CAS MEDICAL SYSTEMS INC
Form S-3
June 20, 2006

As filed with the Securities and Exchange Commission on June 20, 2006

Registration No. 333-

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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM S-3

REGISTRATION STATEMENT UNDER
THE SECURITIES ACT OF 1933

CAS MEDICAL SYSTEMS, INC.
(Exact Name of Registrant as Specified in Its Charter)

Delaware	06-1123096
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification Number)

44 EAST INDUSTRIAL ROAD, BRANFORD, CONNECTICUT 06405
(203) 488-6056
(Address, Including Zip Code, and Telephone Number,
Including Area Code, of Registrant's Principal Executive Offices)

LOUIS P. SCHEPS
PRESIDENT AND CHIEF EXECUTIVE OFFICER
CAS MEDICAL SYSTEMS, INC.
44 EAST INDUSTRIAL ROAD
BRANFORD, CONNECTICUT 06405
(203) 488-6056
(Name, Address, Including Zip Code, and Telephone Number,
Including Area Code, of Agent for Service)

COPY TO:
Michael Grundei, Esq.
Wiggin and Dana LLP
400 Atlantic Street
Stamford, Connecticut 06901
(203) 363-7600

Approximate date of commencement of proposed sale to public: From time to time after this registration statement has been declared effective.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. [ ]

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. [X]

If this form is filed to register additional securities for an offering

pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [ ]

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

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. [ ]

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. [ ]

CALCULATION OF REGISTRATION FEE

TITLE OF SHARES TO BE REGISTERED	AMOUNT TO BE REGISTERED(1)	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE
COMMON STOCK, $0.004 PAR VALUE PER SHARE...	207,500	$5.51(2)	$1,143,325.00(2)
COMMON STOCK UNDERLYING WARRANTS.....	1,279,000	$5.51(3)	$7,047,290.00(3)
TOTAL.....	1,486,500		$8,190,615.00

(1) This registration statement also relates to an indeterminate number of shares of common stock issued to prevent dilution resulting from stock splits, stock dividends or similar transactions in accordance with Rule 416.
(2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act and based upon the average of the high and low prices on the Nasdaq Capital Market on June 15, 2006.
(3) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(g) under the Securities Act and based upon the average of the high and low prices on the Nasdaq Capital Market on June 15, 2006.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(A) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(A), MAY DETERMINE.

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SELLING STOCKHOLDERS NAMED IN THIS PROSPECTUS MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND THE SELLING STOCKHOLDERS NAMED IN THIS PROSPECTUS ARE NOT SOLICITING OFFERS TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED JUNE 20, 2006

PROSPECTUS

1,486,500 Shares

CAS MEDICAL SYSTEMS, INC.

Common Stock

This prospectus relates to the offer and sale of up to 1,486,500 shares of our common stock, including up to 1,279,000 shares issuable upon the exercise of presently exercisable warrants by the selling stockholders listed on page 13, including their transferees, pledgees or donees or their respective successors.

The prices at which these shares may be sold will be determined by the prevailing market price for shares of our common stock, in negotiated transactions or otherwise. We will not receive any of the proceeds from the sale of these shares. We could receive up to approximately $0.6 million upon payment of the exercise price of the warrants. We intend to use any such proceeds for general working capital.

Our common stock is listed on the Nasdaq Capital Market under the symbol "CASM". On June 19, 2006, the last reported sale price for our common stock was $5.52 per share.

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. SEE "RISK FACTORS," BEGINNING ON PAGE 3 OF THIS PROSPECTUS.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

This prospectus is dated , 2006.

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This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission using a "shelf" registration or continuous offering process. Under this shelf process, selling stockholders may from time to time sell the securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities that the selling stockholders may offer. Each time a selling stockholder sells securities, that selling stockholder is required to provide you with a prospectus and/or a prospectus supplement containing specific information about the selling stockholder and the terms of the securities being offered. A prospectus supplement may include other special considerations applicable to those securities. The prospectus supplement may also add, update or change information in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement. You should read both this prospectus and any prospectus supplement together with the additional information described under the heading "Where You Can Find More Information."

