As filed with the Securities and Exchange Commission on April 29, 2005.

Registration No. 333-122803

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

AMENDMENT NO. 1 TO FORM S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Merit Medical Systems, Inc.

(Exact name of registrant as specified in its charter)

Utal

(State or other jurisdiction of incorporation or organization)

87-0447695

(I.R.S. Employer Identification Number)

1600 West Merit Parkway, South Jordan, Utah 84095, (801) 253-1600

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

Kent W. Stanger Chief Financial Officer 1600 West Merit Parkway, South Jordan, Utah 84095 (801) 253-1600

Copies to:

Brian G. Lloyd
Parr Waddoups Brown Gee & Loveless
185 South State Street, Suite 1300, Salt Lake City, Utah 84111
(801) 532-7840

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

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

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

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:

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 delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. o

The registrant hereby amends this registration statement on the date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on the date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

PROSPECTUS

Merit Medical Systems, Inc.

100,000 Shares of Common Stock

This prospectus covers the offer and sale of up to 100,000 shares of our common stock, no par value, issuable upon the exercise of outstanding warrants to purchase our common stock. All of the shares that may be offered hereunder are to be offered and sold by persons who are existing security holders and identified in the section of this prospectus entitled "Selling Stockholder." Pursuant to Rule 416 of the Securities Act of 1933, as amended, this prospectus and the related registration statement cover a presently indeterminate number of shares of common stock issuable upon the occurrence of a stock split, stock dividend or other similar transaction.

We will not receive any of the proceeds from the sale of the shares offered in this prospectus. Our common stock is listed on the Nasdaq National Market under the symbol "MMSI." On April 28, 2005, the last reported sale price for our common stock as reported on the Nasdaq National Market was \$12.80 per share.

Our executive offices are located at 1600 West Merit Parkway, South Jordan, Utah 84095, and our telephone number is (801) 253-1600.

Carefully consider the risk factors beginning on page 3 of this prospectus before investing in the shares being offered with this prospectus.

This prospectus shall not constitute an offer to sell, or the solicitation of an offer to buy, in any state in which the offer or sale would be unlawful prior to or absent qualification under the securities laws of that state.

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

The date of this prospectus is April 29, 2005.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and in any prospectus supplement. We have not authorized anyone to provide you with different information. The selling stockholder is not permitted to make any offer or sale of these shares in any state where the offer or sale is not permitted. You should not assume that the information contained in, or incorporated by reference into, this prospectus is accurate as of any date other than the date on the front of this prospectus.

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RISK FACTORS

Before you invest in the securities described in this prospectus, you should be aware that the investment involves the assumption of various risks. You should consider carefully the risk factors described below together with all of the other information included in this prospectus before you decide to purchase any shares of our common stock.

Our products may be subject to recall or product liability claims.

Our products are used in connection with invasive procedures and in other medical contexts in which it is important that those products function with precision and accuracy. If our products do not function as designed, or are designed improperly, we may be forced by regulatory agencies to withdraw such products from the market. In addition, if medical personnel or their patients suffer injury as a result of any failure of our products to function as designed, or an inappropriate design, we may be subject to lawsuits seeking significant compensatory and punitive damages. Any product recall or lawsuit seeking significant monetary damages may have a material adverse effect on our business and financial condition.

Substantially all of our products are backed by a limited warranty for returns due to defects in quality and workmanship. We maintain a reserve for these future returned products, but the actual costs of such returns may significantly exceed the reserve, which could have a material adverse effect on our financial condition.

Termination of relationships with our suppliers, or failure of such suppliers to perform, could disrupt our business.

We rely on raw materials, component parts, finished products, and services supplied by outside third parties in connection with its business. For example, substantially all of our products are sterilized by two entities. In addition, some of our products are manufactured or assembled by third parties. If a supplier of significant raw materials, component parts, finished goods or services were to terminate its relationship with us, or otherwise cease supplying raw materials, component parts, finished goods or services consistent with past practice, our ability to meet its obligations to its end customers may be disrupted. A disruption with respect to numerous products, or with respect to a few significant products, could have a material adverse effect on our business and financial condition.

We may be unable to compete in its markets, particularly if there is a significant change in relevant practices and technology.

The market for each of our existing and potential products is highly competitive. We face competition from many companies, many of which are larger, better established and have greater financial, technical and other resources and greater market presence than we do. Such resources and market presence may enable our competition to more effectively market competing products or to market competing products at reduced prices in order to gain market share.

In addition, our ability to compete successfully is dependent, in part, upon our ability to respond effectively to changes in technology and to develop and market new products which achieve significant market acceptance. Competing companies with substantially greater resources than we have are actively engaged in research and development of diagnostic and interventional methods, treatments and procedures that could limit the market for our products and eventually make certain products obsolete. A reduction in the demand for a significant number of our products, or a few key products, could have a material adverse effect on our business and financial condition.

We may be unable to protect its proprietary technology or may infringe on the proprietary technology of others.

