UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

Quarterly Report Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

For the Quarterly Period Ended September 30, 2011

Commission File Number 0-13839

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 no.)

44 East Industrial Road, Branford, Connecticut 06405
(Address of principal executive offices, including zip code)

(203) 488-6056
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):
Large Accelerated Filer ☐ Accelerated Filer ☐ Non-Accelerated Filer ☐ Smaller Reporting Company ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: Common Stock, $.004 par value
13,615,173 shares as of November 1, 2011.

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PART I – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

CAS Medical Systems, Inc.

Condensed Consolidated Balance Sheets
(Unaudited)

	September 30, 2011	December 31, 2010
Current assets:		
Cash and cash equivalents	$ 11,557,069	$ 4,492,690
Short-term investments	2,486,208	—
Accounts receivable, net of allowance	2,914,554	2,606,616
Recoverable income taxes	—	13,655
Inventories	3,904,996	4,812,965
Other current assets	418,027	310,187
Total current assets	21,280,854	12,236,113
Property and equipment:		
Leasehold improvements	302,683	252,517
Equipment at customers	2,080,987	1,686,919
Machinery and equipment	4,921,935	5,114,460
	7,305,605	7,053,896
Accumulated depreciation and amortization	(5,386,622)	(5,244,819)
Property and equipment, net	1,918,983	1,809,077
Intangible and other assets, net	693,844	651,626
Total assets	$ 23,893,681	$ 14,696,816

CAS Medical Systems, Inc.

Condensed Consolidated Balance Sheets
(Unaudited)

Liabilities and Stockholders' Equity	**September 30, 2011**	**December 31, 2010**
Current liabilities:		
Accounts payable	$ 1,150,859	$ 2,283,906
Accrued expenses	1,210,371	909,331
Total current liabilities	2,361,230	3,193,237
Deferred gain on sale and leaseback of property	798,448	899,426
Income taxes payable	211,159	211,159
Total liabilities	3,370,837	4,303,822
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $.001 par value per share, 1,000,000 shares authorized -		
Series A convertible preferred stock, 95,500 shares issued and outstanding, liquidation value of $9,758,693 at September 30, 2011	8,817,345	—
Series A exchangeable preferred stock, 54,500 shares issued and outstanding; liquidation value of $5,603,610 at September 30, 2011	5,144,397	—
Common stock, $.004 par value per share, 40,000,000 shares authorized, 13,701,073 and 13,575,401 shares issued at September 30, 2011 and December 31, 2010, respectively, including shares held in treasury	54,804	54,302
Common stock held in treasury, at cost - 86,000 shares	(101,480)	(101,480)
Additional paid-in capital	10,684,049	10,002,600
(Accumulated deficit) retained earnings	(4,076,271)	437,572
Total stockholders' equity	20,522,844	10,392,994
Total liabilities and stockholders' equity	$ 23,893,681	$ 14,696,816

See accompanying notes.

CAS Medical Systems, Inc.

Condensed Consolidated Statements of Operations
(Unaudited)

	Three Months Ended September 30		Nine Months Ended September 30	
	2011	**2010**	**2011**	**2010**
Net sales	$ 5,785,832	$ 5,801,603	$ 17,146,135	$ 18,228,390
Cost of sales	3,590,253	3,407,482	10,690,360	10,446,978
Gross profit	2,195,579	2,394,121	6,455,775	7,781,412
Operating expenses:				
Research and development	996,132	476,748	2,513,705	1,405,513
Selling, general and administrative	3,039,552	2,751,432	8,708,299	7,455,034
	4,035,684	3,228,180	11,222,004	8,860,547
Operating loss	(1,840,105)	(834,059)	(4,766,229)	(1,079,135)
Other (income) expense, net	(8,696)	10,127	(13,751)	58,096
Loss from continuing operations before income taxes	(1,831,409)	(844,186)	(4,752,478)	(1,137,231)
Income tax expense (benefits)	8,155	(128,573)	(119,389)	(268,402)
Loss from continuing operations	(1,839,564)	(715,613)	(4,633,089)	(868,829)
(Loss) income from discontinued operations, net of income taxes	(15,833)	207,366	231,755	575,776
Net loss	(1,855,397)	(508,247)	(4,401,334)	(293,053)
Preferred stock dividends	288,145	—	362,303	—
Net loss applicable to common stockholders	$ (2,143,542)	$ (508,247)	$ (4,763,637)	$ (293,053)
Per share basic and diluted income (loss) applicable to common stockholders:				
Continuing operations	$ (0.16)	$ (0.06)	$ (0.38)	$ (0.07)
Discontinued operations	$ (0.00)	$ 0.02	$ 0.02	$ 0.05
Net loss	$ (0.16)	$ (0.04)	$ (0.36)	$ (0.02)
Weighted average number of common shares outstanding:				
Basic and diluted	13,144,326	12,808,865	13,080,766	11,925,544

See accompanying notes.

CAS Medical Systems, Inc.

Condensed Consolidated Statement of Changes in Shareholders' Equity
(Unaudited)

For the Nine Months Ended September 30, 2011

	Preferred Stock		Common Stock				Additional	(Accumulated Deficit)	
			Issued		Held in Treasury		Paid - in	Retained	
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Earnings	Total
BALANCE, December 31, 2010	**—**	$ —	**13,575,401**	**$ 54,302**	**86,000**	**$ (101,480)**	**$10,002,600**	**$ 437,572**	**$10,392,994**
Net loss								(4,401,334)	(4,401,334)
Common stock issued upon exercise of stock options and warrants			48,250	193			44,983		45,176
Common stock issued under stock purchase plan			4,705	18			13,238		13,256
Restricted stock issued, net of cancellations			72,717	291			(291)		—
Sale of convertible preferred stock, net of transaction costs and expenses	95,500	8,817,345							8,817,345
Reclassification of exchangeable preferred stock, net of transaction costs and expenses	54,500	5,144,397							5,144,397
Dividends on exchangeable preferred stock prior to reclassification								(112,509)	(112,509)
Stock compensation	—	—					623,519		623,519
BALANCE, September 30, 2011	**150,000**	**$13,961,742**	**13,701,073**	**$ 54,804**	**86,000**	**$ (101,480)**	**$10,684,049**	**$ (4,076,271)**	**$20,522,844**

See accompanying notes.