The registration statement, of which this prospectus is a part, including the exhibits to the registration statement, provides additional information about us and the securities offered by the selling stockholders under this prospectus. The registration statement, including the exhibits, can be read on the website maintained by the Securities and Exchange Commission or at the offices of the Securities and Exchange Commission as set forth under the heading "Where You Can Find More Information."

YOU SHOULD RELY ONLY ON THE INFORMATION CONTAINED OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS. WE HAVE NOT, AND THE SELLING STOCKHOLDERS HAVE NOT, AUTHORIZED ANYONE TO PROVIDE YOU WITH INFORMATION DIFFERENT FROM THAT CONTAINED OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS. THIS PROSPECTUS IS NOT AN OFFER TO SELL, NOR IS IT SEEKING AN OFFER TO BUY, SHARES OF OUR COMMON STOCK IN ANY JURISDICTION IN WHICH THE OFFER OR SALE IS NOT PERMITTED. THE INFORMATION CONTAINED IN THIS PROSPECTUS IS ACCURATE ONLY AS OF THE DATE OF THIS PROSPECTUS, REGARDLESS OF THE TIME OF DELIVERY OF THIS PROSPECTUS OR OF ANY SALE OF COMMON STOCK.

SUMMARY

THIS SUMMARY MAY NOT CONTAIN ALL THE INFORMATION THAT MAY BE IMPORTANT TO YOU. YOU SHOULD READ THE ENTIRE PROSPECTUS, INCLUDING THE FINANCIAL DATA AND RELATED NOTES AND OTHER INFORMATION INCORPORATED BY REFERENCE, BEFORE MAKING AN INVESTMENT DECISION. THE TERMS "CAS," "WE," "US," AND "OUR" REFER TO CAS MEDICAL SYSTEMS, INC.

THE COMPANY

We are a Delaware corporation organized in 1984. We design, manufacture and market medical products, specifically blood pressure measurement technology, blood pressure cuffs, vital signs measurement equipment, cardio-respiratory monitoring equipment and supplies for neonatal intensive care. Our products are designed to improve the quality of patient care and provide exceptional value and performance. We have several products in various stages of development that we believe will add to and complement our current product lines.

On May 15, 2005, we completed the purchase of all of the outstanding capital stock of Statcorp, Inc. from its stockholders for cash. The cost of the acquisition was $4.8 million including a post-closing working capital adjustment and direct acquisition costs. An additional purchase adjustment will be required based upon post-closing revenues of Statcorp for the twelve month period following the closing date. Statcorp, a privately-owned company based in Jacksonville, Florida, develops, assembles and sells liquid infusion devices, blood pressure cuffs, and blood transfusion filters for worldwide use in the medical industry.

PRINCIPAL PRODUCTS AND SERVICES

BLOOD PRESSURE MEASUREMENT TECHNOLOGY

We have developed a proprietary non-invasive blood pressure technology, MAXNIBP(R). We believe this technology is more accurate, reliable, and able to produce a measurement result faster than our competitors' technology. These advantages strengthen our competitive position, especially in clinical situations where measurements can be difficult. We have entered into original equipment manufacturer ("OEM") agreements to supply our MAXNIBP technology in the form of modules to various companies throughout the world. These modules are used in larger monitoring systems where non-invasive blood pressure is but one measurement parameter. Our OEM agreements are typically multi-year arrangements.

BLOOD PRESSURE CUFFS

We offer a full line of disposable and reusable blood pressure cuffs. The product line includes cuffs and pressure infusers manufactured by Statcorp, Inc. which we purchased in 2005. The blood pressure cuffs can be used on patients from neonate through adult, as well as veterinary patients, and complement our MAXNIBP blood pressure measurement technology.

VITAL SIGNS MONITORING EQUIPMENT

We offer two platforms of vital signs monitors incorporating various combinations of measurement parameters. The product lines include options for measurement of non-invasive blood pressure using the our proprietary MAXNIBP technology, pulse oximetry, electro-cardiography, temperature, and capnography. CAS monitors are ideal for a range of clinical settings (both human and veterinary) including emergency medical service, medical/surgical units, out-patient care, and procedural sedation. We also offer a full line of disposable and reusable blood pressure cuffs to complement our monitors.

