officers and directors complied with all Section 16(a) filing requirements applicable to them during 2007, except that Steve Anderson, a director, filed two amendments on July 10, 2007, amending his Form 3 initially filed on May 5, 2006 and one Form 4 filed on June 28, 2007. The amendments disclosed a direct holding of an additional 3,500 shares of our common stock not reflected in the Form 3. There were three interim Form 4 filings that are also deemed to be amended by the filing of the Form 4 amendment.

PROPOSAL 1 – ELECTION OF DIRECTORS

Six directors have been nominated for election to our Board of Directors at the 2008 Annual Meeting to hold office for a term of one year and until their successors are duly elected and qualified (except in the case of earlier death, resignation or removal). The accompanying proxy is intended to be voted for the election of nominees for director named below, unless authority to vote for one or more nominees is withheld as specified on the proxy card. In accordance with Minnesota law, the nominees for election as directors at the 2008 Annual Meeting will be elected by a plurality of the votes cast at the meeting. This means that since shareholders will be electing six directors, the six nominees receiving the highest number of votes will be elected. Votes withheld from one or more director nominees will have no effect on the election of any director from whom votes are withheld. In the event that any nominee becomes unable or unwilling to serve as a director for any reason, the persons named in the enclosed proxy will vote for a substitute nominee in accordance with their best judgment. The Board of Directors has no reason to believe that any nominee will be unable or unwilling to serve as a director if elected.

The Board of Directors recommends a vote FOR the election of the six nominated directors. In accordance with Minnesota law, the six nominees receiving the highest number of votes will be elected. Proxies will be voted FOR the election of the six nominees unless otherwise specified.

The nominees for election as directors have provided the following information about themselves.

Michael D. Dale, 48, has been Chief Executive Officer and President of ATS Medical since October 2002, and Chairman of the Board of Directors since May 2004. From 1998 to 2002, Mr. Dale was Vice President of Worldwide Sales and Marketing at Endocardial Solutions, Inc., a company that developed and marketed an advanced cardiac

mapping and catheter navigation system for the diagnosis and treatment of cardiac arrhythmias. From 1996 to 1998, Mr. Dale was Vice President of Global Sales for Cyberonics, Inc., a neuromodulation medical device company, and additionally was Managing Director of Cyberonics Europe S.A. From 1988 to 1996, Mr. Dale served in several capacities at cardiovascular medical manufacturer and marketer St. Jude Medical, Inc., most recently as the Business Unit Director for St. Jude Medical Europe. Mr. Dale is on the board of directors of Neuronetics, the world's leader in Transcranial Magnetic Stimulation (TMS) Therapy, which involves the use of MRI-strength magnetic fields to stimulate nerve cells in the brain for the treatment of patients suffering from depression. Mr. Dale also serves on the Advanced Medical Technology Association (AdvaMed) Board of Directors.

Steven M. Anderson, 45, has been President of Acorn Cardiovascular, Inc., a company developing implantable therapies for the treatment of heart failure, since October 2007. Prior to his appointment as President, Mr. Anderson was Vice-President of Clinical, Regulatory, Reimbursement and Quality of Acorn Cardiovascular, Inc. since 2000. From 1998 to 2000, Mr. Anderson served as Vice President of Regulatory, Clinical, Quality and Reimbursement at St. Croix Medical, Inc., a medical device company. From 1996 to 1998, Mr. Anderson served as Director of the Medical Division for TUV Product Service, a European notified body for the Medical Device Directive. Between 1987 and 1996, Mr. Anderson served in several capacities at St. Jude Medical, Inc., most recently as Senior Manager of Worldwide Regulatory Affairs. From 1982 to 1986 he served in a development engineering position at Medtronic, Inc. Mr. Anderson is currently an Adjunct Professor at the University of St. Thomas Graduate School. Mr. Anderson was elected as a director of ATS Medical in May 2006.

Robert E. Munzenrider, 63, is a retired financial and operating executive. From 2000 to 2002, Mr. Munzenrider was President of Harmon AutoGlass, a subsidiary of Apogee Enterprises, Inc. In 1999, he served as Vice President and Chief Financial Officer of the Glass Services Segment of Apogee Enterprises. He also served as Executive Vice President and Chief Financial Officer of Eliance Corp., an e-commerce service provider, during part of 1999. From 1997 to 1998, Mr. Munzenrider served as Vice President and Chief Financial Officer of St. Jude Medical, Inc. From 1983 to 1997, he served as Vice President and Chief Financial Officer of three subsidiaries of Viad Corp. and predecessor companies, including Travelers Express Company, Inc., Restaura, Inc. and Bell Atlantic Systems Leasing, Inc. (previously Greyhound Computer Corporation). Mr. Munzenrider is a Certified Public Accountant. Mr. Munzenrider also serves as a director on the boards of Viad Corp. and Criticare Systems, Inc., and is a Trustee Emeritus on the University of Montana Foundation. Mr. Munzenrider was elected as a director of ATS Medical in June 2003.

Guy P. Nohra, 47, is a founder and managing director of Alta Partners, a venture capital firm investing in life science companies. Prior to founding Alta Partners in 1996, Mr. Nohra was a partner at Burr, Egan, Deleage & Co., which he joined in 1989 and served as a Vice President from 1989 to 1997. Previously, Mr. Nohra was a Product Manager of Medical Products with Security Pacific Trading Corporation where he was responsible for a multi-million dollar product line and traveled extensively in Korea, Taiwan, Hong Kong, China and Southeast Asia. Mr. Nohra has served as a director of ATS Medical since June 2007 when he joined our Board in connection with our private placement of shares of our common stock and warrants to Alta Partners. Mr. Nohra is a member of the boards of directors of several privately held medical device companies.

Eric W. Sivertson, 57, has served as the President and Chief Executive Officer of Dymedix Corporation, a company developing and marketing technology to help advance the science of sleep medicine, since June 2005. Prior to Dymedix, Mr. Sivertson was a partner in the Minneapolis office of DHR International Executive Search, which focuses on the medical device, diagnostic and healthcare supply industries, during 2004 and 2005. In 2003, Mr. Sivertson was a partner at TMP/Highland Partners, an executive search firm. From 1999 to 2003, Mr. Sivertson served as President and Chief Executive Officer of netRegulus, Inc., a web-based medical device regulatory and clinical information technology company. From 1997 to 1999, Mr. Sivertson served as President and Chief Executive Officer of Biocompatible Cardiovascular, Ltd. Preceding this, Mr. Sivertson served as Division President of International, Cardiovascular and Cardiac Rhythm Management for St. Jude Medical, Inc., a medical device manufacturer and marketer, from 1985 to 1996. Mr. Sivertson started his career at American Hospital Supply Corporation and held various sales and marketing positions from 1976 to 1985, including Vice President of Marketing for the Convertors Division. Mr. Sivertson was elected as a director of ATS Medical in January 2003. Mr. Sivertson also serves on the board of directors of Dymedix Corporation and ExitCare LLC.

Theodore C. Skokos, 60, is a retired attorney, having practiced law from 1973 through 1994. Since his retirement, he has been involved in various business enterprises, including founding and serving as an officer of three entities involved in the cellular telephone business and he was founder and member of the general partnership of Aloha Partners L.P., the holders of the largest number of 700 MHz wireless spectrum licenses in the U.S. Aloha Partners was acquired by AT&T Mobility in February 2008. Additionally, from 1999 to 2001, he served as chairman and president of The Flight Department, Inc., a privately held aircraft management and air charter company, located in Aspen, Colorado. Mr. Skokos has served as a director of ATS Medical since September 2006.

Mr. Skokos was a founder and former Chairman of the Board of 3F Therapeutics, Inc. ("3F"), which was acquired by ATS Medical in 2006. Under the merger agreement between 3F and ATS Medical, the representative of the former stockholders of 3F was entitled to designate a person to serve as a member of our Board of Directors until our next annual meeting of shareholders. Mr. Skokos was selected by the 3F stockholder representative as its designee to our Board of Directors. Under the merger agreement, we are obligated to continue to nominate Mr. Skokos, or his successor, for election to the Board of Directors through 2013, unless he fails to be so elected or is removed from the Board of Directors. Other than in connection with the merger agreement described above, there are no arrangements or understandings between Mr. Skokos and any other persons pursuant to which Mr. Skokos was selected as a director.

DIRECTOR INDEPENDENCE

The Board of Directors has determined that the following members of the Board are independent under the applicable listing standards of the NASDAQ Stock Market: Steven M. Anderson, Robert E. Munzenrider, Guy P. Nohra and Eric W. Sivertson. All of the members of our three standing committees, namely Messrs. Anderson, Munzenrider and Sivertson, are independent directors under the applicable listing standards of the NASDAQ Stock Market. In assessing the independence of the directors, the Board considers any transactions, relationships and arrangements between ATS Medical and our independent directors or their affiliated companies. This review is based primarily on responses of the directors to questions in a director and officer questionnaire regarding employment, business, familial, compensation and other relationships with ATS Medical or our management. In reviewing Mr. Nohra's independence, the Board considered Mr. Nohra's affiliations with Alta Partners, as described further under "Related Person Transactions" below. There were no other transactions, relationships or arrangements between ATS Medical and any of the independent directors or the independent directors' affiliated companies which came to the attention of the Board during this process that warranted additional review.

COMMITTEES OF THE BOARD OF DIRECTORS AND ATTENDANCE

The Board of Directors held 14 meetings during 2007. Each director attended at least 75% of the meetings of the Board and the committees of which he was a member. All directors were in attendance at the 2007 Annual Meeting of Shareholders. Board members are encouraged to attend each annual meeting of shareholders.

The Board of Directors has three standing committees: (1) an Audit, Finance and Investment Committee, (2) a Personnel and Compensation Committee and (3) a Nominating, Corporate Governance and Regulatory Compliance Committee. The charter for each of these committees is available for review on our website at www.atsmedical.com. The functions of the Audit, Finance and Investment Committee are to review and monitor our accounting policies and control procedures, including recommending the engagement of the independent registered public accounting firm and reviewing the scope of the audit. The Audit, Finance and Investment Committee, on which Messrs. Munzenrider, Anderson and Sivertson serve, held five meetings during 2007. All of the members of the Audit, Finance and Investment Committee are independent for purposes of the NASDAQ listing requirements and the rules of the Securities and Exchange Commission. Mr. Munzenrider qualifies as an "audit committee financial expert" under the rules of the Securities and Exchange Commission.

The Personnel and Compensation Committee reviews and establishes compensation levels for each of our officers, as well as jointly administers our stock plans with the Board of Directors. The Personnel and Compensation Committee, on which Messrs. Sivertson, Anderson and Munzenrider serve, held six meetings during 2007. All of the members of the Personnel and Compensation Committee are independent for purposes of the NASDAQ listing requirements.

We also have a Nominating, Corporate Governance and Regulatory Compliance Committee that is responsible for determining the slate of director nominees for election by shareholders, which the committee recommends for consideration by the Board of Directors. Messrs. Sivertson, Anderson and Munzenrider currently serve on the Nominating, Corporate Governance and Regulatory Compliance Committee and are independent for purposes of the NASDAQ listing requirements. During 2007, the Nominating, Corporate Governance and Regulatory Compliance Committee held two formal meetings and several discussions during Board meetings regarding board positions and conducted interviews of potential director candidates.

SHAREHOLDER COMMUNICATIONS WITH THE BOARD OF DIRECTORS

Shareholders may send written communications to the attention of the Board of Directors. Any shareholder desiring to communicate with our Board of Directors, or one or more of our directors, may send a letter addressed to the Board of Directors c/o Corporate Secretary at 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447. The Corporate Secretary has been instructed by the Board of Directors to promptly forward all communications so received to the full Board of Directors or the individual members of the Board of Directors specifically addressed in the communication.

NOMINATIONS

All director nominees approved by the Board of Directors and all individuals appointed to fill vacancies created between our annual meetings of shareholders are required to stand for election by shareholders at the next annual meeting.

The Nominating, Corporate Governance and Regulatory Compliance Committee determines the required selection criteria and qualifications of the director nominees based upon the needs of ATS Medical at the time nominees are considered. A candidate must possess the ability to apply good business judgment and must be in a position to properly exercise his or her duties of loyalty and care. Candidates should also exhibit proven leadership capabilities, high integrity and experience with a high level of responsibilities within their chosen fields, and have the ability to quickly grasp complex principles of business and finance. In general, candidates will be preferred who hold or have held an established executive level position in business, finance, law, education, research or government. The Nominating, Corporate Governance and Regulatory Compliance Committee will consider these criteria for nominees identified by the Committee, by shareholders, or through some other source. During 2007, the Nominating, Corporate Governance and Regulatory Compliance Committee used the services of a third party search firm to assist in the identification and evaluation of director candidates.

The Nominating, Corporate Governance and Regulatory Compliance Committee will consider qualified candidates for possible nomination that are submitted by our shareholders. Shareholders wishing to make such a submission may do so by sending the following information to the Nominating, Corporate Governance and Regulatory Compliance Committee c/o Corporate Secretary at 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447: (1) name of the candidate and a brief biographical sketch and resume; (2) contact information for the candidate and a document evidencing the candidate's willingness to serve as a director if elected; and (3) a signed statement as to the submitting shareholder's current status as a shareholder and the number of shares currently held. No candidates for director nominations were submitted to the Nominating, Corporate Governance and Regulatory Compliance Committee by any shareholder in connection with the 2008 Annual Meeting.

The Nominating, Corporate Governance and Regulatory Compliance Committee conducts a process of making preliminary assessments of each proposed nominee based upon the resume and biographical information, an indication of the individual's willingness to serve and other background information. This information is evaluated against the criteria set forth above and our specific needs at that time. Based upon a preliminary assessment of the candidate(s), those who appear to be best suited to meet our needs may be invited to participate in a series of interviews, which are used as a further means of evaluating potential candidates. On the basis of information learned during this process, the Nominating, Corporate Governance and Regulatory Compliance Committee determines which nominee(s) to recommend to the Board of Directors to submit for election at the next annual meeting of shareholders. The Nominating, Corporate Governance and Regulatory Compliance Committee uses the same process for evaluating all nominees, regardless of the original source of nomination.