CAS Medical Systems, Inc.

Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Nine Months Ended September 30,	
	2011	**2010**
OPERATING ACTIVITIES:		
Net loss	$ (4,401,334)	$ (293,053)
Less income from discontinued operations	231,755	575,776
Loss from continuing operations	(4,633,089)	(868,829)
Adjustments to reconcile net loss from continuing operations to net cash (used in) provided by operating activities:		
Depreciation and amortization	662,840	678,503
Stock compensation	623,519	145,826
Amortization of gain on sale and leaseback	(100,978)	(100,978)
Deferred income taxes	(119,389)	(249,357)
Changes in operating assets and liabilities:		
Accounts receivable	(307,938)	(538,976)
Inventories	907,969	1,163,446
Other current assets	(107,840)	(313,237)
Accounts payable and accrued expenses	(830,007)	1,046,612
Income taxes payable	11,655	762,005
Net cash (used in) provided by operating activities of continuing operations	(3,893,258)	1,725,015
INVESTING ACTIVITIES:		
Expenditures for property and equipment	(692,439)	(442,532)
Short-term investments	(2,486,208)	—
Purchase of intangible assets	(122,525)	(19,321)
Net cash used in investing activities of continuing operations	(3,301,172)	(461,853)
FINANCING ACTIVITIES:		
Proceeds from note payable	154,150	183,656
Repayments of note payable	(154,150)	(180,808)
Repayments under line-of-credit	—	(1,969,657)
Repayments of long-term debt	—	(485,522)
Deferred financing costs	—	(123,219)
Proceeds from sale of preferred stock, net	13,849,233	—
Proceeds from issuance of common stock	58,432	1,908,841
Net cash provided by (used in) financing activities of continuing operations	13,907,665	(666,709)
Net cash provided by continuing operations	6,713,235	596,453
Cash flows from discontinued operations		
Cash provided by operating activities of discontinued operations	351,144	1,137,216
Net cash provided by discontinued operations	351,144	1,137,216
Net change in cash and cash equivalents	7,064,379	1,733,669
Cash and cash equivalents, beginning of period	4,492,690	1,186,779
CASH AND CASH EQUIVALENTS, END OF PERIOD	$ 11,557,069	$ 2,920,448
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION		
Cash paid during the period for interest	$ 1,356	$ 134,089
Cash paid (refunded) during the period for income taxes, net	$ (40,383)	$ (839,501)

See accompanying notes.

(1) The Company

CAS Medical Systems, Inc. (the "Company" or "CASMED") is a medical technology company that develops, manufactures and distributes non-invasive patient monitoring products that are vital to patient care. Our products include the FORE-SIGHT® Absolute Tissue Oximeter and sensors, and our Traditional Monitoring products which include MAXNIBP® blood pressure measurement technology, bedside monitoring products and supplies for neonatal intensive care. These products are designed to provide accurate, non-invasive, biologic measurements that guide healthcare providers to deliver improved patient care. The products are sold by CASMED through its own sales force, via distributors, manufacturers' representatives and pursuant to original equipment manufacturer ("OEM") agreements both internationally and in the United States.

(2) Basis of Presentation

The condensed consolidated financial statements included herein have been prepared, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission. Certain information and disclosures included in financial statements prepared in accordance with accounting principles generally accepted in the United States of America have been condensed or omitted pursuant to such rules and regulations. These condensed consolidated financial statements should be read in conjunction with the financial statements and notes thereto included in the Company's Annual Report filed on Form 10-K for the year ended December 31, 2010. The condensed consolidated balance sheet as of December 31, 2010 was derived from the audited financial statements.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of sales and expenses during the reporting period. Estimates that are particularly sensitive to change in the near-term are inventory valuation allowances, deferred income tax asset valuation allowances and allowances for doubtful accounts. Actual results could differ from those estimates. In the opinion of the Company, all adjustments (consisting of normal recurring accruals) necessary to present fairly the consolidated financial position of the Company and its consolidated results of operations and cash flows have been included in the accompanying financial statements. The results of operations for interim periods are not necessarily indicative of the expected results for the full year.

(3) Private Placement of Preferred Stock

On June 8, 2011, the Company entered into an investment agreement pursuant to which the Company issued on June 9, 2011 (i) 95,500 shares of a newly created series of preferred stock, designated "Series A Convertible Preferred Stock," par value $0.001 per share which are convertible into authorized but unissued shares of common stock, par value $0.004 per share, of the Company and (ii) 54,500 shares of a newly created series of preferred stock, designated "Series A Exchangeable Preferred Stock," par value $0.001 per share which are convertible, following stockholder approval, into authorized but unissued shares of common stock, par value $0.004 per share, of the Company. A special meeting of the Company's stockholders took place on August 22, 2011 at which time the stockholders approved proposals that resulted in the modification of the Series A Exchangeable Preferred Stock such that the Series A Exchangeable Preferred Stock now has identical terms to the Series A Convertible Preferred Stock.

The Company received an aggregate cash purchase price of $15,000,000 representing a per-share purchase price of $100 for the Series A Convertible Preferred Stock and $100 for the Series A Exchangeable Preferred Stock. The Company utilized a placement agent to assist in the transaction which was paid a fee of $900,000 plus certain expenses. The Company received net proceeds, after transaction costs and expenses, of $13,849,233.

Series A Convertible Preferred Stock

The shares of Series A Convertible Preferred Stock (the "Series A Preferred Stock") issued upon closing are convertible at the option of the holder into common stock at a conversion price of $2.82 (the "Conversion Price"). The Conversion Price is subject to standard weighted average anti-dilution adjustments.