CARDIO-RESPIRATORY MONITORING EQUIPMENT

The CAS line of cardio-respiratory monitors is used to monitor apnea in home-based and hospital settings. Our product line includes two of the industry's best selling infant apnea monitoring products and has the broadest range of capabilities available. The AMI(R) and 511 monitors allow

cardio-respiratory and pulse oximetry monitoring and recording for a range of patients. Proprietary CAS EXPRESS(R) software saves patient data from the monitors and generates reports for review by the clinician.

SUPPLIES FOR NEONATAL INTENSIVE CARE

Our specialty neonatal supplies are a foundation of our business. We have a long record of producing high quality products designed specifically to meet the unique needs of neonatal intensive care. The varied product line includes Klear-Trace(R) ECG Electrodes, NeoGuard(R) skin temperature probes and adhesive reflectors, SoftCheck(R) neonatal blood pressure cuffs, BiliBottoms(TM) light permeable diapers for use during phototherapy, and the Premie Nestie(R) neonatal positioning device.

THE OFFERING

Common Stock offered by Selling Stockholders	1,486,500 (includes 1,279,000 shares issuable upon exercise of warrants held by Selling Stockholders.)
Use of Proceeds	We will not receive any proceeds from the sale of shares in this offering.
Nasdaq Capital Market Symbol	CASM

Our principal executive offices are located at 44 East Industrial Road, Branford, Connecticut 06405, and our telephone number is (203) 488-6056. We maintain a website at WWW.CASMED.COM where general information about us is available. We are not incorporating the contents of the website into this prospectus.

RISK FACTORS

OUR BUSINESS FACES MANY RISKS. IF ANY OF THE EVENTS OR CIRCUMSTANCES DESCRIBED IN THE FOLLOWING RISK FACTORS ACTUALLY OCCUR, OUR BUSINESS, FINANCIAL CONDITION OR RESULTS OF OPERATIONS COULD SUFFER, AND THE TRADING PRICE OF OUR COMMON STOCK COULD DECLINE. THE RISKS DESCRIBED BELOW MAY NOT BE THE ONLY RISKS WE FACE. ADDITIONAL RISKS THAT WE DO NOT YET KNOW OF OR THAT WE CURRENTLY BELIEVE ARE IMMATERIAL MAY ALSO IMPAIR OUR BUSINESS OPERATIONS. YOU SHOULD CONSIDER THE FOLLOWING RISKS, AS WELL AS THE OTHER INFORMATION INCLUDED OR INCORPORATED BY REFERENCE IN THIS PROSPECTUS BEFORE DECIDING TO INVEST IN OUR COMMON STOCK.

WE ARE A SMALL COMPANY IN A HIGHLY COMPETITIVE INDUSTRY.

We are engaged in a rapidly evolving field. Competition from other medical device companies, diversified healthcare companies and research and academic institutions is intense and expected to increase. Many companies engaged in the medical device sector have substantially greater financial and other resources and development capabilities than we do, and have substantially greater experience in testing of products, obtaining regulatory approvals and manufacturing and marketing medical devices. Therefore, our competitors may succeed in obtaining approval for products more rapidly than we can. Other companies may succeed in developing and commercializing products earlier than we do. In addition to competing with universities and other research institutions

in the development of products, technologies and processes, CAS Medical Systems may compete with other companies in acquiring rights to products or technologies from universities. Also, the medical device market is experiencing increasing customer concentration, due to the emergence of large purchasing groups. We cannot assure you that we will develop products that are more effective or achieve greater market acceptance than competitive products, or that our competitors will not succeed in developing products and technologies that are more effective than those being developed by us or that would render our products and technologies less competitive or obsolete. Moreover, there can be no assurance that we will be able to successfully sell to large purchasing groups, which are increasingly looking to suppliers that can provide a broader range of products than we currently offer.

THE SALE OF OUR PRODUCTS MAY RESULT IN SIGNIFICANT PRODUCT LIABILITY EXPOSURE.