RELATED PERSON TRANSACTIONS

Our Audit, Finance and Investment Committee is responsible for reviewing and approving all related party transactions. We annually require each of our directors and executive officers to complete a director and officer questionnaire that elicits information about related person transactions, including any such transactions which are required to be disclosed under the rules of the Securities and Exchange Commission. In 2004, we adopted a written Code of Conduct for our employees, including our principal executive officer, principal financial officer and principal accounting officer, which is posted on our website (www.atsmedical.com). Under our Code of Conduct our directors, officers and employees are expected to avoid conflicts of interest with ATS Medical and are required to report any such conflicts of interest to our Chief Executive Officer or Chief Financial Officer, or to the Chair of our Audit, Finance and Investment Committee. Our Audit, Finance and Investment Committee reviews all such transactions and relationships which come to its attention either through the director and officer questionnaires or otherwise, and considers whether to approve or take other appropriate action with respect to such transactions or relationships.

On June 28, 2007, we completed a \$16,415,000 private placement financing in which we issued to Alta Partners VIII, L.P. (“Alta”) 9,800,000 shares of our common stock and seven-year warrants to purchase up to 1,960,000 shares of our common stock. The warrants issued in connection with the private placement are exercisable for cash or, upon shareholder approval, shares of our common stock, at an initial exercise price of \$1.65 per share, subject to adjustment upon certain events. See Proposal 3 for more information regarding the warrants. As a result of the private placement, Alta became our largest shareholder. See the “Security Ownership of Certain Beneficial Owners and Management” section of this proxy statement for more information regarding Alta’s ownership of ATS Medical securities. Because Alta was not a “related person” under the rules of the Securities and Exchange Commission at the time of the private placement, the Audit, Finance and Investment Committee did not review and approve the private placement to Alta.

Guy P. Nohra became one of our directors after and as a result of the closing of the private placement to Alta. Mr. Nohra is one of the three managing directors of Alta Partners Management VIII, LLC (“Alta Management VIII”), the general partner of Alta. Mr. Nohra shares voting and investment powers with respect to the shares owned by Alta with the other managing directors of Alta Management VIII. As a result, under the rules of Securities and Exchange Commission, Mr. Nohra beneficially owns 9,800,000 shares of our common stock and warrants to purchase an additional 1,960,000 shares of our common stock, assuming, in the case of the warrants, that the shareholders approve Proposal 3 at the 2008 Annual Meeting. Mr. Nohra disclaims beneficial ownership of these securities, except to the extent of his proportionate pecuniary interest therein. The Audit, Finance and Investment Committee was aware of Mr. Nohra’s involvement in the Alta investment when he joined the Board of Directors.

REPORT OF THE AUDIT, FINANCE AND INVESTMENT COMMITTEE OF THE BOARD OF DIRECTORS

The Audit, Finance and Investment Committee of our Board of Directors is composed of the following non-employee directors: Messrs. Sivertson, Anderson and Munzenrider. Mr. Munzenrider currently serves as the Chairman of the Audit, Finance and Investment Committee. All of the members of the Audit, Finance and Investment Committee are independent for purposes of the NASDAQ listing requirements. Mr. Munzenrider qualifies as an “audit committee financial expert” under the rules of the Securities and Exchange Commission. The Audit, Finance and Investment Committee operates under a written charter adopted by the Board of Directors, which is available for review on the Company’s website at www.atsmedical.com. The Audit, Finance and Investment Committee recommends to the Board of Directors, and submits for shareholder ratification, the appointment of the Company’s independent registered public accounting firm.

Management is responsible for the Company’s internal controls and the financial reporting process. Our independent registered public accounting firm is responsible for performing an independent audit of our consolidated financial statements in accordance with generally accepted auditing standards and for issuing a report on our financial statements. The Audit, Finance and Investment Committee’s responsibility is to monitor and oversee these processes.

In this context, the Audit, Finance and Investment Committee has met and held discussions with management and the independent registered public accounting firm. Management represented to the Audit, Finance and Investment Committee that the Company’s consolidated financial statements were prepared in accordance with generally accepted accounting principles, and the Audit, Finance and Investment Committee has reviewed and discussed the consolidated financial statements with management and the independent registered public accounting firm. The Audit, Finance and Investment Committee discussed with the independent registered public accounting firm matters required to be discussed by Statement on Auditing Standards No. 61 (*Communications with Audit Committees*).

The Company’s independent registered public accounting firm also provided to the Audit, Finance and Investment Committee the written disclosure required by Independence Standards Board Standard No. 1 (*Independence Discussions with Audit Committees*), and the Audit, Finance and Investment Committee discussed with the independent registered public accounting firm the auditing firm’s independence. The Committee also considered whether non-audit services provided by the independent registered public accounting firm during the last fiscal year were compatible with maintaining the independent registered public accounting firm’s independence.

Based upon the Audit, Finance and Investment Committee’s discussion with management and the independent registered public accounting firm and the Audit, Finance and Investment Committee’s review of the representation of management and the report of the independent registered public accounting firm to the Audit, Finance and Investment Committee, the Audit, Finance and Investment Committee recommended to the Board of Directors that the audited consolidated financial statements be included in the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2007 filed with the Securities and Exchange Commission.

Members of the Audit, Finance and Investment
Committee of the Board of Directors:

Robert E. Munzenrider, Chairman
Steven M. Anderson
Eric W. Sivertson

COMPENSATION OF DIRECTORS

We pay each of our non-employee directors \$20,000 as an annual retainer, payable quarterly, for service on our Board of Directors. An additional \$5,000 annual retainer is paid quarterly to the chair of the Audit, Finance and Investment Committee, and a \$3,500 annual retainer is paid quarterly to the Chair of the Personnel and Compensation Committee. In addition, non-employee directors are paid \$1,000 for each board meeting attended in person and \$500 for each board meeting attended telephonically. Audit, Finance and Investment Committee and Personnel and Compensation Committee members, excluding the chairs, are paid an additional \$750 for each meeting of the Audit, Finance and Investment Committee and Personnel and Compensation Committee attended. We also reimburse our directors for travel-related expenses.

Upon initial election to the Board of Directors, each non-employee director is granted a restricted stock unit award (“RSU”) of 3,000 shares that vests on the second anniversary of the date of grant. In addition, upon each re-election to the Board of Directors, each non-employee director receives a yearly equity retainer of RSUs equal to \$45,000, based on the closing price of our stock on the date of grant. Such RSUs vest on the earlier of the date of the second annual meeting following the date of grant or June 30 of the second year following the date of grant. Consistent with the foregoing, in 2007, Messrs. Anderson, Munzenrider, Sivertson and Skokos each received RSU awards equal to \$45,000, and Mr. Nohra received an RSU award of 3,000 shares.

The following table shows the compensation of the members of our Board of Directors during 2007.

Director Compensation

Name(1)	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)(2)	Option Awards (\$)(3)	Total (\$)
Steven M. Anderson	34,750	36,008	–	70,758
Robert E. Munzenrider	36,000	36,008	4,385	76,393
Guy P. Nohra(4)	7,000	1,180	–	8,180
Eric W. Sivertson	33,750	36,008	4,385	74,143
Theodore C. Skokos	26,500	14,692	–	41,192

- (1) Mr. Dale, our Chief Executive Officer and President, is not included in this table because he was an employee during 2007 and thus received no compensation for his service as a director. The compensation he received as an employee is shown in the Summary Compensation Table.
- (2) The amounts in this column are calculated based on FAS 123R and equal the financial statement compensation expense for RSU awards as reported in our consolidated statements of operations for the 2007 fiscal year. See Note 9 of the consolidated financial statements in our 2007 Annual Report on Form 10-K regarding assumptions underlying the valuation of equity awards. The aggregate number of RSU awards outstanding at December 31, 2007 was 47,412 shares for each of Messrs. Anderson, Munzenrider and Sivertson, 31,662 shares for Mr. Skokos and 3,000 shares for Mr. Nohra, all of which were awarded during 2006 or 2007. The grant date fair value of the 2007 RSU awards was \$45,000 for Messrs. Anderson, Munzenrider, Sivertson and Skokos, and \$5,610 for Mr. Nohra.
- (3) The amounts in this column are calculated based on FAS 123R and equal the financial statement compensation expense for stock option awards as reported in our consolidated statements of operations for the fiscal year. Under FAS 123R, a pro-rata portion of the total expense at time of grant is recognized over the applicable service period generally corresponding with the vesting schedule of the grant. The initial expense is based on the fair value of the stock option grants as estimated using the Black-Scholes option-pricing model. The assumptions used to arrive at the Black-Scholes value are disclosed in Note 9 to our consolidated financial statements included in our 2007 Annual Report on Form 10-K. The aggregate number of stock options outstanding at December 31, 2007, was 5,000 options for Mr. Anderson, 17,500 options for Mr. Munzenrider, 20,000 options for Mr. Sivertson and no options for Messrs. Skokos and Nohra. There were no stock option grants to our non-employee directors in 2007.
- (4) Mr. Nohra’s director fees and equity grants are issued to Alta Partners VIII.

The Personnel and Compensation Committee regularly reviews and makes recommendations to the Board of Directors regarding compensation to be paid to our non-employee directors. From time to time, the Committee engages a compensation consultant to provide non-employee director compensation advice. The consultant analyzes each element of director compensation and total director compensation for comparable companies. The Personnel and Compensation Committee reviews the consultant's report of competitive director compensation and determines whether to recommend to the Board a change in the non-employee director compensation. If such a change is recommended by the Personnel and Compensation Committee, the full Board would then determine whether to approve the change. The Personnel and Compensation Committee did not engage a compensation consultant to review director compensation in 2007. Employee directors are not compensated for their service on the Board of Directors.

EXECUTIVE COMPENSATION

Compensation Discussion and Analysis

Philosophy

Our compensation programs are designed to attract and retain key employees, motivating them for superior performance. The compensation programs are designed to encourage both short- and long-term performance and to emphasize increasing our shareholder value over the long term. Our executive compensation programs impact all of our employees by establishing general levels of compensation and creating an environment of goals, rewards and expectations. Because we believe the performance of every employee is important to our success, we are mindful of the impact of executive compensation and incentive programs on all of our employees.

We also believe that the compensation of our executives should reflect their success relative to their individual development goals, as well as their collective success as a management team. Collective goals of management include growth in sales and operating income metrics, which we believe will ultimately result in an increase in the value of our stock price. We believe that the performance of our executives in managing the company should be the basis for determining their overall compensation. We also believe that their compensation should not be based on the short-term performance of our stock, whether favorable or unfavorable, but rather that the price of our stock will, in the long term, reflect our operating performance, and ultimately, the management of the company by our executives. Consequently, we seek to have the long-term performance of our stock reflected in executive compensation through our equity incentive plans.

Overview of Compensation and our Process

The Personnel and Compensation Committee of our Board of Directors (the "Committee") is composed entirely of independent outside directors and is responsible for setting our compensation policy and approving each component of compensation for the executive officers named in the Summary Compensation Table below (our "named executive officers"). Our Chief Executive Officer develops initial recommendations for all components of compensation for our other named executive officers and presents the recommendations to the Committee for review and approval. In 2007, we subscribed to a third party compensation database to provide comparable company compensation data to assist the Committee in analyzing the reasonableness of its compensation for executive officers.

Components of Our Compensation Program

During 2007, the principal components of compensation for our named executive officers were:

- base salary;
- performance-based cash incentive compensation; and
- long-term equity incentive compensation.

We do not have a pre-established formula or target for the allocation between either cash and non-cash or short-term and long-term incentive compensation. Rather, in general, our policy for allocating between long-term and

currently-paid compensation is to ensure adequate base compensation to attract and retain executive officers, while providing incentives to maximize long-term value for us and our shareholders.

Base Salary

We provide our named executive officers with base salary to compensate them for services rendered during the year. Base salary ranges are established for each of our executives based on his or her position and responsibility and by using market data. Base salary ranges are designed so that salary opportunities for a given position will be between 80% and 120% of the midpoint of the base salary established for each range.

During its annual review of the base salaries for our executives, the Committee primarily considers:

- market data provided by our outside data sources;
- an initial review of the executive's compensation, both individually and relative to other executive officers; and
- the individual performance of the executive.

The Committee reviews the base salary of an executive annually and also when he or she is promoted or when his or her job responsibilities are otherwise changed. Our executives are also eligible for merit-based salary increases based on the Committee's assessment of individual performance.

In February 2007, the Committee determined, with some exceptions, to increase the base salaries of its executive officers by 3% over their respective base salaries in 2006. Four of the named executive officers were among those who did not get a 3% increase in base salary. Mr. Dale's base salary was not increased in 2007 because the Committee determined to provide Mr. Dale with more long-term equity incentive compensation as described below. Mr. Kramer's base salary was increased in two steps from \$140,000 to \$160,000 in February 2007 in connection with his promotion to Acting Chief Financial Officer and then in August 2007 from \$160,000 to \$185,000 to reflect his promotion from Acting Chief Financial Officer to Chief Financial Officer. Mr. Elizondo's base salary was increased by 7% in February 2007 to reflect an increase in the scope of his job responsibilities. Mr. Sportsman's base salary remained unchanged due to his previously announced departure from ATS Medical. Finally, Mr. J. Curtis was hired in June 2007 as our Vice President, Worldwide Marketing with a starting annual base salary of \$210,000 which was determined through negotiations with Mr. J. Curtis prior to his agreeing to join ATS Medical.

Performance-Based Cash Incentive Compensation

The 2007 Management Incentive Plan ("MIP") is an annual cash incentive program based on a combination of corporate financial and individual objectives. The MIP was approved by the Committee in May of 2007 and was designed to align our incentive compensation to our 2007 operating objectives. Except for Mr. Sportsman, who left ATS Medical in February 2007, each named executive officer was eligible for a target MIP bonus of 50% of their base salary. Mr. Kramer's bonus percentage under the MIP was increased by the Committee in August 2007 from 35% to 50% in connection with his promotion to Chief Financial Officer.