Following the date of issuance, the stated value ($100.00 per share) of the Series A Preferred Stock accretes at an annual rate of 7% compounded quarterly. On an annual basis prior to the third anniversary of the original date of issuance, the holders may elect, pursuant to certain requirements, to receive the following twelve months of accretion in the form of a dividend of 7% per annum, payable quarterly in cash at the holder's option. After the third anniversary of the closing, such accretion may be made in cash at the Company's option. The Series A Preferred Stock is subject to certain default provisions whereby the dividend rate would be increased by an additional 5% per annum.

After the third anniversary of the original date of issuance, the Company can force conversion of all, and not less than all, of the outstanding Series A Preferred Stock into Company common stock as long as the closing price of our common stock is at least 250% of the Conversion Price, or $7.05 per common share, for at least 20 of the 30 consecutive trading days immediately prior to the conversion and the average daily trading volume is greater than 50,000 shares per day over the 30 consecutive trading days immediately prior to such conversion. The Company's ability to cause a conversion is subject to certain other conditions as provided pursuant to the terms of the Series A Preferred Stock.

The Series A Preferred Stock is entitled to a liquidation preference equal to the greater of 100% of the accreted value for each share of Series A Preferred Stock outstanding on the date of a liquidation plus all accrued and unpaid dividends or the amount a holder would have been entitled to had the holder converted the shares of Series A Preferred Stock into common stock immediately prior to the liquidation. The Series A Preferred Stock will vote together with the common stock as-if-converted on the original date of issuance. Holders of Series A Preferred Stock are entitled to purchase their pro rata share of additional stock issuances in certain future financings.

Series A Exchangeable Preferred Stock

Prior to approval by the stockholders of the Company at the Special Meeting of Stockholders dated August 22, 2011, holders of the Series A Exchangeable Preferred Stock did not have any voting rights and the stated value of the Series A Exchangeable Preferred Stock of $100.00 per share accreted at an annual rate of 10%, compounded quarterly. The Series A Preferred Stock was initially recorded as temporary equity as holders had the right to redeem their shares for cash five years from the issuance date. The redemption right terminated upon stockholders approval at which time the Company reclassified the Series A Exchangeable Preferred Stock, including dividends of $112,509, to permanent equity. Following approval by the stockholders of the Company, the Series A Exchangeable Preferred Stock now has identical terms to the Series A Preferred Stock.

Pursuant to the terms of the Series A Preferred Stock and Series A Exchangeable Preferred Stock, a holder must issue a written request to the Company by June 15th 2011, 2012, or 2013 to receive cash dividends for the applicable succeeding four fiscal quarters ended June 30th, September 30th, December 31st, and March 31st and for any period prior to the date of such letter and the original issue date of June 9, 2011. The Company did not receive such a request by June 15, 2011 for the fiscal quarters through March 31, 2012. As of September 30, 2011 $362,303 in dividends had accumulated on the Series A Preferred Stock and the Series A Exchangeable Preferred Stock.

(4) Inventories; Property and Equipment; Intangible and Other Assets

Inventories consist of:

	September 30, 2011	December 31, 2010
Raw materials	$ 3,046,957	$ 3,733,550
Work in process	12,314	2,950
Finished goods	845,725	1,076,465
	$ 3,904,996	$ 4,812,965

Property and equipment are stated at cost and include FORE-SIGHT cerebral oximetry monitors primarily located at customer sites within the United States. Such equipment is held under a no-cost program whereby customers purchase disposable sensors for use with the Company's equipment. The Company retains title to the monitors shipped to its customers under this program. Property and equipment is depreciated using the straight-line method over the estimated useful lives of the assets.

Intangible assets consist of patents issued, patents pending, trademarks, purchased technology and other deferred charges which are recorded at cost. Patents are amortized on a straight-line basis over 20 years. Capitalized costs are amortized over their estimated useful lives. Deferred financing costs are amortized over the term of the related debt. Other deferred charges are amortized over their estimated useful lives.

Intangible and other assets consist of the following:

	September 30, 2011	December 31, 2010
Patents and other assets	$ 682,321	$ 593,166
Patents pending	288,346	254,975
Purchased technology	46,026	46,026
Deferred finance charges	—	170,205
	1,016,693	1,064,372
Accumulated amortization	(322,849)	(412,746)
	$ 693,844	$ 651,626

Amortization expense of intangible and other assets for the nine months ended September 30, 2011 was $80,307. Estimated amortization expense for the calendar year 2011 is $97,092. Expected amortization expense of intangible and other assets for the next five calendar years follows:

2012	$ 65,000
2013	51,000
2014	23,000
2015	14,000
2016	14,000
	$ 167,000

The Company reviews its intangibles and other assets for impairment at least annually or whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company believes that the carrying amounts of its long-lived assets are fully recoverable.

(5) Principal Products and Services

The Company has categorized its sales of products and services into the following categories:

· Tissue oximetry monitoring products – includes sales of the FORE-SIGHT cerebral monitors, sensors and accessories.

· Traditional vital signs monitoring products - includes:

1) Vital signs bedside monitors and accessories incorporating various combinations of measurement parameters for both human and veterinary use. Parameters found in these monitors include the Company's proprietary MAXNIBP non-invasive blood pressure, pulse oximetry, electro-cardiography, temperature, and capnography.

2) Blood pressure measurement technology – includes sales to OEM manufacturers of the Company's proprietary MAXNIBP non-invasive blood pressure technology, sold as a discrete module to be included in the OEM customers own multi-parameter monitors, and related license fees.

3) Supplies and service – includes sales of neonatal intensive care supplies including electrodes and skin temperature probes, and service repair.