Our ability to remain competitive is dependent, in part, upon its ability to prevent other companies from using its proprietary technology incorporated into its products. We seek to protect our technology through a combination of patents and trade secrets, as well as license, proprietary know-how and confidentiality agreements. We may be unable, however, to prevent others from using its proprietary information, or continue to use such information itself, for numerous reasons, including the following:

- Our issued patents may not be sufficiently broad to prevent others from copying its proprietary technologies;
- Our issued patents may be challenged by third parties and deemed to be overbroad or unenforceable;
- Our products may infringe on the patents of others, requiring it to alter or discontinue its manufacture or sale of such products;
- Costs associated with seeking enforcement of our patents against infringement, or defending itself against allegations of infringement, may be significant;
- · Our pending patent applications may not be granted for various reasons, including overbreadth or conflict with an existing patent; and
- Other persons may independently develop, or have developed, similar or superior technologies.

We may be unable to successfully manage growth, particularly if accomplished through acquisitions.

Successful implementation of our business strategy will require that we effectively manage any associated growth. To manage growth effectively, our management will need to continue to implement changes in certain aspects of our business, to improve our information systems and operations to respond to increased demand, to attract and retain qualified personnel and to develop, train and manage an increasing number of management-level and other employees. Growth could place an increasing strain on our management, financial, product design, marketing, distribution and other resources, and we could experience operating difficulties. Any failure to manage growth effectively could have a material adverse effect on our results of operations and financial condition.

To the extent that we grow through acquisition, we will face the additional challenges of integrating its current operations, culture, informational management systems and other characteristics with that of the acquired entity. We may incur significant expenses in connection with negotiating and consummating one or more transactions, and it may inherit certain liabilities in connection with the acquisition as a result of its failure to conduct adequate due diligence or otherwise. In addition, we may not realize competitive advantages, synergies or other benefits anticipated in connection with such acquisition(s). If we do not adequately identify targets for, or manage issues related to its future acquisitions, such acquisitions may have a negative adverse effect on our business and financial results.

A significant adverse change in, or failure to comply with, governing regulations could adversely affect our business.

Substantially all of our products are "devices," as defined in the Federal Food, Drug and Cosmetic Act, and the manufacture, distribution, record keeping, labeling and advertisement of our products are subject to regulation by the FDA in the United States and its equivalent regulatory agencies in various foreign countries in which our products are manufactured, distributed, labeled, offered and sold. Further, we are subject to continual review and periodic inspections at its current facilities with respect to the FDA's Good Manufacturing Practices and similar requirements of foreign countries. In addition, we are subject to certain export control restrictions governed by the U.S. Department of the Treasury

and may be governed by other regulatory agencies in various foreign countries in which products are exported. Our business and financial condition could be adversely affected if it is found to be out of compliance with governing regulations. If such regulations are amended to become more restrictive and costly to comply with, the costs of compliance could adversely affect our business and financial condition.

A significant portion of our revenues are derived from a few products and procedures.

A significant portion of our revenues are attributable to sales of its inflation devices. During the year ended December 31, 2004, sales of our inflation devices (including inflation devices sold in custom kits and through OEM channels) accounted for approximately 33% of our total revenues. Any material decline in market demand for our inflation devices could have an adverse effect on our business and financial condition.

In addition, the products that have accounted for a majority of our historical revenues are designed for use in connection with a few related medical procedures, including angioplasty, stent placement procedures, and spinal procedures. If subsequent developments in medical technology or drug therapy make such procedures obsolete, or alter the methodology of such procedures so as to eliminate the usefulness of our products, we may experience a material decrease in demand for its products and experience deteriorating financial performance.

We are subject to work stoppage, transportation and related risks.

We manufacture our products at various locations in the United States and in Ireland and sell our products worldwide. We depend on third-party transportation companies to deliver supplies necessary to manufacture products from vendors to our various facilities and to move our products to customers, operating divisions and other subsidiaries located within and outside the United States. Our manufacturing operations, and the operations of the transportation companies on which we depend, may be adversely affected by natural disasters or significant human events, such as a war, terrorist attack, riot, strike, slowdown or similar event. Any disruption in our manufacturing or transportation could materially adversely affect our ability to meet customer demands or its operations.

Limits on reimbursement imposed by governmental and other programs may adversely affect our business.

The cost of a significant portion of medical care is funded by governmental, social security or other insurance programs. Limits on reimbursement imposed by such programs may adversely affect the ability of hospitals and others to purchase our products. In addition, limitations on reimbursement for procedures which utilize our products could adversely affect sales.

Fluctuations in Euro exchange rates may negatively impact our financial results.

Fluctuations in the rate of exchange between the Euro and the U.S. Dollar could have a negative impact on our margins and financial results. For example, during 2004, the exchange rate between the Euro and the U.S. Dollar resulted in an increase in our gross revenues of \$1.8 million and 0.3% in gross profit.

For the year ended December 31, 2004, approximately \$15.5 million, or 10.2%, of our sales were denominated in Euros. If the rate of exchange between the Euro and the U.S. Dollar declines, we may not be able to increase the prices it charges its European customers for products whose prices are denominated in Euros. Furthermore, we may be unable or elect not to enter into hedging transactions which could mitigate the effect of declining exchange rates. As a result, as the rate of exchange between Euros and the U.S. Dollars declines, our financial results may be negatively impacted.