For 2007, 80% of a named executive officer's MIP award was based on the achievement of corporate financial objectives relating to revenue and operating loss levels, with each component accounting for 40% of the overall target bonus. The revenue target set by the Committee for fiscal 2007 was \$47.4 million. The operating loss target was set at \$9.5 million.

The remaining 20% of each executives target MIP bonus was based on individual SMART goals as determined by the Committee. The term "SMART" relates to a specific compensation philosophy that incentive goals should be **S**pecific, **M** measurable, **A**ttainable, **R**elated to the mission and **T**ime bound. Performance in relation to each executive's SMART goals is measured and assessed by the Committee on a quarterly basis.

Each year the Committee sets minimum, target and maximum levels for each component of the corporate financial objective of the MIP. Payment awards under the MIP are based on the attainment of the objective for the current year. As necessary, the Committee in its discretion may modify or re-weight the corporate objectives and/or individual objectives during the course of the year to reflect changes in our business plan, the general business environment and other factors. No such discretion was exercised by the Committee for 2007. Executive officers participating in the MIP receive:

no payment for a corporate financial objective portion of the MIP award unless we achieve the minimum performance level for that objective (90% of the target);

a payment ranging from 9% to 100% of the target award opportunity for a corporate financial objective portion of the MIP award, if we achieve a performance level ranging from 90% to 100% of the target for that corporate financial objective; and

a payment ranging from 100% up to 182% of the target award opportunity for a corporate financial objective portion of the MIP award, if we achieve a performance level ranging from over 100% up to 109% of the target for that corporate financial objective.

The MIP further provides that no awards will be payable pursuant to the MIP if the operating loss target is not achieved at at least the 90% level. In fiscal 2007, 90% of the operating loss target was not achieved and, consequently, no awards were paid under the MIP to the named executive officers. Mr. J. Curtis received bonus payments totaling \$74,000 with respect to 2007 which included a \$20,000 signing bonus when he joined ATS Medical in June 2007, and a guaranteed bonus payment of \$54,000 which was negotiated with Mr. J. Curtis prior to his hiring as part of his initial compensation package.

Long-term Equity Incentive Compensation

Our stock-based equity incentive awards are made pursuant to our 2000 Stock Incentive Plan. The Committee may award participants RSUs or grant them stock options. In making awards of RSUs or grants of stock options, the Committee may establish any conditions or restrictions it deems appropriate. Typically, the Committee awards RSUs, which vest in annual installments over a term of either four or five years with the first vesting occurring on the one-year anniversary of the grant date. All grants of stock options are made at the market price at the time of the grant. Annual awards of RSUs to executives are made at the Committee's regularly scheduled May meeting. Grants of stock options or awards of RSUs to newly hired executive officers who are eligible to receive them are made at the next regularly scheduled Committee meeting on or following their hire date.

Our long-term equity incentive compensation is designed to align the interest of each executive officer with those of our shareholders and provide each executive officer with an incentive to manage our business from the perspective of an owner with an equity stake in the business. In general, we view long-term equity incentive compensation as incentive for future performance and not as compensation for past accomplishments. Although we do not use a set formula to award long-term equity incentive compensation to our executive officers, the Committee takes into consideration the job responsibilities, experience, and contributions of the individual, as well as the recommendations of our Chief Executive Officer and the individual's level of annual cash incentive compensation at target level performance under the MIP, in determining the amount (if any) of long-term equity incentive compensation to award to executive officers.

At its meeting in May 2007, the Committee granted RSUs to the named executive officers as indicated in the "Grants of Plan-Based Awards" table below. The number of RSUs awarded to each officer, other than Mr. J. Curtis and Mr. Sportsman, consisted of a combination of a base RSU grant determined with reference to the individual's annual cash incentive compensation at target level performance and, in most cases, additional RSUs in an amount determined on a subjective basis by the Committee based on promotions, perceived disparities and exemplary performance. Mr. Dale's RSU award in particular was increased by the Committee to reflect its decision not to grant Mr. Dale an increase in base salary for 2007. Mr. J. Curtis's RSU award was negotiated with Mr. J. Curtis prior to his hiring as part of his initial compensation package. Mr. Sportsman did not receive an award because he left ATS Medical in February 2007.

Section 162(m) of the Internal Revenue Code

Section 162(m) of the Internal Revenue Code generally limits the corporate deduction for compensation paid to certain executive officers to \$1.0 million, unless the compensation qualifies as a “performance-based compensation” under the Internal Revenue Code. Compensation resulting from RSU awards and stock option grants under the 2000 Stock Incentive Plan will not be counted toward the \$1.0 million of deductible compensation under Section 162(m). The Committee believes that the compensation paid during 2007 to our named executive officers pursuant to the 2000 Stock Incentive Plan will be deductible.

Compensation Committee Report

The Personnel and Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis with management. Based upon this review and discussion, the Personnel and Compensation Committee recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this proxy statement and in our 2008 Annual Report.

Members of the Personnel and Compensation
Committee of the Board of Directors:

Eric W. Sivertson, Chairman
Steven M. Anderson
Robert E. Munzenrider

Summary Compensation Table

The following table sets forth the cash and non-cash compensation for the last two fiscal years awarded to or earned by the individuals who served as our chief executive officer and chief financial officer and our two other most highly compensated executive officers during fiscal year 2007. In addition, the table includes Mr. Richard A. Curtis and Mr. Marc R. Sportsman, each of whom would have been one of our other most highly compensated executive officers but for the fact that they were not serving as executive officers at the end of fiscal year 2007.

Summary Compensation Table

Name and Principal Position	Year	Salary	Bonus	Stock Awards	Option Awards	Non-Equity Incentive Plan Compensation	All Other Compensation	Total	
		(\$)	(\$)(1)	(\$)(2)	(\$)(3)	(\$)(4)	(\$)		(\$)
Michael D. Dale Chairman, Chief Executive Officer and President	2007	350,000	–	192,788	–	–	1,365		544,153
	2006	350,000	100,000	198,251	21,552	78,400	1,000		749,203
Michael R. Kramer Chief Financial Officer	2007	168,846	–	30,010	–	–	3,875		202,731
	2006	27,459	–	2,356	–	5,586	67,424		102,825
Jeremy J. Curtis Vice President, Worldwide Marketing	2007	113,077	74,000	16,121	–	–	71,488	(5)	274,686
David R. Elizondo Vice President, Research and Development and General Manager, Tissue Operations	2007	205,870	–	32,382	–	–	4,008		242,260
Richard A. Curtis(6) Former Vice President of Corporate Development	2007	194,270	–	153,358	–	–	62,092	(7)	409,720
	2006	203,958	–	45,720	12,754	46,502	4,350		313,284
Marc R. Sportsman(8) Former Vice President of Sales	2007	33,393	–	40,186 (9)	72,981(9)	–	235,335	(10)	381,895
	2006	248,062	–	34,615	51,927	53,058	17,074		404,736

- (1) Under current reporting rules, only purely discretionary or guaranteed bonuses are disclosed in this column. Except for the bonuses shown in this column, all of our bonuses were awarded based upon the achievement of certain performance targets. Accordingly, most of our bonus amounts are reported in the Non-Equity Incentive Plan Compensation column.
- (2) The amounts in this column are calculated based on FAS 123R and equal the financial statement compensation expense for RSU awards as reported in our consolidated statements of operations for the fiscal year. Under FAS 123R, a pro-rata portion of the total expense at the time the RSU award is granted is recognized over the applicable service period generally corresponding with the vesting schedule of the grant. The expenses reported in this column relate to RSU grants originally made in 2005, 2006 and 2007. The original total cost of these awards was based on the number of units awarded and the fair market value of our common stock on the date the grant was made. See Note 9 of the consolidated financial statements in our 2007 Annual Report on Form 10-K regarding assumptions underlying the valuation of equity awards.
- (3) The amounts in this column are calculated based on FAS 123R and equal the financial statement compensation expense for stock option awards as reported in our consolidated statements of operations for the fiscal year. Under FAS 123R, a pro-rata portion of the total expense at time of grant is recognized over the applicable service period generally corresponding with the vesting schedule of the grant. The expenses reported in this column relate to stock option grants originally made in 2002, 2003 and 2004. The initial expense is based on the fair value of the stock option grants as estimated using the Black-Scholes option-pricing model. The assumptions used to arrive at the Black-Scholes value are disclosed in Note 9 to our consolidated financial statements included in our 2007 Annual Report on Form 10-K.
- (4) The amounts in this column relate to awards granted under our MIP. The MIP is discussed in the Compensation Discussion and Analysis section of this proxy statement.

- (5) Includes moving and relocation reimbursement of \$67,941 and a matching contribution by ATS Medical into the 401(k) plan.
- (6) Mr. Curtis' s employment with us terminated effective November 15, 2007.
- (7) Includes severance pay (including accrued vacation pay and post-employment health insurance costs) in the amount of \$57,993, health club reimbursements and a matching contribution by ATS Medical into the 401(k) plan.
- (8) Mr. Sportsman' s employment with us terminated effective February 2, 2007.
- (9) In connection with his termination, Mr. Sportsman forfeited 41,200 RSUs and fully exercisable stock options to purchase 20,000 shares of our common stock at an exercise price of \$3.80 per share.
- (10) Includes severance pay (including accrued vacation pay) in the amount of \$233,075, an automobile allowance and a matching contribution by ATS Medical into the 401(k) plan.

Grants of Plan-Based Awards

The following table summarizes the 2007 grants of equity and non-equity plan-based awards to the executive officers named in the Summary Compensation Table. All of the non-equity incentive plan-based awards were made under our MIP. All of the equity incentive plan-based awards were made under our 2000 Stock Incentive Plan.

Grants of Plan-Based Awards

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards(1)			All Other Stock Awards: Number of Shares of Stock or Units (#)(2)	Grant Date Fair Value of Stock and Option Awards(3)
		Threshold (\$)	Target (\$)	Maximum (\$)		
		Michael D. Dale	–	12,727		
	5/22/07	–	–	–	162,792(4)	255,583
Michael R. Kramer	–	6,197	85,208	140,981	–	–
	2/13/07	–	–	–	20,000 (5)	43,800
	5/22/07	–	–	–	26,047 (4)	40,894
	8/1/07	–	–	–	50,000 (5)	91,000
Jeremy J. Curtis	–	4,455	61,250	101,341	–	–
	6/4/07	–	–	–	85,000 (5)	140,250
David R. Elizondo	–	7,699	105,858	175,147	–	–
	5/22/07	–	–	–	44,186 (4)	69,372
Richard A. Curtis	–	7,639	105,039	173,791	–	–
	5/22/07	–	–	–	21,819 (4)	34,256
Marc R. Sportsman	–	–	–	–	–	–

- (1) These columns show the potential payments for each of the named executive officers under the MIP. The material terms of the MIP are described in the Compensation Discussion and Analysis section of this proxy statement. Generally, the actual bonus incentive amounts paid based on our performance are reported in the Non-Equity Incentive Plan Compensation Column in the Summary Compensation Table. However, as discussed above in the Compensation Discussion and Analysis section of this proxy statement, no cash incentive bonus amounts were paid to these officers for 2007.
- (2) All equity awards in fiscal 2007 to the named executive officers were in the form of RSUs. Holders of RSUs are entitled to receive dividend equivalents on the RSUs awarded, whether vested or unvested, when and if dividends are declared by the Board on our common stock. The RSUs become immediately vested in full in the event of the executive officer' s disability or death or upon a change in control of ATS Medical. No stock options were awarded to the named executive officers in fiscal 2007.

[Table of Contents](#)

- (3) The grant date fair value of RSUs awarded is based on the closing market price of our common stock on the date of grant.
- (4) These RSUs vest at a rate of 20% each year on the following vesting dates: March 15, 2008, 2009, 2010, 2011 and 2012.
- (5) These RSUs vest at a rate of 20% each year beginning on the first anniversary of the date of grant.

Outstanding Equity Awards at Fiscal Year-End

The following table summarizes the total outstanding equity awards held at the end of the 2007 fiscal year by the executive officers named in the Summary Compensation Table:

Outstanding Equity Awards at Fiscal Year-End

Name	Option Awards				Stock Awards	
	Number of Securities Underlying Unexercised Options (#)(1) Exercisable	Number of Securities Underlying Unexercised Options (#)(1) Unexercisable	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested (\$)(2)
Michael D. Dale	225,000	–	0.37	9/18/2012	–	–
	75,000	–	0.37	9/18/2012	–	–
	50,000	–	3.80	12/19/2013	–	–
	–	–	–	–	162,792 (3)	359,770
	–	–	–	–	50,000 (4)	82,800
Michael R. Kramer	–	–	–	–	32,000 (5)	70,720
	–	–	–	–	50,000 (6)	110,500
	–	–	–	–	26,047 (3)	57,564
	–	–	–	–	20,000 (7)	44,200
Jeremy J. Curtis	–	–	–	–	16,000 (8)	35,360
	–	–	–	–	85,000 (9)	187,850
David R. Elizondo	–	–	–	–	44,186 (3)	97,651
	–	–	–	–	40,000 (10)	88,400
Richard A. Curtis	20,000	–	3.80	2/15/2008	–	–
	–	–	–	–	15,000 (11)	33,150
	–	–	–	–	31,200 (12)	68,952
	–	–	–	–	40,000 (13)	88,400
	–	–	–	–	21,819 (13)	48,220
Marc R. Sportsman	–	–	–	–	–	–

- (1) All outstanding options were fully vested at December 31, 2007.
- (2) Market value of RSU awards outstanding at year-end is based on the closing market price of our common stock at December 31, 2007 of \$2.21 per share.
- (3) 20% of remaining unvested award vests at each vesting date, which is March 15.
- (4) These RSUs vested in full on January 10, 2008.
- (5) 25% of remaining unvested award vests at each vesting date, which is January 10.
- (6) 20% of remaining unvested award vests at each vesting date, which is August 1.
- (7) 20% of remaining unvested award vests at each vesting date, which is February 13.
- (8) 25% of remaining unvested award vests at each vesting date, which is October 2.
- (9) 20% of remaining unvested award vests at each vesting date, which is June 4.
- (10) 25% of remaining unvested award vests at each vesting date, which is September 29.