(6) Discontinued Operations

On November 5, 2010, the Company sold certain assets and liabilities related to its Statcorp business unit, which included its blood pressure and infusor cuff product lines, in exchange for $3,200,000 in cash at closing. As provided in the purchase agreement, the aggregate consideration paid to the Company at closing was subject to an adjustment based upon changes in the net working capital of the business as of the closing date relative to a net working capital target. The adjustment resulted in $78,964 of additional consideration paid to the Company. Further, the Company earned an additional $250,000 as of June 30, 2011 as a result of the buyer reaching certain net revenue thresholds in the six-month period following the closing.

The following table represents the financial results of the discontinued operations for the three and nine months ended September 30, 2011 and 2010:

	Three Months Ended September 30		Nine Months Ended September 30	
	2011	**2010**	**2011**	**2010**
Revenues	$ 0	$ 1,988,816	$ 0	$ 6,281,503
Cost of products sold	0	1,519,306	0	5,085,533
Gross profit	0	469,510	0	1,195,970
Operating expenses	0	130,872	0	305,276
Interest expense	0	19,614	0	65,561
Other (expense) income	(23,988)	0	351,144	0
(Loss) income from discontinued operations before income taxes	(23,988)	319,024	351,144	825,133
Income tax (benefit) expense	(8,155)	111,658	119,389	249,357
(Loss) income from discontinued operations	$ (15,833)	$ 207,366	$ 231,755	$ 575,776

Interest expense allocated to discontinued operations in 2010 relates to the Company's bank term note which was originated to finance the acquisition of the Statcorp business unit in May 2005. The term note was repaid in full commensurate with the sale of the business unit in November 2010.

Other income of $351,144 for the nine-month period ended September 30, 2011, includes a $250,000 earn-out received by the Company and fees paid by the buyer for transitional support services provided by the Company. Transitional support services were concluded during the second quarter of 2011.

(7) Income (Loss) per Common Share Applicable to Common Stockholders

Basic earnings (loss) per common share is computed by dividing net loss applicable to common stockholders by the weighted average number of common shares outstanding for the period. Diluted earnings (loss) per share reflects the potential dilution that could occur if common stock equivalents such as unvested restricted common shares, outstanding warrants and options or convertible preferred stock were exercised or converted into common stock. For all periods reported, the Company incurred net losses from continuing operations. Therefore, for each period reported, diluted loss per share is equal to basic loss per share because the effect of including such common stock equivalents or other securities would have been anti-dilutive.

At September 30, 2011, stock options and warrants to purchase 585,500 and 889,401, shares of common stock, respectively, were excluded from the diluted earnings per share calculation as they would have been anti-dilutive. On an as-converted basis, 5,447,879 shares of common stock pertaining to the private placement of 150,000 shares of Series A convertible preferred stock issued on June 9, 2011 were also excluded as they would have been anti-dilutive.

The following table presents a reconciliation of the numerators and denominators of basic and diluted loss per share:

	Three Months Ended September 30,		Nine Months Ended September 30	
	2011	2010	2011	2010
Loss from continuing operations	$ (1,839,564)	$ (715,613)	$ (4,633,089)	$ (868,829)
Preferred stock dividends	288,145	—	362,303	—
Loss from continuing operations applicable to common stockholders	(2,127,709)	(715,613)	(4,995,392)	(868,829)
Income from discontinued operations	(15,833)	207,366	231,755	575,776
Net loss applicable to common stockholders	$ (2,143,542)	$ (508,247)	$ (4,763,637)	$ (293,053)
Weighted average shares outstanding, net of unvested restricted common shares – used to compute basic and diluted income (loss) per share applicable to common stockholders	13,144,326	12,808,865	13,080,766	11,925,544

(8) Stock Compensation Expense and Share-based Payment Plans

Stock compensation expense was $203,022 and $62,793, and $623,519 and $145,826 for the three and nine month periods ended September 30, 2011 and 2010, respectively. Stock compensation for the nine months ended September 30, 2010 includes a forfeiture adjustment of ($48,619).

As of September 30, 2011, the unrecognized stock-based compensation cost related to stock option awards and unvested restricted common stock was $1,959,309. Such amount, net of estimated forfeitures, will be recognized in operations through the third quarter of 2015.

The following table summarizes the Company’s stock option information as of and for the nine-month period ended September 30, 2011:

	Option Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value (1)	Weighted-Average Contractual Life Remaining in Years
Outstanding at December 31, 2010	935,875	$ 2.29	$ 877,788	7.0
Granted	350,000	2.98		
Cancelled	(40,834)	2.38		
Exercised	(48,250)	0.94		
Outstanding at September 30, 2011	1,196,791	$ 2.54	$ 104,036	7.5
Exercisable at September 30, 2011	423,580	$ 2.37	$ 83,390	4.5
Vested and expected to vest at September 30, 2011	1,173,590	$ 2.54	$ 103,416	7.5

(1) The intrinsic value of a stock option is the amount by which the market value, as of the applicable date, of the underlying stock exceeds the option exercise price.

The exercise period for all outstanding stock options may not exceed ten years from the date of grant. Stock options granted to employees and members of the board of directors vest typically not less than three years from the grant date. The Company attributes stock-based compensation cost to operations using the straight-line method over the applicable vesting period.

On June 8, 2011, at the Company's annual meeting of stockholders, the CAS Medical Systems, Inc. 2011 Equity Incentive Plan (the "2011 Plan") was approved by its stockholders. The 2011 Plan provides for the availability of a maximum of 1,000,000 shares of the Company's common stock, with a maximum of 500,000 shares available for issuance with respect to awards of restricted stock and restricted stock units. As of September 30, 2011, 950,000 shares of common stock remained available for issuance under the 2011 Plan. In addition, 44,669 shares remained available under the 2003 Equity Incentive Plan.