As a manufacturer of medical diagnostic equipment, we could face product liability claims. We maintain product liability insurance in an aggregate amount of $5 million. We cannot assure you that this insurance coverage will be adequate to cover any product liability claims that occur in the future or that product liability insurance will continue to be available at reasonable prices. Any product liability judgments or settlements in excess of insurance coverage could have a material adverse effect on our business and results of operations.

WE ARE SUBJECT TO SIGNIFICANT GOVERNMENT REGULATION.

Our business is subject to varying degrees of governmental regulation in the countries in which we operate. In the United States, our products are subject to regulation as medical devices by the United States Food and Drug Administration (the "FDA"), and by other federal and state agencies. These regulations pertain to the manufacturing, labeling, development and testing of our devices as well as to the maintenance of required records. An FDA regulation also requires prompt reporting by all medical device manufacturers of an event or malfunction involving a medical device where the device caused or contributed to death or serious injury or is likely to do so.

Federal law provides for several routes by which the FDA reviews medical devices before their entry into the marketplace. Medical products of the type currently being marketed and under

development by us are subject to regulation under the Food, Drug and Cosmetic Act (the "FDC Act") and numerous acts and amendments such as the Quality System Regulations which replaced the regulations formerly called Good Manufacturing Practices. In addition, depending upon product type, we must also comply with those regulations governing the Conduct of Human Investigations, Pre-Market Approval Regulations and other requirements, as promulgated by the FDA. The FDA is authorized to inspect a device, its labeling and advertising, and the facilities in which it is manufactured in order to ensure that the device is not manufactured or labeled in a manner which could cause it to be injurious to health.

The FDA has adopted regulations which classify medical devices based upon the degree of regulation believed necessary to assure safety and efficacy. A device is classified as a Class I, II, or III device. Class I devices are subject only to general controls. Class II devices, in addition to general controls, are or will be subject to "performance standards." Most devices are also subject to the 510(k) pre-market notification provision. In addition, some Class III devices require FDA pre-market approval before they may be marketed commercially because their safety and effectiveness cannot be assured by the

general controls and performance standards of Class I or II devices. Our products are primarily Class I and II devices and several of them have required FDA notification under Section 510(k) of the FDC Act.

Satisfaction of clearance or approval requirements may take up to several years or more and may vary substantially based upon the type, complexity and novelty of the product. The effect of government regulation may be to delay marketing of new products for a considerable or indefinite period of time, to impose costly procedures upon our activities and to furnish a competitive advantage to larger companies that compete with us. We cannot assure you that FDA or other regulatory clearance or approval for any products we develop will be granted on a timely basis, if at all, or, once granted, that clearances or approvals will not be withdrawn or other regulatory action taken which might limit our ability to market our proposed products. Any delay in obtaining or failure to obtain these clearances or approvals would adversely affect the manufacturing and marketing of our products and the ability to generate additional product revenue.

WE RELY TO A SIGNIFICANT DEGREE ON OUR PROPRIETARY RIGHTS.

We rely on a combination of patents, trade secrets, trademarks and non-disclosure agreements to protect our proprietary rights. We cannot assure you that our patent applications will result in the issuance of patents or that any patents owned by us now or in the future will afford protection against competitors that develop similar technology. We also cannot assure you that our non-disclosure agreements will provide meaningful protection for our trade secrets or other proprietary information. Moreover, in the absence of patent protection, our business may be adversely affected by competitors who independently develop substantially equivalent or superior technology.

It is possible that we may need to acquire licenses to, or to contest the validity of, issued or pending patents of third parties relating to our technology or to products presently marketed or under development by us. In addition, we cannot assure that any license required under any patent would be made available to us on acceptable terms, if at all, or that we would prevail in any patent litigation.

OUR PRODUCTS MAY BECOME RAPIDLY OBSOLETE.

The areas in which we are developing, distributing, and/or licensing products involve rapidly developing technology. Others may develop products that might cause products being developed, distributed or licensed by us to become obsolete or uneconomical or result in products superior to our products.

OUR INTERNATIONAL SALES SUBJECT US TO CURRENCY AND RELATED RISKS.

Our international sales accounted for 18.6% of our total net sales for the 2005 fiscal year. We expect that international sales will continue to constitute a significant portion of our business. Although we sell our products in United States dollars and are not subject to significant currency risks, an increase in the value of the United States dollar relative to foreign currencies in our international markets could make our products less price competitive in these markets.