- (11) Pursuant to his separation agreement with us, 7,500 of Mr. Curtis' s RSUs vested on January 10, 2008. Mr. Curtis' s remaining RSUs were forfeited.
- (12) Pursuant to his separation agreement with us, 7,800 of Mr. Curtis' s RSUs vested on January 10, 2008. Mr. Curtis' s remaining RSUs were forfeited.
- (13) All of these RSUs were forfeited in connection with Mr. Curtis' s termination of employment.

Option Exercises and Stock Vested Table

The following table summarizes information with respect to stock option awards exercised and restricted stock and restricted stock unit awards vested during fiscal 2007 for each of the executive officers named in the Summary Compensation Table:

Option Exercises and Stock Vested

Name	Option Awards		Stock Awards	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)(1)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)(2)
Michael D. Dale	–	–	108,000	245,520
Michael R. Kramer	–	–	4,000	7,160
Jeremy J. Curtis	–	–	–	–
David R. Elizondo	–	–	10,000	18,100
Richard A. Curtis	125,000	143,125	75,300	145,757
Marc R. Sportsman	250,000	198,112	12,800	28,032

- (1) Value determined by multiplying (i) the difference between (a) the market value per share of our common stock on the date of exercise and (b) the exercise price per share of the option by (ii) the number of options exercised.
- (2) Value determined by multiplying the number of shares of restricted stock or RSUs vested by the closing market price of a share of our common stock on the vesting date.

Employment Agreements and Potential Payments Upon Termination or Change in Control

Employment Agreement with Michael D. Dale

Michael D. Dale has served as our President and Chief Executive Officer since October 2002 pursuant to an employment agreement dated September 18, 2002. Mr. Dale' s initial annual base salary under the agreement was \$250,000, which was increased to \$270,000 in 2004 and to \$350,000 in 2005. Mr. Dale' s salary remained at \$350,000 in 2007. In addition, Mr. Dale was granted an annual bonus of \$78,400 in February 2007 to reward him for the achievement of certain individual goals and a company performance objective based on net sales as established by the Board of Directors. Mr. Dale' s employment agreement may be terminated at will by either party, provided that if we terminate the agreement without cause, Mr. Dale would be entitled to a severance payment equal to twelve months salary (\$350,000 as of the date of this proxy statement). The agreement also contains a non-competition obligation pursuant to which Mr. Dale agrees not to compete with us during the term of the agreement and for a period of one year following his termination.

Payments Made Upon Termination

If the employment of any of Messrs. Dale, Kramer, J. Curtis and Elizondo is voluntarily or involuntarily terminated, they will not be entitled to any additional benefits or payments from us other than what has accrued and is vested under the benefit plans discussed in this proxy statement, including under the heading "Summary Compensation Table," except as otherwise set forth under "Employment Agreement with Michael D. Dale" above. A voluntary or involuntary termination will not trigger an acceleration of the vesting of any outstanding stock options or RSUs.

Upon an executive officer's voluntary or involuntary termination, the executive officer will forfeit his or her unvested RSUs and will have three months from the date of termination to exercise his or her stock options.

Payments Made Upon Termination of Employment Relationship with Rick Curtis

On November 14, 2007, we agreed to terminate our employment relationship with Richard A. Curtis, our Vice President of Business Development since December 2002. We entered into a Separation Agreement with Mr. Curtis setting forth the terms and conditions under which we would terminate our employment relationship. Under the Separation Agreement, Mr. Curtis is entitled to the following: (a) as consideration for the terms contained in the Separation Agreement, including Mr. Curtis' release of claims, his agreement to maintain the confidentiality of the Separation Agreement, and his promise to abide by the restrictive covenants in his employment agreement with us, Mr. Curtis will receive 13 bi-weekly payments of \$8,079.87, the total amount of such payments to be \$105,038.31, less applicable withholdings for taxes; (b) we will pay Mr. Curtis' s health insurance premiums through May 2008; (c) we allowed the vesting of Mr. Curtis' s 25,300 RSUs which were granted in 2005 and 2006 and were scheduled to vest in December 2007 and January 2008; (d) Mr. Curtis will receive a one-time payment of \$9,973.31, less applicable withholdings for taxes; and (e) Mr. Curtis will receive \$31,860.00 for accumulated but untaken paid-time-off and vacation hours, less applicable withholdings for taxes.

Payments Made Upon Disability

In the event of the disability of any of Messrs. Dale, Kramer, J. Curtis and Elizondo, we will pay the executive officer a disability benefit in an amount that is equal to 60% of their current annual compensation, not to exceed \$10,000 per month. The definition of disability is the same as that used for the disability plan covering all employees. The payments continue until the participant dies, ceases to have a disability, or attains the age of 65. If the employment of Messrs. Dale, Kramer, Curtis and Elizondo is terminated due to disability, our standard RSU agreement contains terms that provide for the acceleration of any RSUs upon disability. If, as of the end of 2007, the employment of Messrs. Dale, Kramer, J. Curtis and Elizondo was terminated due to a disability, the value of the RSUs that would have accelerated would have been \$513,290, \$247,624, \$187,850 and \$186,051, respectively.

Payments Made Upon Death

In the event of death of any of Messrs. Dale, Kramer, J. Curtis and Elizondo, we will make a one-time, lump sum payment to the executive officer's estate in an amount equal to the executive officer's annual salary, not to exceed \$150,000. No additional benefits or payments will accrue to, or be paid to, the executive officer, other than what has accrued and is vested under the benefit plans discussed in this proxy statement, including under the heading "Summary Compensation Table." If the employment of Messrs. Dale, Kramer, J. Curtis and Elizondo, is terminated due to death, our standard RSU agreement contains terms that provide for the acceleration of any RSUs upon death. If, as of the end of 2007, the employment of Messrs. Dale, Kramer, J. Curtis and Elizondo was terminated due to the executive officer's death, the value of RSUs that would have accelerated would have been \$513,290, \$247,624, \$187,850 and \$186,051, respectively.

Potential Payments Upon Termination After Change in Control

We have entered into change in control agreements with Messrs. Dale, Kramer, J. Curtis and Elizondo. The change in control agreements provide that if the officer's employment with us is terminated within 24 months after a change in control either by us (other than for cause or disability), or by the officer for good reason, then the officer will be entitled to a lump-sum severance payment equal to two times the executive officer's base salary, as limited by Section 280G of the Internal Revenue Code of 1986, as amended. In addition, the executive officer is entitled to medical benefits and certain other benefits for up to 24 months following termination. "Good reason" is defined as the termination of employment as a result of a diminution in the officer's responsibilities, a reduction in salary or benefits, or a relocation of our office of more than 35 miles. A "change in control" is generally defined as an acquisition of more than 35% of our outstanding common stock by any person or group, the merger or sale of ATS Medical or the replacement of a majority of our Board of Directors with directors not recommended by the existing Board of Directors. Our standard RSU agreement and some of our option agreements contain terms that provide for the acceleration of any RSUs and stock options upon a change in control of ATS Medical.

If there had been a change in control of ATS Medical as of the end of 2007 and the employment of the executive officers named in the Summary Compensation Table had been immediately terminated, Messrs. Dale, Kramer, J. Curtis and Elizondo would have been entitled to receive, pursuant to the terms of the agreements, lump sum payments, including salary and benefits, upon termination of \$729,579, \$398,643, \$449,579 and \$453,011, respectively. In addition, if there had been a change in control of ATS Medical as of the end of 2007, the value of the RSUs held by Messrs. Dale, Kramer, J. Curtis and Elizondo that would have accelerated would have been \$513,290, \$247,624, \$187,850 and \$186,051, respectively.

**PROPOSAL 2 – APPROVAL OF AN AMENDMENT TO THE ATS MEDICAL, INC.
SECOND RESTATED ARTICLES OF INCORPORATION TO INCREASE AUTHORIZED SHARES**

The Board of Directors has approved a proposal to amend our Second Restated Articles of Incorporation to increase the number of authorized shares of our capital stock from 100,000,000 to 150,000,000, and to authorize the filing of an amendment to our Second Restated Articles of Incorporation in connection with the increase in the number of authorized shares of capital stock. The form of the proposed amendment to our Second Restated Articles of Incorporation is attached to this proxy statement as Appendix A.

Reasons for the Increase in Authorized Capital Stock

As of December 31, 2007, we had an aggregate of 89,945,297 shares either outstanding or reserved for future issuance, consisting of 59,512,085 shares of our common stock issued and outstanding, 4,703,363 shares reserved for issuance upon exercise of outstanding options and vesting of outstanding RSUs, 5,600,000 shares reserved for issuance upon conversion of our convertible notes, 6,621,200 shares reserved for issuance upon exercise of outstanding common stock warrants, 2,253,672 shares reserved for future grants under existing stock option and employee purchase plans, 10,000,000 shares reserved for issuance upon the achievement of certain milestones under the merger agreement with 3F, 904,977 shares reserved for issuance upon the achievement of certain milestones under the asset purchase agreement with EM Vascular, Inc. and 350,000 shares reserved for possible future business development transactions. Thus, the majority of our authorized shares are either outstanding or reserved for future issuance.

The Board of Directors believes that authorizing additional shares of common stock to provide additional authorized but unissued shares of common stock is in the best interest of ATS Medical and our shareholders. The Board also believes that the amendment to increase the authorized shares is important because it provides us with the flexibility we need to meet business needs in the future and to take advantage of opportunities as they arise. The proposed increase in the number of authorized shares would result in additional shares being available for stock splits and stock dividends, stock issuances for other corporate purposes, such as acquisitions of businesses or assets, increases in shares reserved for issuance pursuant to employee benefit plans, and sales of stock or convertible securities for capital-raising purposes.

Change in Capitalization

Additional shares of our capital stock authorized pursuant to the amendment to our Second Restated Articles of Incorporation could be issued at the discretion of our Board of Directors without further action by our shareholders, except as required by applicable law, regulation or rule, in connection with future acquisitions, stock splits, stock dividends, equity financings, employee benefit plans and other corporate purposes.

The issuance of shares of our capital stock, including the additional shares described in this section, may, in certain situations, dilute the present equity ownership position of our current shareholders. Although this proposal to increase the number of authorized shares of capital stock has been prompted by business and financial considerations, and not by the threat of any attempt to accumulate shares and gain control of ATS Medical, shareholders nevertheless should be aware that the additional shares of our capital stock that would become available for issuance if this proposal is adopted could also be used by us to oppose a hostile takeover attempt or delay or prevent changes of control in ATS Medical or changes in or removal of our management. For example, without further shareholder approval, the Board of Directors could sell shares of capital stock in a private transaction to purchasers who oppose a takeover or favor the current Board and management. Such issuances may

prevent transactions that are favored by the majority of the independent shareholders or in which the shareholders might otherwise receive a premium for their shares over the market price or benefit in some other manner.

As of the date of this proxy statement, we had no plans or commitments that would involve the issuance of the additional 50,000,000 shares of our common stock that will be authorized if this proposal is approved by our shareholders.

Recommendation of the Board of Directors; Vote Required for Approval

The Board of Directors has determined that the proposed amendment to our Second Restated Articles of Incorporation is in the best interests of ATS Medical and our shareholders and recommends that you vote “FOR” Proposal 2. The affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote at the 2008 Annual Meeting is required to approve this proposed amendment to our Second Restated Articles of Incorporation, provided that the total number of shares that voted in favor of this amendment constitutes more than 25% of our outstanding shares.

PROPOSAL 3 – APPROVAL OF THE REMOVAL OF CERTAIN SHARE ISSUANCE LIMITATIONS IN COMMON STOCK WARRANTS ISSUED IN JUNE 2007

Background

The purpose of Proposal 3 is to obtain the shareholder approval necessary under applicable NASDAQ Stock Market rules to allow for the full exercise of common stock warrants (the “warrants”) that we issued in a private placement transaction in June 2007 to Alta Partners VIII, L.P. (“Alta”), an accredited investor. Our ability to settle the warrants with shares of common stock is subject to certain limitations discussed more fully below. If shareholder approval of the issuance of shares of our common stock upon exercise of these warrants is not obtained, we will be required to use cash to settle these warrants upon exercise.

The CryoCath Acquisition and Alta Financing

On June 28, 2007, we completed a \$16,415,000 private placement financing in which we issued 9,800,000 shares of common stock and seven-year warrants to purchase up to 1,960,000 shares of our common stock at an exercise price of \$1.65 per share (the “Alta financing”). We used the proceeds to partially finance our acquisition of certain tangible and intangible assets of the cryoablation surgical device business of CryoCath Technologies, Inc. (“CryoCath”). The assets acquired included the SurgiFrost®, FrostBytetm and SurgiFrost XL family of products for which we formerly served as CryoCath’s exclusive agent in the United States and distributor in certain international markets. We also licensed from CryoCath, under a royalty-free, perpetual license, certain of CryoCath’s intellectual property that is used in the cryoablation surgical device business.

The warrants issued in connection with the Alta financing are exercisable for cash or, upon shareholder approval, shares of our common stock, at an initial exercise price of \$1.65 per share, subject to adjustment upon certain events. If we do not receive shareholder approval to issue shares of our common stock upon exercise of the warrants, then the warrants will become exercisable on June 28, 2008, and the warrant holder will be entitled to receive, upon exercise of the warrants, cash from us in an amount equal to the difference between the then-current fair market value of the shares of common stock underlying the warrants and the aggregate exercise price of the warrants. If we receive shareholder approval to issue shares of our common stock upon exercise of the warrants, then the warrants will become exercisable upon receipt of such shareholder approval, and the holder will be entitled to receive shares of our common stock upon exercise of the warrants.

The terms of the CryoCath acquisition and Alta financing are complex. This summary of the terms is general in nature and is qualified by reference to the actual agreements attached as exhibits to our Form 8-K filings with the Securities and Exchange Commission. Shareholders who desire a more complete understanding of the terms of the CryoCath acquisition and Alta financing are urged to refer to such exhibits.

NASDAQ Marketplace Rules

NASDAQ Marketplace Rule 4350(i)(1)(C) requires that an issuer obtain shareholder approval of an issuance of its common stock (or of securities convertible into or exercisable for its common stock) if the issuance is (i) in connection with the acquisition of the stock or assets of another company, and (ii) the number of shares of common stock issued or issuable as a result of the issuance equals 20% or more of the common stock, or 20% or more of the voting power, outstanding before the issuance.