During the nine months ended September 30, 2011, stock options for 350,000 shares of common stock were granted to our employees including an inducement stock option grant of 150,000 shares issued to our Vice President of Sales and Marketing commensurate with the start of his employment with the Company on January 7, 2011 and a stock option grant for 50,000 shares issued to our Chief Financial Officer. Stock options for 20,000 shares each were issued to two new members of the board of directors who were appointed on June 9, 2011 in connection with the private placement of shares of our Series A Preferred Stock and Series A Exchangeable Preferred Stock. The fair value of each option granted was estimated on the date of grant using the Black-Scholes option-pricing model assuming a weighted average expected stock price volatility of 89%, a weighted average expected option life of 5.2 years, an average risk-free interest rate of 2.7% and a 0.0% average dividend yield. The weighted average fair value of the stock options granted during the nine months ended September 30, 2011 was $2.09 per share. The stock options contain various vesting formulas however they generally vest over a three to four year period.

Restricted stock granted to employees vests typically over a period of not less than three years while restricted stock granted to members of the board of directors vests ratably over twelve months from date of grant. During the nine months ended September 30, 2011, 83,718 shares of restricted common stock were granted including 50,000 shares to executive officers of the Company and 23,718 shares to non-employee members of the board of directors. Those awards included an inducement restricted stock grant of 25,000 shares issued to our Vice President of Global Sales and Marketing commensurate with the start of his employment and a restricted stock grant for 25,000 shares issued to our Chief Financial Officer. As of September 30, 2011, 457,703 restricted shares issued to employees and members of the board of directors remain issued and non-vested.

A summary of the restricted shares outstanding and changes for the relevant periods follow:

	Nine Months Ended September 30, 2011	Weighted Average Grant Date Fair-Value	Twelve Months Ended December 31, 2010	Weighted Average Grant Date Fair-Value
Outstanding at beginning of period	484,070	$ 1.87	190,265	$ 2.56
Granted	83,718	2.95	451,222	2.04
Cancelled	(11,001)	2.08	(18,501)	1.85
Vested	(99,084)	2.05	(138,916)	2.56
Outstanding at end of period	457,703	$ 2.23	484,070	$ 1.87

(9) Short-term Investments and Line-of-Credit

The Company's short-term investments are held in certificates of deposit ("CDs") with maturities greater than three months. These investments are recorded at amortized cost.

The Company's line-of-credit agreement, as amended, with its bank lender expired on April 1, 2011. The Company elected not to renew the line-of credit.

(10) Income Taxes

The Company does not expect to record taxable income during its 2011 fiscal year. Further, income tax benefits that may be generated during 2011 would be offset by a deferred income tax asset valuation allowance. Management established the valuation allowance at December 31, 2009 as a result of then recent cumulative pre-tax losses and its estimates of future taxable income. Management has continued to perform the required analysis regarding the realization of our deferred income tax assets concluding that a full valuation allowance is warranted. As of September 30, 2011, the deferred income tax asset valuation allowance balance was $3,209,946.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Certain statements included in this report, including without limitation statements in Management's Discussion and Analysis of Financial Condition and Results of Operations, which are not historical facts, are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements represent the Company's current expectations regarding future events. The Company cautions that such statements are qualified by important factors that could cause actual results to differ materially from expected results which may be contained in the forward-looking statements. All forward-looking statements involve risks and uncertainties, including, but not limited to, the following: foreign currency fluctuations, regulations and other economic and political factors which affect the Company's ability to market its products internationally, changes in economic conditions that adversely affect demand for the Company's products, potential liquidity constraints, new product introductions by the Company's competitors, increased price competition, rapid technological changes, dependence upon significant customers, availability and cost of components for the Company's products, the impact of any product liability or other adverse litigation, marketplace acceptance for the Company's new products, FDA and other governmental regulatory and enforcement actions, changes in reimbursement levels from third-party payors, changes to federal research and development grant programs presently utilized by the Company and other factors described in greater detail in the Company's most recent annual report on Form 10-K.

Results of Operations

As a result of a change in senior management during August 2010, we developed a new strategy to revitalize the Company and return it to growth. Specifically, after rationalizing our non-core product lines in 2010, we committed to refreshing our portfolio of products and strengthening our distribution. We continue to make material progress in the execution of that strategy to further position the Company to achieve significant revenue growth of our FORE-SIGHT products, and to return our Traditional Monitoring products to overall revenue growth.

For the three months ended September 30, 2011, the Company reported a net loss applicable to common stockholders of $2,144,000, or ($0.16) per basic and diluted common share, compared to a net loss applicable to common stockholders of $508,000, or ($0.06) per basic and diluted common share, for the three months ended September 30, 2010. The loss from continuing operations was $1,840,000, or ($0.16) per basic and diluted common

share, compared to a loss from continuing operations of $716,000, or ($0.06) per basic and diluted common share, reported for the three months ended September 30, 2010. The loss from discontinued operations was $16,000 or ($0.00) per basic and diluted common share for the three months ended September 30, 2011 compared to income from discontinued operations of $207,000, or $0.02 per basic and diluted common share, for the same period of the prior year.

The Company generated revenues of $5,786,000 for the three months ended September 30, 2011, a decrease of $16,000 compared to revenues of $5,802,000 for the three months ended September 30, 2010. The following table provides information with respect to revenues by major category:

Total Revenues

($000's)	**Three Months Ended September 30, 2011**	**Three Months Ended September 30, 2010**	**Increase/ (Decrease)**
Traditional Vital Signs Monitoring	$ 4,449	$ 4,441	$ 8
Tissue Oximetry Monitoring	1,318	1,236	82
	5,767	5,677	90
Discontinued Products – Apnea/Analogic	19	125	(106)
	$ 5,786	$ 5,802	$ (16)
Domestic Sales	$ 4,676	$ 4,624	$ 52
International Sales	1,110	1,178	(68)
	$ 5,786	$ 5,802	$ (16)

Traditional vital signs monitoring product revenues for the three months ended September 30, 2011 increased $8,000 to $4,449,000 from $4,441,000 reported for the same period in the prior year. Increases in sales of vital signs monitors were largely offset by reduction in sales of OEM technology products.