AN ACQUISITION OF CAS MEDICAL SYSTEMS MAY BE HINDERED.

Our Board of Directors is also authorized to issue from time to time, without stockholder authorization, shares of preferred stock, in one or more designated series or classes. We are also subject to a Delaware statute

regulating business combinations. These provisions could discourage, hinder or preclude an unsolicited acquisition of CAS Medical Systems, Inc. and could make it less likely that stockholders receive a premium for their shares as a result of any takeover attempt.

THIS OFFERING MAY NEGATIVELY IMPACT THE TRADING PRICE OF OUR COMMON STOCK.

Sales of a substantial number of shares of our common stock in the public market originally issued through the exercise of options or warrants could adversely affect the market price of our common stock and may also adversely affect our ability to raise additional capital. 1,486,500 shares of our common stock are being registered in connection with this prospectus for resale to the public. The common stock registered in connection with this prospectus would, upon exercise of the relevant warrants, constitute approximately 12.69% of our common stock based on 10,430,586 shares outstanding as of March 31, 2006 plus the 1,279,000 shares of warrant stock registered pursuant to the registration statement of which this prospectus is a part. Historically, our common stock has been thinly traded. This low trading volume may have had a significant effect on the market price of our common stock, which may not be indicative of the market price in a more liquid market.

WE DEPEND HIGHLY ON CERTAIN KEY MANAGEMENT PERSONNEL.

We believe that our future success will depend to a significant extent on the efforts and abilities of our senior management, in particular Louis P. Scheps, our Chairman of the Board, President and Chief Executive Officer and Andrew Kersey, our Chief Operating Officer. The loss of the services of Mr. Scheps or Mr. Kersey could have a material adverse effect on our business and results of operations.

WE DO NOT EXPECT TO PAY CASH DIVIDENDS.

We have not paid cash dividends on our common stock since inception, and at this time we do not anticipate that we will pay cash dividends in the foreseeable future.

SPECIAL NOTE ON FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein, contain "forward-looking statements." These statements may be made directly in this prospectus or in documents incorporated by reference herein. Words such as "anticipate," "estimate," "expect," "project," "intend," "plan," "believe" and words and terms of similar substance used in connection with any discussion of future operating or financial performance, identify forward-looking statements. All forward-looking statements constitute our present estimates of future events and are subject to a number of factors and uncertainties, including, without limitation, the risks discussed in "Risk Factors", that could cause actual results to differ materially from those described in the forward-looking statements. In addition, the risks related to our business, among others, could cause actual results to differ materially from those described in the forward-looking statements. You are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus or as of the date of any document incorporated by reference in this prospectus, as applicable. We are not under any obligation, and expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of the common stock by the selling stockholders. All proceeds will be for the account of the selling stockholders, as described below. See "Selling Stockholders" and "Plan of Distribution." We would receive up to approximately $0.6 million upon payment of the exercise price of the warrants. We intend to use any such proceeds for general working capital.

SELLING STOCKHOLDERS

This prospectus relates to the offer and sale from time to time by the selling stockholders, including their transferees, pledgees or donees or their respective successors of up to 1,486,500 shares of common stock, including up to 1,279,000 shares of common stock issuable upon the exercise of presently exercisable warrants.

The selling stockholders listed in the table below may have sold or transferred, in transactions exempt from the registration requirements of the Securities Act of 1933, as amended, some or all of their common stock since the date as of which the information in the table is presented. Information about the selling stockholders may change over time. Any changed information will be set forth in an amendment to the registration statement or supplement to this prospectus, as required by law.

None of the selling stockholders nor any of their affiliates, officers, directors or principal equity holders has held any position or office or has had any material relationship with us within the past three years, except as set forth in the footnotes to the table below. None of the selling stockholders are broker-dealers or affiliated with a broker-dealer, except as set forth in the footnotes to the table below.

The shares of common stock offered herein were issued or are issuable pursuant to warrants that the company granted to the selling stockholders at various times as compensation for their services as directors of the company.