Because our common stock trades on the NASDAQ Global Market and the proceeds of the Alta financing were used to fund the CryoCath acquisition, the issuance of shares and warrants to Alta in the Alta financing were subject to NASDAQ Marketplace Rule 4350(i)(1)(C). As a result, and because the shares issued to Alta in the Alta financing were equal to 19.9% of our outstanding common stock prior to the financing, the warrants provide that they are exercisable only for cash unless and until shareholder approval of the issuance to Alta of shares pursuant to the warrants is obtained.

Impact of Failure to Approve Proposal

Approval of this Proposal 3 by shareholders would satisfy the shareholder approval requirements of NASDAQ Marketplace Rule 4350(i)(1)(C) and allow us to issue shares of common stock upon exercise of the warrants. If shareholder approval is not obtained, the warrants would continue to be exercisable for cash and, if exercised, would impact our liquidity by reducing the amount of cash available to fund our operations. If we have to use cash upon exercise of the warrants, we may have to seek additional funding for our operations, which may not be available on terms favorable to us, if at all.

In addition, if shareholders do not approve this Proposal 3, we will also be obligated to seek shareholder approval of a similar proposal at each annual meeting of shareholders thereafter until such shareholder approval is obtained or the warrants are no longer outstanding.

Recommendation of the Board of Directors; Vote Required for Approval

The Board of Directors recommends a vote “FOR” the removal of the share issuance limitations in accordance with NASDAQ Marketplace Rule 4350(i)(1)(C). The affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote at the 2008 Annual Meeting is required to approve this Proposal 3, provided that the total number of shares that voted in favor of Proposal 3 constitutes more than 25% of our outstanding shares.

PROPOSAL 4 – APPROVAL OF AN AMENDMENT TO THE ATS MEDICAL, INC. 2000 STOCK INCENTIVE PLAN

The Board of Directors has adopted, subject to shareholder approval, an amendment to our 2000 Stock Incentive Plan (the “Plan”) to (i) increase the number of shares of our common stock authorized for issuance under the Plan from 5,500,000 to 9,500,000, an increase of 4,000,000 shares, all of which may be granted as stock options that qualify as incentive stock options meeting the requirements of Section 422 of the Internal Revenue Code, and (ii) increase the aggregate number of shares that may be granted under the Plan in any calendar year to an eligible person pursuant to any award or awards, the value of which is based solely on an increase in the value of our common stock after the date of grant, from 300,000 shares of common stock to 500,000.

The Board of Directors recommends that you vote in favor of the amendment to the Plan. If the amendment to the Plan is approved by the required number of shareholders, as described below, the amendment will be effective on May 8, 2008. If the amendment is not approved by our shareholders, it will not take effect. The proposed amendment is discussed in greater detail below. The amended version of the Plan is attached as Appendix B to this proxy statement, and the amended language is highlighted by bold text. The following summary of the Plan is qualified in its entirety by reference to the full text of the Plan.

Share Increases

We propose to amend the Plan to increase the number of shares of our common stock available for issuance pursuant to the Plan from 5,500,000 to 9,500,000, an increase of 4,000,000 shares. We further propose to amend the Plan by allowing up to all of the additional 4,000,000 shares available under the Plan to be issued as stock options that qualify as incentive stock options and by increasing the aggregate number of shares that may be granted under the Plan in any calendar year to an eligible person pursuant to any award or awards, the value of which is based solely on an increase in the value of our common stock after the date of grant, from 300,000 shares of common stock to 500,000. As of March 18, 2008, 721,877 shares of our common stock remained available for future grants of stock options, RSUs and other awards under the Plan. The Board of Directors believes that stock options and RSUs have been, and will continue to be, an important compensation element in attracting, motivating and retaining key employees. The granting of awards to employees is consistent with our past practices, with practices in the industry, and is a factor in promoting the long-term development of ATS Medical. The Board of Directors believes that these share increases are necessary to give ATS Medical the ability to attract, motivate and retain key employees.

Summary of the Plan

Purpose

The purpose of the Plan is to promote the interests of ATS Medical and our shareholders by aiding us in attracting and retaining employees, officers, consultants, independent contractors and non-employee directors capable of assuring the future success of ATS Medical, to offer such persons incentives to put forth maximum efforts for the success of our business and to afford such persons an opportunity to acquire a proprietary interest in ATS Medical.

Shares Authorized

Under the Plan, the aggregate number of shares that may be issued under all awards is currently 5,500,000. In addition, the number of shares available for granting incentive stock options under the Plan is also currently 5,500,000. If the amendment is approved by the shareholders, then the aggregate number of shares available for grant under the Plan and available for granting incentive stock options will be 9,500,000.

Any shares that are used by a participant as full or partial payment to us of the purchase price relating to an award, or in connection with the satisfaction of tax obligations relating to an award, will again be available for granting awards (other than incentive stock options) under the Plan. In addition, if any shares covered by an award or to which an award relates are not purchased or are forfeited, or if an award otherwise terminates without delivery of any shares, then the number of shares counted against the aggregate number of shares available under the Plan with respect to such award, to the extent of any such forfeiture or termination, will again be available for granting awards under the Plan.

Eligibility

The Plan provides for the grant of awards to any full or part-time employee, officer, consultant, independent contractor or director providing services to ATS Medical or our affiliates. As of March 18, 2008, approximately 250 individuals were eligible to participate in the Plan.

Plan Administration

The Personnel and Compensation Committee has been designated by the Board of Directors to administer the Plan. The Personnel and Compensation Committee has the authority to establish rules for the administration of the Plan, to select the individuals to whom awards are granted, to determine the types of awards to be granted and the number of shares of common stock covered by the awards, and to set the vesting and other terms and conditions of awards. The Personnel and Compensation Committee may accelerate the vesting of awards. The Personnel and Compensation Committee also has the authority to determine whether the payment of any amounts received under any award may be deferred for federal income tax purposes.

The Personnel and Compensation Committee may delegate its powers and duties under the Plan to one or more directors or a committee of directors, subject to such terms, conditions and limitations as the Personnel and Compensation Committee may establish in its sole discretion. The Board of Directors may, at any time and from time to time, without any further action of the Personnel and Compensation Committee, exercise the powers and duties of the Personnel and Compensation Committee under the Plan.

Types and Terms of Awards

The Plan permits the granting of (1) stock options, including “incentive stock options” meeting the requirements of Section 422 of the Internal Revenue Code, and “non-qualified stock options” that do not meet such requirements, (2) stock appreciation rights, or “SARs,” (3) restricted stock units, or “RSUs,” (4) performance awards, (5) other stock grants and (6) other awards valued in whole or in part by reference to or otherwise based upon our common stock (“other stock-based awards”). Awards may be granted for no cash consideration or for such minimal cash consideration as may be required by applicable law. Awards may provide that upon the grant or exercise thereof the holder will receive cash, shares, promissory notes, other securities, other awards or other property, or any combination thereof, as the Personnel and Compensation Committee determines. Awards may, in the discretion of the Personnel and Compensation Committee, be granted either alone or in addition to, in tandem with or in substitution for any other award granted under any ATS Medical plan.

The exercise price per share under any stock option, the grant price of any SAR, and the purchase price of any security that may be purchased under any other stock-based award will not be less than 100% of the fair market value of our common stock on the date of grant. Currently, no person may be granted any award or awards under the Plan, the value of which is based solely on an increase in the value of our common stock after the date of grant, for more than 300,000 shares of common stock in the aggregate in any calendar year. If the amendment is approved by the shareholders, this limit will increase to 500,000 shares per calendar year.

Stock Options

The maximum term of each stock option is seven years. The Personnel and Compensation Committee determines the time or times at which an option may be exercised in whole or in part and the method or methods by which, and the form or forms (including, without limitation, cash, shares, promissory notes, other securities, other awards or other property, or any combination thereof, having a fair market value on the exercise date equal to the relevant exercise price) in which, payment of the exercise price with respect thereto may be made or deemed to have been made.

An incentive stock option may only be granted to full or part-time employees (which includes officers and directors who are also employees), and an incentive stock option shall not be granted to an employee of an affiliate of ATS Medical unless such affiliate is also a “subsidiary corporation” of ATS Medical within the meaning of Section 424(f) of the Internal Revenue Code or any successor provision.

SARs

The holder of an SAR will be entitled to receive the excess of the fair market value (calculated as of the exercise date or, if the Personnel and Compensation Committee so determines, as of any time during a specified period before or after the exercise date) of a specified number of shares over the grant price of the SAR.

Restricted Stock Units

RSUs are subject to such restrictions as the Personnel and Compensation Committee may impose (including any limitations on the right to vote or the right to receive any dividends or other right or property related to such RSUs), which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise as the Personnel and Compensation Committee may determine. Upon termination of the holder’s employment during the restriction period, RSUs are forfeited and reacquired by us or our affiliates, unless the Personnel and Compensation Committee determines otherwise. Upon the lapse or waiver of restrictions and the restricted period relating to the RSUs evidencing the right to receive shares, such shares will be issued and delivered to the holders of the RSUs.

Performance Awards

Performance awards will provide their holders the right to receive payments, in whole or in part, upon the achievement of goals established by the Personnel and Compensation Committee during performance periods established by the Personnel and Compensation Committee. A performance award granted under the Plan may be denominated or payable in cash, shares of common stock, RSUs, other securities, other awards or other property.

Other Stock Grants

The Personnel and Compensation Committee also is authorized to grant shares without restrictions thereon as are deemed by the Personnel and Compensation Committee to be consistent with the purpose of the Plan.

Other Stock-Based Awards

The Personnel and Compensation Committee also is authorized to grant other types of awards that are denominated or payable in or otherwise related to our common stock. The Plan provides that the Personnel and Compensation Committee shall establish the terms and conditions of such awards.

Non-Employee Director Awards

The Plan provides for automatic grants to our non-employee directors of (1) 3,000 RSUs upon initial election to our Board of Directors (the "Initial Grant") and (2) a number of RSUs equal to \$45,000 divided by the closing price of our common stock on the NASDAQ Global Market on the date of grant, upon each re-election as a director at our annual shareholder meeting (the "Annual Grant"). In the event that a non-employee director's initial election occurs at an annual shareholder meeting, such non-employee director will receive both an Initial Grant and an Annual Grant at that time. All Initial Grants vest in full on the second anniversary of the date of grant and all Annual Grants vest in full at the earlier of (1) immediately prior to our second annual shareholder meeting following the date of grant or (2) June 30 of the second year following the year of grant.

Transferability

In general, no award (other than unrestricted stock grants) and no right under any award granted under the Plan will be transferable by its recipient otherwise than by will or by the laws of descent and distribution.

Adjustments; No Option Repricing

If any dividend or other distribution, recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of our common stock or other securities, issuance of warrants or other rights to purchase our common stock or other securities or other similar corporate transaction or event affects the shares such that an adjustment is determined by the Personnel and Compensation Committee to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Personnel and Compensation Committee shall, in such manner as it may deem equitable, adjust any or all of (1) the number and type of shares (or other securities or other property) that thereafter may be made the subject of awards, (2) the number and type of shares (or other securities or other property) subject to outstanding awards and (3) the purchase or exercise price with respect to any award. Except for these adjustments, no option may be amended to reduce its initial exercise price, and no option may be canceled and replaced with an option or options having a lower exercise price.

Amendments

The Board of Directors may amend, alter, suspend, discontinue or terminate the Plan at any time; provided, however, that, notwithstanding any other provision of the Plan or any award agreement, without the approval of our shareholders, no such amendment, alteration, suspension, discontinuation or termination may be made that, absent such approval: (1) would violate the rules or regulations of the NASDAQ Global Market or any securities exchange that are applicable to ATS Medical or (2) would cause us to be unable, under the Internal Revenue Code, to grant incentive stock options under the Plan.

Effective Date; Term

The Plan, as amended, shall be effective when approved by our shareholders. The Plan terminates on December 31, 2010, and no awards may be granted after such date.

Historical Awards under the Plan

The following table sets forth information with respect to stock option and RSU grants to the executive officers named in the Summary Compensation Table and the specified groups set forth below, each pursuant to the Plan as of February 26, 2008.

<u>Name and Principal Position</u>	<u>Options Granted</u>	<u>RSUs Granted</u>
Michael D. Dale Chief Executive Officer, President and Director Nominee	350,000	702,792
Michael R. Kramer Chief Financial Officer	–	203,676
Jeremy J. Curtis Vice President, Worldwide Marketing	–	172,629
David R. Elizondo Vice President, Research and Development and General Manager, Tissue Operations	–	181,815
Richard A. Curtis Former Vice President of Corporate Development	20,000	190,819
Marc R. Sportsman Former Vice President of Sales	20,000	59,000
Steven M. Anderson Director Nominee	5,000	47,412
Robert E. Munzenrider Directors Nominee	17,500	47,412
Guy P. Nohra Director Nominee	–	3,000
Eric W. Sivertson Director Nominee	20,000	47,412
Theodore C. Skokos Director Nominee	–	31,662
All executive officers as a group (4 persons)	390,000	1,510,731
All non-executive directors as a group (5 persons)	42,500	176,898
Each associate of the above-mentioned directors, executive officers or nominees	–	–
James L. Cox, M.D. Medical Director	–	300,000
All employees (other than executive officers) as a group (241 persons)	581,875	1,454,023

New Plan Benefits

No benefits or amounts have been granted, awarded or received under the Plan that are subject to shareholder approval. As described above, the Plan provides for each of our non-employee directors to receive (1) 3,000 RSUs upon initial election to the Board of Directors and (2) a number of RSUs equal to \$45,000 divided by the closing price of our common stock on the NASDAQ Global Market on the date of grant, upon each re-election as a director at the annual shareholder meeting. An aggregate of approximately 153,061 RSUs will be automatically granted to five of our non-employee directors at the time of the 2008 Annual Meeting (based on the closing market price (\$1.47) of our common stock on the NASDAQ Global Market on March 18, 2008). Except for such automatic fixed RSU grants to non-employee directors, the Personnel and Compensation Committee in its sole discretion will determine the number and types of awards that will be granted under the Plan. Thus, it is not possible to determine

the benefits that will be received by eligible participants (other than pursuant to the automatic fixed grants to our non-employee directors) if the Plan, as proposed to be amended, were to be approved by our shareholders. The closing price of our common stock on the NASDAQ Global Market on March 18, 2008 was \$1.47.