Tissue oximetry product revenues of $1,318,000 for the three months ended September 30, 2011 were $82,000, or 7%, above the $1,236,000 reported for the same period in the prior year led by a 46% increase in sensor sales. Sales of monitors and accessories decreased $272,000 from the prior year which contained a significant sale of monitors to a single U.S. customer. As of September 30, 2011, the Company's worldwide installed base of oximetry monitors was 511 units, an increase of 47% above the installed based as September 30, 2010. Details of tissue oximetry revenues are as follows:

Tissue Oximetry Revenues

($000's)	**Three Months Ended September 30, 2011**	**Three Months Ended September 30, 2010**	**Increase/ (Decrease)**
Sensor Sales	$ 1,120	$ 766	$ 354
Monitors and Accessories Sales	198	470	(272)
	$ 1,318	$ 1,236	$ 82
Domestic Sales	$ 982	$ 1,176	$ (194)
International Sales	336	60	276
	$ 1,318	$ 1,236	$ 82

Domestic tissue oximetry product sales were $982,000, a decrease of $194,000 from the $1,176,000 recorded for the third quarter of 2010. The third quarter of 2010 contained a significant monitor sale to a single customer as referred to above. International tissue oximetry product sales were $336,000, an increase of $276,000 over the third quarter of 2010 as a result of both higher monitor and sensor sales.

Sales of all products to the U.S. market accounted for $4,676,000, or 81%, of the total revenues reported for the three months ended September 30, 2011, an increase of $52,000, or 1%, from the $4,624,000 of sales reported for the three months ended September 30, 2010. The increase represents higher sales of vital signs monitors and OEM technology, offset by lower tissue oximetry monitor sales. International sales of all products accounted for $1,110,000, or 19%, of the total revenues reported for the three months ended September 30, 2011, a decrease of $68,000, or 6%, from the $1,178,000 reported for the same period of the prior year. Increases in tissue oximetry sales were offset by reductions in OEM technology sales.

For the nine months ended September 30, 2011, the Company reported a net loss applicable to common stockholders of $4,764,000, or $(0.36) per basic and diluted common share, compared to a net loss applicable to common stockholders of $293,000, or $(0.02) per basic and diluted common share, for the nine months ended September 30, 2010. The loss from continuing operations was $4,633,000, or ($0.38) per basic and diluted common share, compared to a loss from continuing operations of $869,000, or ($0.07) per basic and diluted common share, reported for the nine months ended September 30, 2010. Income from discontinued operations was $232,000, or $0.02 per basic and diluted common share, for the nine months ended September 30, 2011 compared to income from discontinued operations of $576,000, or $0.05 per basic and diluted common share, for the same period of the prior year.

The Company generated revenues of $17,146,000 for the nine months ended September 30, 2011, a decrease of $1,082,000, or 6%, compared to revenues of $18,228,000 for the nine months ended September 30, 2010. The following table provides information with respect to revenues by major category:

Total Revenues

($000's)	**Nine Months Ended September 30, 2011**	**Nine Months Ended September 30, 2010**	**Increase/ (Decrease)**
Traditional Vital Signs Monitoring	$ 12,427	$ 13,744	$ (1,317)
Tissue Oximetry Monitoring	4,655	3,968	687
	17,082	17,712	(630)
Discontinued Products – Apnea/Analogic	64	516	(452)
	$ 17,146	$ 18,228	$ (1,082)
Domestic Sales	$ 12,917	$ 12,801	$ 116
International Sales	4,229	5,427	(1,198)
	$ 17,146	$ 18,228	$ (1,082)

Traditional vital signs monitoring product revenues for the nine months ended September 30, 2011 decreased $1,317,000 or 10%, to $12,427,000 from $13,744,000 reported for the same period in the prior year. The decrease was primarily associated with reductions in sales of the Company's OEM technology products.

Tissue oximetry product revenues of $4,655,000 for the nine months ended September 30, 2011 were 17% or $687,000 above the $3,968,000 reported for the same period in the prior year primarily due to increases in domestic tissue oximetry sensor sales. Details of tissue oximetry revenues are as follows:

Tissue Oximetry Revenues

($000's)	**Nine Months Ended September 30, 2011**	**Nine Months Ended September 30, 2010**	**Increase/ (Decrease)**
Sensor Sales	$ 3,474	$ 2,567	$ 907
Monitors and Accessories Sales	1,181	1,401	(220)
	$ 4,655	$ 3,968	$ 687
Domestic Sales	$ 2,985	$ 2,561	$ 424
International Sales	1,670	1,407	263
	$ 4,655	$ 3,968	$ 687

Worldwide tissue oximetry sensor sales were $3,474,000, an increase of $907,000, or 35%, over worldwide sensor sales of $2,567,000 recorded for the first nine months of 2010. Worldwide sales of monitors and accessories decreased $220,000 to $1,181,000 from $1,401,000 reported for the first nine months of 2010. Domestic tissue oximetry product sales were $2,985,000, increasing $424,000, or 17% over the $2,561,000 recorded for the first nine months of 2010. International tissue oximetry product sales were $1,670,000, an increase of $263,000, or 19% over the $1,407,000 reported for the first nine months of 2010.

Sales of all products to the U.S. market accounted for $12,917,000, or 75%, of the total revenues reported for the nine months ended September 30, 2011, an increase of $116,000 from the $12,801,000 of sales reported for the nine months ended September 30, 2010. Sales were led by a 17% increase in U.S. tissue oximetry sales offset by reductions in sales of traditional monitoring products. International sales of all products accounted for $4,229,000, or 25%, of the total revenues reported for the nine months ended September 30, 2011, a decrease of $1,198,000, or 22%, from the $5,427,000 reported for the same period of the prior year.