The following table contains information furnished to us by the selling stockholders, with respect to the selling stockholders and the common stock beneficially owned by each selling stockholder that may be offered under this prospectus. We prepared this table based on information supplied to us by the selling stockholders named in the table and have not sought to verify such information.

NAME OF SELLING STOCKHOLDER	SHARES OF COMMON STOCK BENEFICIALLY OWNED PRIOR TO OFFERING (1)	SHARES OF COMMON STOCK BEING SOLD	SHARES OF COMMON BENEFICIALLY OWNED OFFERING

Louis P. Scheps(3)	1,094,925 (4)	919,000 (5)	275,925
Myra Josephson(6)	75,000 (7)	75,000 (7)	0
Lawrence S. Burstein(8)	245,625 (9)	157,500 (10)	88,125
Jerome Baron(11)	235,450(12)	207,500	27,950
Jay M. Haft(13)	60,000(14)	60,000 (14)	0
Saul S. Milles, M.D.(15)	71,250 (16)	67,500(17)	3,750

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* Less than 1%

(1) Includes shares of common stock held on May 24, 2006 in the case of Mr. Scheps, May 25, 2006 in the case of Mr. Haft, Mr. Milles and Mr. Baron, May 30, 2006 in the case of Mrs. Josephson and May 31, 2006 in the case of Mr. Burstein and shares of common stock issuable upon the exercise of warrants or options held by the applicable selling stockholder which are exercisable within 60 days of such applicable date.

(2) This percentage is calculated using as the numerator, the number of shares of common stock included in the prior column and as the denominator, 10,430,586 shares of common stock outstanding as of March 31, 2006 plus the number of shares of common stock, if any, issuable upon the exercise of warrants or options held by the selling shareholder, assuming the sale by the selling shareholder of all of his or her shares covered by this prospectus.

(3) Mr. Scheps is Chairman of the Board, President and Chief Executive Officer and a director of the Company.

(4) Includes warrants to purchase 819,000 shares and options to purchase 50,000 shares, each exercisable within 60 days.

(5) Consists of common stock underlying warrants to purchase 819,000 shares exercisable within 60 days and warrants to purchase 100,000 shares exercisable only upon a change in control.

(6) Myra Josephson's husband was a director of the company prior to his death in July 1996.

(7) Consists of common stock underling warrants to purchase 75,000 shares.

(8) Mr. Burstein is a director of the company.

(9) Includes warrants to purchase 157,500 shares and options to purchase 3,750 shares exercisable within 60 days. Also includes 9,375 shares owned directly and indirectly by a family member and 75,000 shares held in Mr. Burstein's IRA rollover account.

(10) Consists of common stock underlying warrants to purchase 157,500 shares.

(11) Mr. Baron is a director of the company. Mr. Baron is also Vice-Chairman of Brean Murray, Carret and Co., LLC (formerly Brean Murray Securities Inc), a registered broker-dealer.

(12) Includes options to purchase 3,750 shares exercisable within 60 days.

(13) Mr. Haft was a director of the company until October 1996.

(14) Consists of common stock underlying warrants to purchase 60,000 shares.

(15) Dr. Milles is a director of the company.

(16) Consists of warrants to purchase 67,500 shares and options to purchase 3,750 shares exercisable within 60 days.

(17) Consists of common stock underlying warrants to purchase 67,500 shares.

PLAN OF DISTRIBUTION

The shares of common stock may be sold from time to time by the selling stockholders and their successors, including their transferees, pledgees or donees or their respective successors. Such sales may be made on one or more exchanges or in the over-the-counter market, or otherwise at prices and at terms then prevailing or at prices related to the then-current market price, or in negotiated transactions.

The shares of common stock may be sold by selling stockholders in one or more of the following types of transactions:

- a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to the resale registration statement;
- an exchange distribution in accordance with the rules of such exchange;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers; and
- transactions between sellers and purchasers without a broker/dealer.

In addition, any securities covered by the registration statement of which this prospectus is a part that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to the registration statement. From time to time as permitted by law the selling stockholders may engage in short sales, short sales versus the box, puts and calls and other transactions in securities of the issuer or derivatives thereof, and may sell and deliver the shares of common stock in connection therewith. In effecting sales, brokers or dealers engaged by the selling stockholders may arrange for other brokers or dealers to participate. Brokers or dealers will receive commissions or discounts from selling stockholders in amounts to be negotiated immediately prior to the sale.