Federal Income Tax Consequences

Grant of Options and SARs

The grant of a stock option or SAR is not expected to result in any taxable income for the recipient.

Exercise of Options and SARs

Upon exercising a non-qualified stock option, the optionee must recognize ordinary income equal to the excess of the fair market value of the shares of our common stock acquired on the date of exercise over the exercise price, and we generally will be entitled at that time to an income tax deduction for the same amount. The holder of an incentive stock option generally will have no taxable income upon exercising the option (except that an alternative minimum tax liability may arise), and we will not be entitled to an income tax deduction. Upon exercising a SAR, the amount of any cash received and the fair market value on the exercise date of any shares of our common stock received are taxable to the recipient as ordinary income and generally are deductible by us.

Disposition of Shares Acquired Upon Exercise of Options and SARs

The tax consequence upon a disposition of shares acquired through the exercise of an option or SAR will depend on how long the shares have been held and whether the shares were acquired by exercising an incentive stock option or by exercising a non-qualified stock option or SAR. Generally, there will be no tax consequence to us in connection with the disposition of shares acquired under an option or SAR, except that we may be entitled to an income tax deduction in the case of the disposition of shares acquired under an incentive stock option before the applicable incentive stock option holding periods set forth in the Internal Revenue Code have been satisfied.

Awards Other Than Options and SARs

If an award is payable in shares of our common stock that are subject to substantial risk of forfeiture, unless a special election is made by the holder of the award under the Internal Revenue Code, the holder must recognize ordinary income equal to the excess of (i) the fair market value of the shares received (determined as of the first time the shares become transferable or not subject to substantial risk of forfeiture, whichever occurs earlier) over (ii) the amount (if any) paid for the shares by the holder of the award. We will generally be entitled at that time to an income tax deduction for the same amount. As to other awards granted under the Plan that are payable either in cash or shares of our common stock not subject to substantial risk of forfeiture, the holder of the award must recognize ordinary income equal to (a) the amount of cash received or, as applicable, (b) the excess of (i) the fair market value of the shares received (determined as of the date of receipt) over (ii) the amount (if any) paid for the shares by the holder of the award. We generally will be entitled at that time to an income tax deduction for the same amount.

Income Tax Deduction

Subject to the usual rules concerning reasonable compensation, including our obligation to withhold or otherwise collect certain income and payroll taxes, and assuming that, as expected, stock options, SARs and certain other performance awards paid under the Plan are “qualified performance-based compensation” within the meaning of Section 162(m) of the Internal Revenue Code, we generally will be entitled to a corresponding income tax deduction at the time a participant recognizes ordinary income from awards made under the Plan.

Special Rules for Executive Officers and Directors Subject to Section 16 of the Exchange Act

Special rules may apply to individuals subject to Section 16 of the Exchange Act. In particular, unless a special election is made pursuant to the Internal Revenue Code, shares received through the exercise of a stock option or SAR may be treated as restricted as to transferability and subject to a substantial risk of forfeiture for a period of up

to six months after the date of exercise. Accordingly, the amount of any ordinary income recognized and the amount of our income tax deduction will be determined as of the end of that period.

Delivery of Shares for Tax Obligation

Under the Plan, the Personnel and Compensation Committee may permit participants receiving or exercising awards, subject to the discretion of the Personnel and Compensation Committee and upon such terms and conditions as it may impose, to deliver shares of our common stock (either shares received upon the receipt or exercise of the award or shares previously owned by the participant) to us to satisfy federal, state or local tax obligations.

Equity Compensation Plans

The following table summarizes, as of December 31, 2007, the shares of our common stock subject to outstanding awards or available for future awards under our equity compensation plans and arrangements.

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)	
Equity compensation plans approved by security holders	2,996,413	\$1.09	2,253,672	(1)
Equity compensation plans not approved by security holders	1,706,950	\$2.81	-	(2)
Total	4,703,363	\$1.71	2,253,672	

- (1) Includes shares remaining available under the Plan (1,915,407 shares) and the 1998 Employee Stock Purchase Plan (338,265 shares).
- (2) Nearly all of the 1,706,950 shares listed consist of individual stock options granted to new executives or employees as an inducement to their employment with us. These options have an exercise price equal to the fair market value of our common stock at the time of the grant, and vest ratably over two to four year periods. Most of the options have a life of 10 years and vesting accelerates upon a change of control of ATS Medical. We intend that these options shall not be incentive stock options governed by the provisions of Section 422 of the Internal Revenue Code.

Recommendation of the Board of Directors; Vote Required for Approval

The Board of Directors recommends a vote “FOR” the approval of the amendment to the Plan. The affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote at the 2008 Annual Meeting is required to approve the amendment to the Plan, provided that the total number of shares that voted in favor of the Plan amendment constitutes more than 25% of our outstanding shares.

PROPOSAL 5 – RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors, based upon the recommendation of the Audit, Finance and Investment Committee, has appointed Grant Thornton LLP as our independent registered public accounting firm to examine our financial statements for the current fiscal year ending December 31, 2008 and to perform other appropriate accounting services. Grant Thornton LLP has served as our independent registered public accounting firm since August 22, 2006, and has no relationship with us other than that arising from their employment as our independent registered public accounting firm.

Ernst & Young LLP (“Ernst & Young”) had served as our independent registered public accounting firm since our inception. Due to concerns about the increasing costs of audit services, the Audit, Finance and Investment Committee, in the first half of 2006, requested management to solicit bids for audit services for the fiscal years 2006 through 2008. Based on the bids submitted, on August 22, 2006, the Audit, Finance and Investment Committee dismissed Ernst & Young as our independent registered public accounting firm and appointed Grant Thornton LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2006.

The reports of Ernst & Young on our financial statements for the years ended December 31, 2005 and 2004 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles, except to disclose that the 2005 consolidated financial statements had been restated.

In connection with its audits for 2004 and 2005 and through August 22, 2006, there had been no disagreements (as described in Regulation S-K Item 304(a)(1)(iv)) between Ernst & Young and ATS Medical on any matter of accounting principles or practices, financial statement disclosure or auditing scope or procedure, which disagreements, if not resolved to the satisfaction of Ernst & Young, would have caused Ernst & Young to make reference thereto in its report on the financial statements for such years.

During 2004 and 2005 and through August 22, 2006, there had been no reportable events (as outlined in Regulation S-K Item 304(a)(1)(v)), except for the following:

The audit report of Ernst & Young on management’s assessment of the effectiveness of internal control over financial reporting and the effectiveness of internal control over financial reporting as of December 31, 2004 indicated that we did not maintain effective internal controls over financial reporting as of December 31, 2004 because of a material weakness in our internal controls related to ineffective application of inventory verification procedures, including cycle count procedures.

On June 13, 2006, our management and Audit Committee concluded that our previously filed financial statements for the year ended December 31, 2005 and the quarter ended March 31, 2006 should no longer be relied upon and should be restated to reflect separate accounting for embedded derivatives within our 6% Convertible Senior Notes due 2025 (the “Notes”). In addition management concluded that the failure to correctly apply FASB Statement No. 133 and its related interpretations and rules with respect to the embedded derivative accounting treatment of the Notes constituted a material weakness in our internal control over financial reporting. We subsequently filed an amendment to our Form 10-K for the year ended December 31, 2005. Ernst & Young’s audit report on the effectiveness of internal control over financial reporting concluded that we did not maintain effective internal control over financial reporting as of December 31, 2005.

The Audit, Finance and Investment Committee discussed each of the foregoing reportable events with Ernst & Young. The Audit, Finance and Investment Committee has authorized Ernst & Young to respond fully to any inquiries from Grant Thornton LLP concerning the foregoing reportable events.

While we are not required to do so, we are submitting the appointment of Grant Thornton LLP to serve as our independent registered public accounting firm for the fiscal year ending December 31, 2008 for ratification in order to ascertain the views of our shareholders on this appointment. If the appointment is not ratified, the Audit, Finance and Investment Committee will reconsider its selection.

Representatives of Grant Thornton LLP will be present at the 2008 Annual Meeting, will have an opportunity to make a statement if they desire to do so and will be available to respond to appropriate questions from shareholders.

The Board of Directors recommends a vote “FOR” the ratification of Grant Thornton LLP as our independent registered public accounting firm. The affirmative vote of a majority of the shares of our common stock present in person or by proxy and entitled to vote at the 2008 Annual Meeting is required to ratify the appointment of Grant Thornton LLP as our independent registered public accounting firm, provided that the total number of shares that voted in favor of ratification constitutes more than 25% of our outstanding shares.

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES

Grant Thornton LLP, our independent registered public accounting firm, provides both audit and non-audit services to us. The fee table below reports fees billed or to be billed to us for professional services provided to us during 2006 and 2007 by Grant Thornton LLP. Based in part on its review of the nature and value of services provided by Grant Thornton LLP, our Audit, Finance and Investment Committee has concluded that the provision of non-audit services is compatible with maintaining Grant Thornton LLP's independence. The Audit, Finance and Investment Committee has approved, pursuant to its pre-approval policies described below, all of the services listed below.

	<u>2007</u>	<u>2006</u>
Audit Fees(1)	\$341,469	\$254,700
Audit-Related Fees(2)	54,300	12,000
Tax Fees	-	-
All Other Fees	-	-
Total Fees	<u>\$395,769</u>	<u>\$266,700</u>

- (1) The amount of audit fees listed for 2006 does not include \$34,500 in audit fees paid by us to Ernst & Young LLP for the first and second quarterly reviews, \$30,000 for the restatement of the 2005 financial statements related to the separate accounting for embedded derivatives discussed above and \$86,702 for related S-3, S-4 and S-8 filings.
- (2) These fees represent services performed in connection with audits of our 401(k) plan and also reflect acquisition-related consulting fees. The amount of audited-related fees listed for 2006 does not include \$12,000 in audit-related fees paid to Ernst & Young LLP for transition services.

All services provided by our independent registered public accounting firm, Grant Thornton LLP, are subject to pre-approval by our Audit, Finance and Investment Committee. The Audit, Finance and Investment Committee has authorized the Chair of the Audit, Finance and Investment Committee to approve services by Grant Thornton LLP in the event there is a need for such approval prior to the next Audit, Finance and Investment Committee meeting. However, a full report of any such interim approvals must be given at the next Audit, Finance and Investment Committee meeting. Before granting any approval, the Audit, Finance and Investment Committee (or the committee Chair, if applicable) must receive: (1) a detailed description of the proposed service; (2) a statement from management as to why they believe Grant Thornton LLP is best qualified to perform the service; and (3) an estimate of the fees to be incurred. Before granting any approval, the Audit, Finance and Investment Committee (or the committee Chair, if applicable) gives due consideration to whether approval of the proposed service will have a detrimental impact on Grant Thornton LLP's independence.

PROPOSALS FOR THE 2009 ANNUAL MEETING

Any proposal by a shareholder to be included in our proxy material and presented at the 2009 Annual Meeting of Shareholders must be received at our principal executive offices, 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447, Attention: Corporate Secretary, no later than December 8, 2008. In addition, in connection with any matter to be proposed by a shareholder at the 2009 Annual Meeting, but not proposed for inclusion in our proxy materials, the proxy holders designated by us for that meeting may exercise their discretionary voting authority with respect to that shareholder proposal if appropriate notice of that proposal is not received by our Corporate Secretary at our principal executive office by February 21, 2009.

ANNUAL REPORT ON FORM 10-K

Our Annual Report on Form 10-K, including financial statements for the year ended December 31, 2007, accompanies, or has been mailed to you immediately prior to, this proxy statement. The 2007 Annual Report on Form 10-K is also available on our website at www.atsmedical.com. If requested, we will provide you copies of any exhibits to the Form 10-K upon the payment of a fee covering our reasonable expenses in furnishing the exhibits.

[Table of Contents](#)

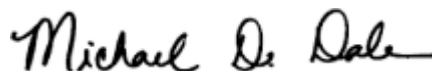
You can request exhibits to the Form 10-K by writing to our Corporate Secretary at ATS Medical, Inc., 3905 Annapolis Lane, Suite 105, Minneapolis, Minnesota 55447.

OTHER MATTERS

The Board of Directors does not know of any other business to come before the 2008 Annual Meeting. If any other matters are properly brought before the meeting, however, the persons named in the accompanying proxy will vote in accordance with their best judgment.

Your cooperation in giving this matter your immediate attention and in returning your proxy promptly will be appreciated.

By Order of the Board of Directors,



Michael D. Dale
Chief Executive Officer

April 7, 2008

**PROPOSED AMENDMENT TO THE
SECOND RESTATED ARTICLES OF INCORPORATION OF ATS MEDICAL, INC.**

ARTICLES OF AMENDMENT
TO
SECOND RESTATED ARTICLES OF INCORPORATION
OF
ATS MEDICAL, INC.

The undersigned, President and Chief Executive Officer of ATS Medical, Inc., a Minnesota corporation, hereby certifies that pursuant to Chapter 302A of the Minnesota Business Corporation Act, the following resolution was duly adopted by the board of directors of such corporation in accordance with the authority contained in section 302A.135 of the Minnesota Business Corporation Act, and by the shareholders of such corporation in accordance with the authority contained in section 302A.135 of the Minnesota Business Corporation Act, and that such resolution has not been subsequently modified or rescinded:

RESOLVED, that Article 3 of the Company' s Second Restated Articles of Incorporation shall be amended in its entirety to read as follows:

ARTICLE 3. AUTHORIZED SHARES

The aggregate number of authorized shares of the corporation is 150,000,000, \$.01 par value, which shall be divisible into the classes and series, have the designations, voting rights, and other rights and preferences and be subject to the restrictions that the Board of Directors of the corporation may from time to time establish, fix, and determine consistent with Articles 4 and 5 hereof. Unless otherwise designated by the Board of Directors, all issued shares shall be deemed Common Stock with equal rights and preferences.