Cost of sales was $3,590,000, or 62.1% of revenues for the three months ended September 30, 2011 compared to $3,407,000, or 58.7%, for the same period in the prior year. Cost of sales was $10,690,000, or 62.3%, for the nine months ended September 30, 2011 compared to $10,447,000, or 57.3%, for the nine months ended September 30, 2010. Unfavorable product mix driven by lower OEM technology sales and warranty costs were primarily responsible for the increased cost of sales as a percentage of sales for both the three and nine month-periods ended September 30, 2011.

Total operating expenses for the three months ended September 30, 2011 increased $808,000, or 25%, to $4,036,000 from $3,228,000 for the three months ended September 30, 2010. Operating expenses for the first nine months of 2011 increased $2,361,000, or 27%, to $11,222,000 from $8,861,000 for the first nine months of 2010. Operating expenses increased as expected over 2010 levels as a result of planned increases in R&D expenditures and incremental sales and marketing costs related to expansion of sales management and field sales personnel for the Company's tissue oximetry product line.

Research and development expenses increased $519,000, or 109%, to $996,000 for the three months ended September 30, 2011 compared to $477,000 for the three months ended September 30, 2010. R&D expenses for the nine months ended September 30, 2011 increased $1,108,000, or 79%, to $2,514,000 from $1,406,000 for the nine months ended September 30, 2010. The increase for both periods resulted from additional salaries and related fringe benefits due to personnel additions affected during the fourth quarter of 2010, increased project costs and lower reimbursements from the National Institutes of Health ("NIH"). The increases in R&D spending are consistent with the Company's plans.

For the nine months ended September 30, 2011, R&D expenses were partially supported by reimbursements from the NIH pertaining to the Company's Near-Infrared Spectroscopy ("NIRS") technology. NIH reimbursements totaled $318,000 for the nine months ended September 30, 2011 compared to $372,000 for the nine months ended September 30, 2010. As of September 30, 2011, a maximum of approximately $300,000 remains available under the $2.8 million multi-year NIH award received in 2007.

Selling, general and administrative ("S,G&A") expenses increased $289,000, or 11%, to $3,040,000 for the three months ended September 30, 2011 compared to $2,751,000 for the three months ended September 30, 2010. S,G&A expenses increased $1,253,000, or 17%, to $8,708,000 for the nine months ended September 30, 2011 from $7,455,000 for the same nine month period of the prior year. The increases in S,G&A for both the three and nine month periods ended September 30, 2011 were primarily related to field sales expenses, recruitment and relocation expenses, stock compensation amortization and accrued incentive costs which were partially offset by reduced legal expenses.

Other (income)/expense improved to $14,000 of income for the nine months ended September 30, 2011 compared to $58,000 of expense for the nine months ended September 30, 2010. The prior year expenses were related to interest charges on the Company's bank debt.

The income tax benefit was $119,000 for continuing operations for the first nine months of 2011. Such benefit was offset by related income tax expense for discontinued operations. The Company does not expect to record taxable income during its 2011 fiscal year. Income tax benefits that may be generated during 2011 would be offset by a deferred income tax asset valuation allowance. Management established the valuation allowance as of December 31, 2009 as a result of then recent cumulative pre-tax losses and its estimates of future taxable income. Management has continued to perform the required analysis regarding the realization of our deferred income tax assets concluding that a full valuation allowance is warranted. As of September 30, 2011, the deferred income tax asset valuation allowance balance was $3,210,000.

Financial Condition, Liquidity and Capital Resources

On June 8, 2011, the Company entered into an investment agreement (the "Agreement") pursuant to which the Company issued on June 9, 2011 (i) 95,500 shares of a newly created series of preferred stock, designated "Series A Convertible Preferred Stock," par value $0.001 per share (the "Series A Preferred Stock"), which are convertible into authorized but unissued shares of common stock, par value $0.004 per share, of the Company and (ii) 54,500 shares of a newly created series of preferred stock, designated "Series A Exchangeable Preferred Stock," par value $0.001 per share (the "Series A Exchangeable Preferred Stock") which are now convertible, following stockholder approval, into authorized but unissued shares of common stock, par value $0.004 per share, of the Company. The Company received an aggregate cash purchase price of $15.0 million representing a per-share purchase price of $100 for the Series A Preferred Stock and $100 for the Series A Exchangeable Preferred Stock. The Company utilized a placement agent to assist in the transaction which was paid a fee of $900,000 plus certain expenses. The Company received net proceeds, after transaction costs and expenses, of $13,849,000.

At September 30, 2011, the Company's cash and cash equivalents and short-term investments totaled $14,043,000 compared to $4,493,000 at December 31, 2010. Working capital increased $9,877,000 to $18,920,000 at September 30, 2011 from $9,043,000 on December 31, 2010. The Company's current ratio increased to 9.01 to 1 from 3.83 to 1.

Cash used in continuing operations for the nine months ended September 30, 2011 was $3,893,000 compared to cash provided by operations of $1,725,000 for the same period in the prior year. Losses from continuing operations before depreciation, amortization, stock compensation expenses and deferred income taxes, increases in accounts receivable and decreases in accounts payable and accrued expenses were primarily responsible for the cash used by continuing operations. Cash provided by operations of $1,725,000 for the nine months ended September 30, 2010 resulted primarily from reductions in inventory and increases in accounts payable and accrued expenses, partially offset by increases in accounts receivable.

Cash used in investing activities was $3,301,000 for the nine months ended September 30, 2011 compared to cash used in investing activities of $462,000 for the same period in the prior year. Expenditures for property and equipment of $692,000 for the nine months ended September 30, 2011 were driven by Fore-Sight cerebral oximeter customer placements and demonstration equipment requirements. The Company invested $2,486,000 in short term certificates of deposit with varying maturities. Purchases of intangible assets of $123,000 for the first nine months of 2011 primarily represent translation costs.