The selling stockholders and any broker-dealers that act in connection with the sale of common stock under this prospectus may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act and any commissions received and any profit on the resale of the common stock may be deemed to be underwriting discounts or commissions under the Securities Act. Neither we nor any selling stockholder can presently estimate the amount of such compensation. Selling stockholders and broker-dealers who are "underwriters" within the meaning of the Securities Act are subject to the prospectus delivery requirements of the Securities Act.

To the extent required, the specific common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agent, dealer or underwriter, and any applicable discounts, concessions or commissions with respect to a particular offer will be set forth in an amendment to the registration statement, of which this prospectus is a part, or in a supplement to this prospectus, as required by law.

We have agreed, among other things, to bear all fees and expenses in connection with the sale of the securities being registered hereby (except any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or other expenses incurred by the selling stockholders in disposing of the securities being registered hereby).

LEGAL MATTERS

The validity of the securities in respect of which this prospectus is being delivered will be passed on for us by Wiggin and Dana LLP, Stamford, Connecticut.

EXPERTS

The consolidated financial statements of CAS Medical Systems, Inc. as of December 31, 2005 and 2004 and for the years then ended audited by UHY LLP, independent registered public accounting

firm, have been incorporated by reference herein and in the registration statement in reliance upon the report thereon dated March 6, 2006 of said firm, given upon its authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission under the Exchange Act. You may read and copy any reports, statements or other information on file at the Securities and Exchange Commission public reference room located at 100 F Street N.E., Washington, D.C. 20549. Please call the Securities and Exchange Commission at 1-800-SEC-0330 for further information on the public reference room. Securities and Exchange Commission filings are also available to the public from commercial document retrieval services. These filings are also available at the Internet website maintained by the Securities and Exchange Commission at http://www.sec.gov.

We incorporate by reference into this prospectus the documents listed below and any future filings we make with the Securities and Exchange Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act, provided, however, that we are not incorporating any information furnished under Items 2.02 or 7.01 of any current report on Form 8-K. Any statement in a document incorporated by reference into this prospectus will be deemed to be modified or superseded to the extent a statement contained in (1) this prospectus or (2) any other subsequently filed document that is incorporated by reference into this prospectus modifies or supersedes such statement.

- Current Reports on Form 8-K filed on March 6, 2006 and May 3, 2006;
- Quarterly Report on Form 10-QSB for the quarter ended March 31, 2006;
- Annual Report on Form 10-KSB for the year ended December 31, 2005;

- Definitive Proxy Statement filed April 24, 2006; and
- the description of our common stock contained in the Registration Statement on Form S-18 filed on March 7, 1985.

Documents incorporated by reference are available without charge by requesting them in writing or by telephone at:

CAS Medical Systems, Inc.
Investor Relations
44 East Industrial Road
Branford, Connecticut 06405
(203) 488-6056

INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent to the Registrant. The Delaware General Corporation Law provides that Section 145 is not exclusive of other

rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Article 5.2(a) of our certificate of incorporation and Article XII of our bylaws provide for indemnification by us of our directors, officers, employees and agents to the fullest extent permitted by the Delaware General Corporation Law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, or (iv) for any transaction from which the director derived an improper personal benefit. Our certificate of incorporation provides for such limitation of liability.

We maintain standard policies of insurance under which coverage is provided to our directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act.

The foregoing indemnity provisions could require indemnification with respect to liabilities arising under the Securities Act of 1933 (the "Act"). Insofar as indemnification for liabilities arising under the Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the costs and expenses, all of which will be borne by the Registrant in connection with the sale of the securities being registered hereby (except any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or other expenses incurred by the selling stockholders in disposing of the securities being registered hereby). All amounts are estimates except the registration fee.