IN WITNESS WHEREOF, the undersigned, President and Chief Executive Officer of ATS Medical, Inc., being duly authorized on behalf of ATS Medical, Inc., has executed this document this day of May, 2008.

Michael D. Dale
President and Chief Executive Officer

A-1

ATS MEDICAL, INC.

2000 STOCK INCENTIVE PLAN, AS PROPOSED TO BE AMENDED

Section 1. *Purpose.*

The purpose of the Plan is to promote the interests of the Company and its shareholders by aiding the Company in attracting and retaining employees, officers, consultants, independent contractors and non-employee directors capable of assuring the future success of the Company, to offer such persons incentives to put forth maximum efforts for the success of the Company's business and to afford such persons an opportunity to acquire a proprietary interest in the Company.

Section 2. *Definitions.*

As used in the Plan, the following terms shall have the meanings set forth below:

(a) "*Affiliate*" shall mean (i) any entity that, directly or indirectly through one or more intermediaries, is controlled by the Company and (ii) any entity in which the Company has a significant equity interest, in each case as determined by the Committee.

(b) "*Award*" shall mean any Option, Stock Appreciation Right, Restricted Stock Unit, Performance Award, Other Stock Grant or Other Stock-Based Award granted under the Plan.

(c) "*Award Agreement*" shall mean any written agreement, contract or other instrument or document evidencing any Award granted under the Plan.

(d) "*Board*" shall mean the Board of Directors of the Company.

(e) "*Code*" shall mean the Internal Revenue Code of 1986, as amended from time to time, and any regulations promulgated thereunder.

(f) "*Committee*" shall mean a committee of Directors designated by the Board to administer the Plan. The Committee shall be comprised of not less than such number of Directors as shall be required to permit Awards granted under the Plan to qualify under Rule 16b-3, and each member of the Committee shall be a "Non-Employee Director" within the meaning of Rule 16b-3 and an "outside director" within the meaning of Section 162(m) of the Code. The Company expects to have the Plan administered in accordance with the requirements for the award of "qualified performance-based compensation" within the meaning of Section 162(m) of the Code.

(g) "*Company*" shall mean ATS Medical, Inc., a Minnesota corporation, and any successor corporation.

(h) "*Director*" shall mean a member of the Board.

(i) "*Eligible Person*" shall mean any employee, officer, consultant, independent contractor or Director providing services to the Company or any Affiliate whom the Committee determines to be an Eligible Person.

(j) "*Fair Market Value*" shall mean, with respect to any property (including, without limitation, any Shares or other securities), the fair market value of such property determined by such methods or procedures as shall be established from time to time by the Committee. Notwithstanding the foregoing, unless otherwise determined by the Committee, the Fair Market Value of Shares as of a given date shall be, if the Shares are then quoted on the NASDAQ Global Market System, the closing price as reported on the NASDAQ Global Market System on such date or, if the NASDAQ Global Market System is not open for trading on such date, on the most recent preceding date when it is open for trading.

(k) "*Incentive Stock Option*" shall mean an option granted under Section 6(a) of the Plan that is intended to meet the requirements of Section 422 of the Code or any successor provision.

(l) "*Non-Qualified Stock Option*" shall mean an option granted under Section 6(a) of the Plan that is not intended to be an Incentive Stock Option.

Table of Contents

- (m) “*Option*” shall mean an Incentive Stock Option or a Non-Qualified Stock Option.
- (n) “*Other Stock Grant*” shall mean any right granted under Section 6(e) of the Plan.
- (o) “*Other Stock-Based Award*” shall mean any right granted under Section 6(f) of the Plan.
- (p) “*Participant*” shall mean an Eligible Person designated to be granted an Award under the Plan.
- (q) “*Performance Award*” shall mean any right granted under Section 6(d) of the Plan.
- (r) “*Person*” shall mean any individual, corporation, partnership, association or trust.
- (s) “*Plan*” shall mean the ATS Medical, Inc. 2000 Stock Incentive Plan, as amended from time to time, the provisions of which are set forth herein.
- (t) “*Restricted Stock Unit*” shall mean any unit granted under Section 6(c) of the Plan evidencing the right to receive a Share (or a cash payment equal to the Fair Market Value of a Share) at some future date.
- (u) “*Rule 16b-3*” shall mean Rule 16b-3 promulgated by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended, or any successor rule or regulation.
- (v) “*Shares*” shall mean shares of Common Stock, \$.01 par value per share, of the Company or such other securities or property as may become subject to Awards pursuant to an adjustment made under Section 4(c) of the Plan.
- (w) “*Stock Appreciation Right*” shall mean any right granted under Section 6(b) of the Plan.

Section 3. Administration.

(a) Power and Authority of the Committee. The Plan shall be administered by the Committee. Subject to the express provisions of the Plan and to applicable law, the Committee shall have full power and authority to: (i) designate Participants; (ii) determine the type or types of Awards to be granted to each Participant under the Plan; (iii) determine the number of Shares to be covered by (or with respect to which payments, rights or other matters are to be calculated in connection with) each Award; (iv) determine the terms and conditions of any Award or Award Agreement; (v) amend the terms and conditions of any Award or Award Agreement and accelerate the exercisability of Options or the lapse of restrictions relating to Restricted Stock Units or other Awards; (vi) determine whether, to what extent and under what circumstances Awards may be exercised in cash, Shares, other securities, other Awards or other property, or canceled, forfeited or suspended; (vii) determine whether, to what extent and under what circumstances cash, Shares, promissory notes, other securities, other Awards, other property and other amounts payable with respect to an Award under the Plan shall be deferred either automatically or at the election of the holder thereof or the Committee; (viii) interpret and administer the Plan and any instrument or agreement, including an Award Agreement, relating to the Plan; (ix) establish, amend, suspend or waive such rules and regulations and appoint such agents as it shall deem appropriate for the proper administration of the Plan; and (x) make any other determination and take any other action that the Committee deems necessary or desirable for the administration of the Plan. Unless otherwise expressly provided in the Plan, all designations, determinations, interpretations and other decisions under or with respect to the Plan or any Award shall be within the sole discretion of the Committee, may be made at any time and shall be final, conclusive and binding upon any Participant, any holder or beneficiary of any Award and any employee of the Company or any Affiliate.

(b) Delegation. The Committee may delegate its powers and duties under the Plan to one or more Directors or a committee of Directors, subject to such terms, conditions and limitations as the Committee may establish in its sole discretion.

(c) Power and Authority of the Board of Directors. Notwithstanding anything to the contrary contained herein, the Board may, at any time and from time to time, without any further action of the Committee, exercise the powers and duties of the Committee under the Plan.

Section 4. Shares Available for Awards.

(a) Shares Available. Subject to adjustment as provided in Section 4(c) of the Plan, the aggregate number of Shares that may be issued under all Awards under the Plan shall be **9,500,000**. Shares to be issued under the Plan

Table of Contents

may be either authorized but unissued Shares or Shares acquired in the open market or otherwise. Any Shares that are used by a Participant as full or partial payment to the Company of the purchase price relating to an Award, or in connection with the satisfaction of tax obligations relating to an Award, shall again be available for granting Awards (other than Incentive Stock Options) under the Plan. In addition, if any Shares covered by an Award or to which an Award relates are not purchased or are forfeited, or if an Award otherwise terminates without delivery of any Shares, then the number of Shares counted against the aggregate number of Shares available under the Plan with respect to such Award, to the extent of any such forfeiture or termination, shall again be available for granting Awards under the Plan. Notwithstanding the foregoing, the number of Shares available for granting Incentive Stock Options under the Plan shall not exceed **9,500,000**, subject to adjustment as provided in the Plan and subject to the provisions of Section 422 or 424 of the Code or any successor provision.

(b) *Accounting for Awards.* For purposes of this Section 4, if an Award entitles the holder thereof to receive or purchase Shares, the number of Shares covered by such Award or to which such Award relates shall be counted on the date of grant of such Award against the aggregate number of Shares available for granting Awards under the Plan.

(c) *Adjustments.* In the event that the Committee shall determine that any dividend or other distribution (whether in the form of cash, Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of Shares or other securities of the Company, issuance of warrants or other rights to purchase Shares or other securities of the Company or other similar corporate transaction or event affects the Shares such that an adjustment is determined by the Committee to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in such manner as it may deem equitable, adjust any or all of (i) the number and type of Shares (or other securities or other property) that thereafter may be made the subject of Awards, (ii) the number and type of Shares (or other securities or other property) subject to outstanding Awards and (iii) the purchase or exercise price with respect to any Award; provided, however, that the number of Shares covered by any Award or to which such Award relates shall always be a whole number.

(d) *Award Limitations Under the Plan.* No Eligible Person may be granted any Award or Awards under the Plan, the value of which Award or Awards is based solely on an increase in the value of the Shares after the date of grant of such Award or Awards, for more than **500,000** Shares (subject to adjustment as provided for in Section 4(c) of the Plan), in the aggregate in any calendar year. The foregoing annual limitation specifically includes the grant of any Award or Awards representing “qualified performance-based compensation” within the meaning of Section 162(m) of the Code.

Section 5. *Eligibility.*

Any Eligible Person shall be eligible to be designated a Participant. In determining which Eligible Persons shall receive an Award and the terms of any Award, the Committee may take into account the nature of the services rendered by the respective Eligible Persons, their present and potential contributions to the success of the Company or such other factors as the Committee, in its discretion, shall deem relevant. Notwithstanding the foregoing, an Incentive Stock Option may only be granted to full or part-time employees (which term as used herein includes, without limitation, officers and Directors who are also employees), and an Incentive Stock Option shall not be granted to an employee of an Affiliate unless such Affiliate is also a “subsidiary corporation” of the Company within the meaning of Section 424(f) of the Code or any successor provision.

Section 6. *Awards.*

(a) *Options.* The Committee is hereby authorized to grant Options to Participants with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

(i) *Exercise Price.* The purchase price per Share for Options granted under the Plan shall be determined by the Committee; provided, however, that such purchase price shall not be less than 100% of the Fair Market Value of the Shares on the date of grant of such Option unless shareholder approval is obtained.

Table of Contents

(ii) Option Term. The term of each Option shall be fixed by the Committee, but such term shall not exceed 7 years from the date on which such Option is granted.

(iii) Time and Method of Exercise. The Committee shall determine the time or times at which an Option may be exercised in whole or in part and the method or methods by which, and the form or forms (including, without limitation, cash, Shares, promissory notes, other securities, other Awards or other property, or any combination thereof, having a Fair Market Value on the exercise date equal to the relevant exercise price) in which, payment of the exercise price with respect thereto may be made or deemed to have been made.

(b) Stock Appreciation Rights. The Committee is hereby authorized to grant Stock Appreciation Rights to Participants subject to the terms of the Plan and any applicable Award Agreement. A Stock Appreciation Right granted under the Plan shall confer on the holder thereof a right to receive upon exercise thereof the excess of (i) the Fair Market Value of one Share on the date of exercise (or, if the Committee shall so determine, at any time during a specified period before or after the date of exercise) over (ii) the grant price of the Stock Appreciation Right as specified by the Committee, which price shall not be less than 100% of the Fair Market Value of one Share on the date of grant of the Stock Appreciation Right. Subject to the terms of the Plan and any applicable Award Agreement, the grant price, term, methods of exercise, dates of exercise, methods of settlement and any other terms and conditions of any Stock Appreciation Right shall be as determined by the Committee. The Committee may impose such conditions or restrictions on the exercise of any Stock Appreciation Right as it may deem appropriate.

(c) Restricted Stock Units. The Committee is hereby authorized to grant Restricted Stock Units to Participants with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

(i) Restrictions. Restricted Stock Units shall be subject to such restrictions as the Committee may impose (including, without limitation, a waiver by the Participant of the right to vote or to receive any dividend or other right or property with respect thereto), which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise as the Committee may deem appropriate.

(ii) Stock Certificates. No Shares shall be issued at the time Restricted Stock Units are granted.

(iii) Forfeiture. Except as otherwise determined by the Committee, upon termination of employment (as determined under criteria established by the Committee) during the applicable restriction period, all Restricted Stock Units at such time subject to restriction shall be forfeited and reacquired by the Company; provided, however, that the Committee may, when it finds that a waiver would be in the best interest of the Company, waive in whole or in part any or all remaining restrictions with respect to Restricted Stock Units. Upon the lapse or waiver of restrictions and the restricted period relating to Restricted Stock Units evidencing the right to receive Shares, such Shares shall be issued and delivered to the holders of the Restricted Stock Units.

(d) Performance Awards. The Committee is hereby authorized to grant Performance Awards to Participants subject to the terms of the Plan and any applicable Award Agreement. A Performance Award granted under the Plan (i) may be denominated or payable in cash, Shares (including, without limitation, Restricted Stock Units), other securities, other Awards or other property and (ii) shall confer on the holder thereof the right to receive payments, in whole or in part, upon the achievement of such performance goals during such performance periods as the Committee shall establish. Subject to the terms of the Plan and any applicable Award Agreement, the performance goals to be achieved during any performance period, the length of any performance period, the amount of any Performance Award granted, the amount of any payment or transfer to be made pursuant to any Performance Award and any other terms and conditions of any Performance Award shall be determined by the Committee.

(e) Other Stock Grants. The Committee is hereby authorized, subject to the terms of the Plan and any applicable Award Agreement, to grant to Participants Shares without restrictions thereon as are deemed by the Committee to be consistent with the purpose of the Plan.

(f) Other Stock-Based Awards. The Committee is hereby authorized to grant to Participants subject to the terms of the Plan and any applicable Award Agreement, such other Awards that are denominated or payable in, valued in whole or in part by reference to, or otherwise based on or related to, Shares (including, without limitation,

securities convertible into Shares), as are deemed by the Committee to be consistent with the purpose of the Plan. Shares or other securities delivered pursuant to a purchase right granted under this Section 6(f) shall be purchased for such consideration, which may be paid by such method or methods and in such form or forms (including, without limitation, cash, Shares, promissory notes, other securities, other Awards or other property or any combination thereof), as the Committee shall determine, the value of which consideration, as established by the Committee, shall not be less than 100% of the Fair Market Value of such Shares or other securities as of the date such purchase right is granted.