Cash provided by financing activities of continuing operations for the nine months ended September 30, 2011 was $13,908,000 compared to cash used by financing activities of $667,000 for the first nine months of the prior

year. The private placement of shares of our Series A Preferred Stock and Series A Exchangeable Preferred Stock accounted for $13,849,000 of the cash provided by financing activities. During the second quarter of 2011, the Company also financed certain of its insurance requirements under a short-term note payable which were repaid in full during the third quarter of 2011. During the nine months ended September 30, 2010, the Company raised approximately $1,909,000 of net proceeds from a non-brokered placement of its common stock, repaid $1,970,000 against its bank line-of-credit and repaid $486,000 toward its long-term debt. Deferred financing costs of $123,000 were associated with the Company's bank debt refinancing completed during March 2010.

Our 2011 business plans call for additional discretionary expenditures primarily to increase our efforts to develop and market our Fore-Sight tissue oximetry technology. Those business plans are to be funded from our current cash on hand which is expected to be sufficient to finance our operations for at least the next twelve months.

Cash flows may be influenced by a number of factors, including changing market conditions, market acceptance of the FORE-SIGHT system, and the loss of one or more key customers.

Critical Accounting Policies and Estimates

The Company's discussion and analysis of financial condition and results of operations are based on the condensed consolidated financial statements. The preparation of these financial statements requires the Company to make estimates and judgments that affect the amounts reported in them. The Company's critical accounting policies and estimates include those related to revenue recognition, the valuations of inventories and deferred income tax assets, measuring stock compensation, and warranty costs, determining useful lives of intangible assets, and making asset impairment valuations. The Company bases its estimates on historical experience and on various other assumptions that management believes to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. For additional information about the Company's critical accounting policies and estimates, see Item 7 and Note 2 to the financial statements included in the Company's Form 10-K for the year ended December 31, 2010. There were no significant changes in critical accounting policies and estimates during the nine months ended September 30, 2011.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The Company at times has certain exposures to market risk related to changes in interest rates. The Company's line-of-credit agreement with its bank lender expired on April 1, 2011. The Company elected not to renew the line-of credit. The Company holds no derivative securities for trading or other purposes and is not subject in any material respect to currency or other commodity risk.

ITEM 4. CONTROLS AND PROCEDURES

The Company maintains disclosure controls and procedures that are designed to ensure that information required to be disclosed in the Company's Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure based on the definition of "disclosure controls and procedures" in Rule 13a-15(e). In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management necessarily is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

The Company carried out an evaluation, under the supervision and with the participation of the Company's management, including the Company's Chief Executive Officer and the Company's Chief Financial Officer, of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of September 30, 2011. Based upon the foregoing evaluation, the Chief Executive Officer and Chief Financial Officer concluded that the Company's disclosure controls and procedures were effective as of that date.

There have been no changes in the Company's internal control over financial reporting during the quarter ended September 30, 2011 that have materially affected, or are reasonably likely to materially affect the Company's internal control over financial reporting.

Reference is made to the Certifications of the Chief Executive Officer and the Chief Financial Officer about these and other matters attached as Exhibits 31.1, 31.2 and 32.1 to this quarterly report on Form 10-Q.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

The manufacture and sale of our products exposes us to product liability claims and product recalls, including those which may arise from misuse or malfunction of, or design flaws in, our products or use of our products with components or systems not manufactured or sold by us. Product liability claims or product recalls, regardless of their ultimate outcome, could require us to spend significant time and money in litigation or to pay significant damages. We are currently a defendant in a pending product liability action. We believe that our product liability insurance is sufficient to cover any damages and costs that are likely with respect to this matter. There can be no assurance however that this will be the case with respect to this or any future matters. Furthermore, we may not be able to obtain insurance in the future at satisfactory rates or in adequate amounts. In addition, publicity pertaining to the misuse or malfunction of, or design flaws in, our products could impair our ability to successfully market and sell our products and could lead to product recalls.

In addition, we may become, in the normal course of our business operations, a party to other legal proceedings in addition to those described in the paragraph above. None of these other proceedings would be expected to have a material adverse impact on our consolidated results of operations, financial conditions, or cash flows.

ITEM 6. EXHIBITS

31.1	Certification pursuant to Rule 13a-14(a) of Thomas M. Patton, President and Chief Executive Officer
31.2	Certification pursuant to Rule 13a-14(a) of Jeffery A. Baird, Chief Financial Officer
32.1	Certification pursuant to 18 U.S.C. 1350 of Periodic Financial Report of Thomas M. Patton, President and Chief Executive Officer and Jeffery A. Baird, Chief Financial Officer
101	Interactive data files pursuant to Rule 405 of Regulation S-T

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

CAS MEDICAL SYSTEMS, INC.
(Registrant)

/s/ Thomas M. Patton — Date: November 8, 2011

By: Thomas M. Patton
President and Chief Executive Officer

/s/ Jeffery A. Baird — Date: November 8, 2011

By: Jeffery A. Baird
Chief Financial Officer

EXHIBIT 31.1

CERTIFICATION

I, Thomas M. Patton, certify that:

1. I have reviewed this quarterly report on Form 10-Q of CAS Medical Systems, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Thomas M. Patton Date: November 8, 2011
Thomas M. Patton
President and Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION

I, Jeffery A. Baird, certify that:

1. I have reviewed this quarterly report on Form 10-Q of CAS Medical Systems, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

/s/ Jeffery A. Baird
Jeffery A. Baird
Chief Financial Officer

Date: November 8, 2011

EXHIBIT 32.1

Certification of Periodic Financial Report

Pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Thomas M. Patton, the President and Chief Executive Officer, and Jeffery A. Baird, the Chief Financial Officer of CAS Medical Systems, Inc. (the "issuer"), do hereby certify that the quarterly report on Form 10-Q accompanying this certification (the "report") fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and that information contained in the report fairly presents, in all material respects, the financial condition and results of operations of the issuer.

/s/ Thomas M. Patton
Thomas M. Patton
President and Chief Executive Officer
CAS Medical Systems, Inc.

November 8, 2011

/s/ Jeffery A. Baird
Jeffery A. Baird
Chief Financial Officer
CAS Medical Systems, Inc.

November 8, 2011