SEC registration fee	$ 876.40
Printing expenses	$ 2,000.00
Legal fees and expenses of the Registrant	$ 10,000.00
Accounting fees and expenses	$ 10,000.00
Miscellaneous expenses	$ 123.60
Total	$ 23,000.00

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent to the Registrant. The Delaware General Corporation Law provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise. Article 5.2(a) of the Registrant's certificate of incorporation and Article XII of the Registrant's bylaws provide for indemnification by the Registrant of its directors, officers, employees and agents to the fullest extent permitted by the Delaware General Corporation Law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) for unlawful payments of dividends or unlawful stock repurchases, redemptions or other distributions, or (iv) for any transaction from which the director derived an improper personal benefit. The Registrant's certificate of incorporation provides for such limitation of liability.

The Registrant maintains standard policies of insurance under which

coverage is provided to its directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act.

ITEM 16. EXHIBITS

EXHIBIT NUMBER	DOCUMENT
5.1	Opinion of Wiggin and Dana LLP*
23.1	Consent of Independent Registered Public Accounting Firm
23.2	Consent of Wiggin and Dana LLP (included in the opinion filed as Exhibit 5.1)*
24.1	Power of Attorney (included on signature page)

* To be filed by amendment.

ITEM 17. UNDERTAKINGS.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement.

PROVIDED, HOWEVER, that small business issuers do not need to give the statements in paragraphs (a)(1)(i), (a)(1)(ii), and (a)(1)(iii) above if the information required in a post-effective amendment is incorporated by reference from periodic reports filed by the small business issuer under the Exchange Act of 1934, or is contained in a form of prospectus filed pursuant to Securities Act Rule 424(b) that is deemed part of and included in the registration statement.

(2) That, for determining liability under the Securities Act, each post-effective amendment shall be treated as a new registration statement of the securities offered, and the offering of the securities at that time shall be treated as the initial BONA FIDE offering thereof.

(3) To file a post-effective amendment to remove from registration any of the securities that remain unsold at the end of this offering.

(4) For determining liability of the undersigned small business issuer under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned small business issuer undertakes that in a primary offering of securities of the undersigned small business issuer pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned small business issuer will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned small business issuer relating to the offering required to be filed pursuant to Securities Act Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned small business issuer or used or referred to by the undersigned small business issuer;

(iii) The portion of any other free writing prospectus relating

to the offering containing material information about the undersigned small business issuer or its securities provided by or on behalf of the undersigned small business issuer; and

(iv) Any other communication that is an offer in the offering made by the undersigned small business issuer to the purchaser.

(b) For determining any liability under the Securities Act, the undersigned small business issuer will treat the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the small business issuer under Rule 424(b)(1), or (4), or 497(h) under the Securities Act as part of this registration statement as of the time the Commission declared it effective.

(c) For determining any liability under the Securities Act, the undersigned small business issuer will treat each post-effective amendment that contains a form of prospectus as a new registration statement for the securities offered in the registration statement, and that offering of the securities at that time as the initial BONA FIDE offering of those securities.

(d) For the purpose of determining liability under the Securities Act to any purchaser, each prospectus filed pursuant to Securities Act Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Securities Act Rule 430B or other than prospectuses filed in reliance on Securities Act Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. PROVIDED, HOWEVER, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(e) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly

authorized, in the City of Branford, State of Connecticut, on the 20th day of June, 2006.

CAS MEDICAL SYSTEMS INC.

By: /s/ Louis P. Scheps

Name: Louis P. Scheps
Title: President and Chief Executive Officer

SIGNATURES AND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Louis P. Scheps and Jeffery A. Baird, and each of them individually, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement and any and all additional registration statements pursuant to Rule 462(b) of the Securities Act of 1933, as amended, and to file the same, with all exhibits thereto, and all other documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agents full power and authority to do and perform each and every act in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities indicated on the 20th day of June, 2006.

SIGNATURE	TITLE
/s/ Louis P. Scheps --- (Louis P. Scheps)	President, Chief Executive Officer and Director (Principal Executive Officer)
/s/ Jeffery A. Baird --- (Jeffery A. Baird)	Chief Financial Officer (Principal Financial and Accounting Officer)
--- (Lawrence S. Burstein)	Director
/s/ Jerome S. Baron --- (Jerome S. Baron)	Director
/s/ Saul S. Milles --- (Saul S. Milles)	Director