(g) *General.*

(i) *No Cash Consideration for Awards.* Awards shall be granted for no cash consideration or for such minimal cash consideration as may be required by applicable law.

(ii) *Awards May Be Granted Separately or Together.* Awards may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with or in substitution for any other Award or any award granted under any plan of the Company or any Affiliate other than the Plan. Awards granted in addition to or in tandem with other Awards or in addition to or in tandem with awards granted under any such other plan of the Company or any Affiliate may be granted either at the same time as or at a different time from the grant of such other Awards or awards.

(iii) *Forms of Payment under Awards.* Subject to the terms of the Plan and of any applicable Award Agreement, payments or transfers to be made by the Company or an Affiliate upon the grant, exercise or payment of an Award may be made in such form or forms as the Committee shall determine (including, without limitation, cash, Shares, promissory notes, other securities, other Awards or other property or any combination thereof), and may be made in a single payment or transfer, in installments or on a deferred basis, in each case in accordance with rules and procedures established by the Committee. Such rules and procedures may include, without limitation, provisions for the payment or crediting of reasonable interest on installment or deferred payments or the grant or crediting of dividend equivalents with respect to installment or deferred payments.

(iv) *Limits on Transfer of Awards.* No Award (other than Other Stock Grants) and no right under any such Award shall be transferable by a Participant otherwise than by will or by the laws of descent and distribution; provided, however, that, if so determined by the Committee, a Participant may, in the manner established by the Committee, transfer Options (other than Incentive Stock Options) or designate a beneficiary or beneficiaries to exercise the rights of the Participant and receive any property distributable with respect to any Award upon the death of the Participant. Each Award or right under any Award shall be exercisable during the Participant's lifetime only by the Participant or, if permissible under applicable law, by the Participant's guardian or legal representative. No Award or right under any such Award may be pledged, alienated, attached or otherwise encumbered, and any purported pledge, alienation, attachment or encumbrance thereof shall be void and unenforceable against the Company or any Affiliate.

(v) *Term of Awards.* The term of each Award shall be for such period as may be determined by the Committee; provided, however, that the term of an Option shall not exceed 7 years from the date on which such Option is granted.

(vi) *Restrictions; Securities Exchange Listing.* All Shares or other securities delivered under the Plan pursuant to any Award or the exercise thereof shall be subject to such restrictions as the Committee may deem advisable under the Plan, applicable federal or state securities laws and regulatory requirements, and the Committee may cause appropriate entries to be made or legends to be affixed to reflect such restrictions. If any securities of the Company are traded on a securities exchange, the Company shall not be required to deliver any Shares or other securities covered by an Award unless and until such Shares or other securities have been admitted for trading on such securities exchange.

Section 7. *Automatic Grants to Non-Employee Directors.*

Upon his or her initial election to the Board, each non-employee director of the Company shall receive 3,000 Restricted Stock Units (the "Initial Grant"). In addition, upon each election of such person as a director at the Company's annual shareholder meeting, each non-employee director shall receive a number of Restricted Stock

Units equal to \$45,000 divided by the Fair Market Value of one share of the Company's common stock on the date of grant (the "Annual Grant"). In the event that a non-employee director's initial election to the Board occurs at the Company's annual shareholder meeting, such non-employee director will receive both an Initial Grant and an Annual Grant at that time. All Initial Grants shall vest in full on the second anniversary of the date of grant. All Annual Grants shall vest in full at the earlier of (1) immediately prior to the Company's second annual shareholder meeting following the date of grant or (2) June 30 of the second year following the year of grant. When a non-employee director ceases to serve as a director of the Company, all Restricted Stock Units granted to such non-employee director and still subject to restriction at the date of his or her termination as a director shall be forfeited and reacquired by the Company as of that date. This Section 7 may not be amended more than once every six months, other than to comport with changes in the Code or the rules thereunder.

Section 8. *Amendment and Termination; Adjustments.*

(a) *Amendments to the Plan.* The Board may amend, alter, suspend, discontinue or terminate the Plan at any time; provided, however, that, notwithstanding any other provision of the Plan or any Award Agreement, without the approval of the shareholders of the Company, no such amendment, alteration, suspension, discontinuation or termination shall be made that, absent such approval: (i) would violate the rules or regulations of the NASDAQ Global Market System or any securities exchange that are applicable to the Company; or (ii) would cause the Company to be unable, under the Code, to grant Incentive Stock Options under the Plan.

(b) *Amendments to Awards.* Except for Awards granted pursuant to Section 7, the Committee may waive any conditions of or rights of the Company under any outstanding Award, prospectively or retroactively. Except as otherwise provided herein or in the Award Agreement, the Committee may not amend, alter, suspend, discontinue or terminate any outstanding Award, prospectively or retroactively, if such action would adversely affect the rights of the holder of such Award, without the consent of the Participant or holder or beneficiary thereof.

(c) *Prohibition on Option Repricing.* The Committee shall not reduce the exercise price of any outstanding Option, whether through amendment, cancellation or replacement grants, or any other means, without shareholder approval.

(d) *Correction of Defects, Omissions and Inconsistencies.* The Committee may correct any defect, supply any omission or reconcile any inconsistency in the Plan or any Award in the manner and to the extent it shall deem desirable to carry the Plan into effect.

Section 9. *Income Tax Withholding; Tax Bonuses.*

(a) *Withholding.* In order to comply with all applicable federal or state income tax laws or regulations, the Company may take such action as it deems appropriate to ensure that all applicable federal or state payroll, withholding, income or other taxes, which are the sole and absolute responsibility of a Participant, are withheld or collected from such Participant. In order to assist a Participant in paying all or a portion of the federal and state taxes to be withheld or collected upon exercise or receipt of (or the lapse of restrictions relating to) an Award, the Committee, in its discretion and subject to such additional terms and conditions as it may adopt, may permit the Participant to satisfy such tax obligation by (i) electing to have the Company withhold a portion of the Shares otherwise to be delivered upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes or (ii) delivering to the Company Shares other than Shares issuable upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes. The election, if any, must be made on or before the date that the amount of tax to be withheld is determined.

(b) *Tax Bonuses.* The Committee, in its discretion, shall have the authority, at the time of grant of any Award under this Plan or at any time thereafter, to approve cash bonuses to designated Participants to be paid upon their exercise or receipt of (or the lapse of restrictions relating to) Awards in order to provide funds to pay all or a portion of federal and state taxes due as a result of such exercise or receipt (or the lapse of such restrictions). The Committee shall have full authority in its discretion to determine the amount of any such tax bonus.

Section 10. *General Provisions.*

(a) *No Rights to Awards.* No Eligible Person, Participant or other Person shall have any claim to be granted any Award under the Plan, and there is no obligation for uniformity of treatment of Eligible Persons, Participants or holders or beneficiaries of Awards under the Plan. The terms and conditions of Awards need not be the same with respect to any Participant or with respect to different Participants.

(b) *Award Agreements.* No Participant will have rights under an Award granted to such Participant unless and until an Award Agreement shall have been duly executed on behalf of the Company and, if requested by the Company, signed by the Participant.

(c) *No Limit on Other Compensation Arrangements.* Nothing contained in the Plan shall prevent the Company or any Affiliate from adopting or continuing in effect other or additional compensation arrangements, and such arrangements may be either generally applicable or applicable only in specific cases.

(d) *No Right to Employment.* The grant of an Award shall not be construed as giving a Participant the right to be retained in the employ of the Company or any Affiliate, nor will it affect in any way the right of the Company or an Affiliate to terminate such employment at any time, with or without cause. In addition, the Company or an Affiliate may at any time dismiss a Participant from employment free from any liability or any claim under the Plan or any Award, unless otherwise expressly provided in the Plan or in any Award Agreement.

(e) *Governing Law.* The validity, construction and effect of the Plan or any Award, and any rules and regulations relating to the Plan or any Award, shall be determined in accordance with the laws of the State of Minnesota.

(f) *Severability.* If any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal or unenforceable in any jurisdiction or would disqualify the Plan or any Award under any law deemed applicable by the Committee, such provision shall be construed or deemed amended to conform to applicable laws, or if it cannot be so construed or deemed amended without, in the determination of the Committee, materially altering the purpose or intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction or Award, and the remainder of the Plan or any such Award shall remain in full force and effect.

(g) *No Trust or Fund Created.* Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or a fiduciary relationship between the Company or any Affiliate and a Participant or any other Person. To the extent that any Person acquires a right to receive payments from the Company or any Affiliate pursuant to an Award, such right shall be no greater than the right of any unsecured general creditor of the Company or any Affiliate.

(h) *No Fractional Shares.* No fractional Shares shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine whether cash shall be paid in lieu of any fractional Shares or whether such fractional Shares or any rights thereto shall be canceled, terminated or otherwise eliminated.

(i) *Headings.* Headings are given to the Sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

Section 11. *Effective Date of the Plan.*

The Plan, as amended, shall be effective when approved by the shareholders of the Company.

Section 12. *Term of the Plan.*

No Award shall be granted under the Plan after December 31, 2010 or any earlier date of discontinuation or termination established pursuant to Section 8(a) of the Plan. However, unless otherwise expressly provided in the Plan or in an applicable Award Agreement, any Award theretofore granted may extend beyond such date.



ATS MEDICAL, INC.

ANNUAL MEETING OF SHAREHOLDERS

Thursday, May 8, 2008

4:00 p.m.

OFFICES OF DORSEY & WHITNEY LLP

50 South Sixth Street, Suite 1500

Minneapolis, Minnesota

ATS **ATS MEDICAL, INC.**
MEDICAL **3905 Annapolis Lane**
Minneapolis, Minnesota 55447

proxy

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned, having duly received the Notice of Annual Meeting and Proxy Statement dated April 7, 2008, appoints Michael D. Dale and Michael R. Kramer proxies (each with the power to act alone and with the power of substitution and revocation) to represent the undersigned and to vote, as designated on the matters shown on the reverse side, all shares of common stock of ATS Medical, Inc. which the undersigned is entitled to vote at the 2008 Annual Meeting of Shareholders of ATS Medical, Inc., to be held on Thursday, May 8, 2008 at the offices of Dorsey & Whitney LLP, 50 South Sixth Street, Suite 1500 Minneapolis, Minnesota at 4:00 p.m. and any adjournment thereof.

See reverse for voting instructions.

There are three ways to vote your Proxy

Your telephone or Internet vote authorizes the Named Proxies to vote your shares in the same manner as if you marked, signed and returned your proxy card.

COMPANY #

**VOTE BY PHONE –
TOLL FREE –**

1-800-560-1965 – QUICK ★★★ EASY ★★★ IMMEDIATE

Use any touch-tone telephone to vote your proxy 24 hours a day, 7 days a week, until 12:00 p.m. (CT) on May 7, 2008.

Please have your proxy card and the last four digits of your Social Security Number or Tax Identification Number available. Follow the simple instructions the recording provides you.

VOTE BY INTERNET – <http://www.eproxy.com/atsi/> – QUICK ★★★ EASY ★★★ IMMEDIATE

Use the Internet to vote your proxy 24 hours a day, 7 days a week, until 12:00 p.m. (CT) on May 7, 2008.

Please have your proxy card and the last four digits of your Social Security Number or Tax Identification Number available. Follow the simple instructions to obtain your records and create an electronic ballot.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we've provided or return it to **ATS Medical, Inc.**, c/o Shareowner ServicesSM, P.O. Box 64873, St. Paul, MN 55164-0873.

If you vote by Phone or Internet, please do not mail your Proxy Card

The Board of Directors Recommends a Vote FOR Items 1, 2, 3, 4 and 5.

- | | | | | |
|---------------------------|--------------------------|-----------------------|---|---|
| 1. Election of directors: | 01 Michael D. Dale | 04 Guy P. Nohra | <input type="checkbox"/> FOR all nominees listed to the left (except as marked to the contrary below) | <input type="checkbox"/> WITHHOLD AUTHORITY to vote for the nominee indicated below |
| | 02 Steven M. Anderson | 05 Eric W. Sivertson | | |
| | 03 Robert E. Munzenrider | 06 Theodore C. Skokos | | |

(Instructions: To withhold authority to vote for any indicated nominee, write the number(s) of the nominee(s) in the box provided to the right.)

↓ Please fold here ↓

- | | | | |
|---|------------------------------|----------------------------------|----------------------------------|
| 2. Amendment of our Second Restated Articles of Incorporation to increase the number of shares authorized for issuance by 50,000,000 shares. | <input type="checkbox"/> For | <input type="checkbox"/> Against | <input type="checkbox"/> Abstain |
| 3. Approval of the removal of certain share issuance limitations required by NASDAQ Marketplace Rule 4350(i)(1)(C) to be included in our common stock warrants issued in June 2007. | <input type="checkbox"/> For | <input type="checkbox"/> Against | <input type="checkbox"/> Abstain |
| 4. Amendment of our 2000 Stock Incentive Plan (the "Plan") to increase the number of shares of our common stock available for awards granted under the Plan by 4,000,000 shares. | <input type="checkbox"/> For | <input type="checkbox"/> Against | <input type="checkbox"/> Abstain |
| 5. Ratification of Grant Thornton LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2008. | <input type="checkbox"/> For | <input type="checkbox"/> Against | <input type="checkbox"/> Abstain |

THIS PROXY, WHEN PROPERLY EXECUTED, WILL BE VOTED IN THE MANNER DIRECTED HEREIN BY THE UNDERSIGNED SHAREHOLDER. IF NO DIRECTION IS MADE, THIS PROXY WILL BE VOTED FOR EACH PROPOSAL AND IN THE DISCRETION OF THE NAMED PROXIES ON ALL OTHER MATTERS.

Address Change? Mark Box Indicate changes below:

Date _____

Signature(s) in Box

Please sign exactly as your name appears hereon. Jointly owned shares will be voted as directed if one owner signs unless another owner instructs to the contrary, in which case the shares will not be voted. If signing in a representative capacity, please indicate title and authority.