The market price of our common stock has been, and may continue to be, volatile.

The market price of our common stock has been, and may continue to be, highly volatile for various reasons, including the following:

- Our announcement of new products or technical innovations, or similar announcements by its competitors;
- Development of new procedures that use, or do not use, our technology;
- Quarter-to-quarter variances in our financial results;
- Claims involving potential infringement of patents and other intellectual property rights;
- Analysts' and other projections or recommendations regarding our common stock or medical technology stocks generally;
- · Any restatement of our financial statements or any investigation into our company by the SEC or another regulatory authority; and
- A general decline, or rise, of stock prices in the capital markets generally.

We are dependent upon key personnel.

Our continued success is dependent on key management personnel, including Fred P. Lampropoulos, our Chairman of the Board, President and Chief Executive Officer. Mr. Lampropoulos is not subject to any agreement prohibiting his departure, and we do not maintain key man life insurance on his life. The loss of Mr. Lampropoulos, or of certain other key management personnel, could materially adversely affect our business and operations. Our success also depends, among other factors, on the successful recruitment and retention of key operations, manufacturing, sales and other personnel.

FORWARD-LOOKING STATEMENTS

This prospectus contains various forward-looking statements. These statements can be identified by the use of the forward-looking words "anticipate," "estimate," "project," "likely," "believe," "intend," "expect" or similar words. These statements discuss future expectations, contain projections regarding future developments, operations, or financial conditions, or state other forward-looking information. When considering such forward-looking statements, you should keep in mind the risk factors noted in the previous section and other cautionary statements throughout this prospectus and our periodic filings with the SEC that are incorporated herein by reference. You should also keep in mind that all forward-looking statements are based on management's existing beliefs about present and future events outside of management's control and on assumptions that may prove to be incorrect. If one or more risks identified in this prospectus or any applicable filings materializes, or any other underlying assumptions prove incorrect, our actual results may vary materially from those anticipated, estimated, projected, or intended.

USE OF PROCEEDS

All net proceeds from any sale of offered shares will be received by the selling stockholder selling the offered shares. We will not receive any proceeds from the sale of any of the offered shares.

DILUTION

As of March 29, 2005, there were outstanding warrants, options and conversion rights to purchase up to 4,347,874 shares of our common stock. The existence of those options, warrants and conversions rights may hinder future equity offerings by us, and the exercise of those warrants, options and conversion rights may have an adverse effect on the prevailing market price of the common stock. Furthermore, the holders of those options, warrants and conversion rights may exercise them at a time when we would otherwise be able to obtain additional equity capital on terms more favorable to us.

SELLING STOCKHOLDER

The shares being offered pursuant to this prospectus are being offered by MedSource Packaging Concepts LLC, a packager of custom procedure trays with sterile and non-sterile medical devices for use in the medical industry ("MedSource"). On November 17, 2004, we issued to MedSource warrants to purchase 100,000 shares of our common stock in connection with our purchase of certain assets and assumption of certain liabilities of MedSource. The warrants permit the holders to acquire up to 100,000 shares of common stock at an exercise price of \$10.1275 per share at any time between November 17, 2004 and November 17, 2009. The warrants include customary anti-dilution provisions pursuant to which the exercise price and number of shares issuable upon exercise of the warrants are adjusted proportionately in the event of a stock split, stock dividend, recapitalization or similar transaction. In connection with the asset purchase transaction, we agreed to register under the Securities Act of 1933, as amended, the resale of the common stock issuable upon exercise of the warrants. Prior to the offering, neither MedSource nor any of its principal stockholders owned any shares of our common stock (excluding the rights to acquire 100,000 shares of common stock upon exercise of the warrants described above). All 100,000 shares of common stock issuable upon exercise of the warrants are offered in this offering, but we cannot assure you that any or all of those shares will be sold.

PLAN OF DISTRIBUTION

The selling stockholder and any of its permitted pledgees, assignees, transferees and successors-in-interest may, from time to time, sell any or all of the offered shares on any stock exchange, market or trading facility on which our shares of common stock are traded or in private transactions. These sales may be at fixed or negotiated prices. The selling stockholder or such permitted pledgees, assignees, transferees or successors-in-interest may use any one or more of the following methods when selling the offered shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer 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-dealer as principal and resale by the broker-dealer for its account;
- an exchange or market distribution in accordance with the rules of the applicable exchange or market;
- privately negotiated transactions;
- settlement of short sales;
- broker-dealers may agree with the selling stockholder to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, such as swaps or derivatives, whether through an options exchange or otherwise;

- sales in the over-the-counter market:
- a combination of any those methods of sale; or
- any other method permitted pursuant to applicable law.

Broker-dealers engaged by the selling stockholder may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholder (or, if any broker-dealer acts as agent for the purchase of shares, from the purchaser) in amounts to be negotiated. The selling stockholder does not expect these commissions and discounts relating to its sales of shares to exceed what is customary in the types of transactions involved.

In connection with the sale of the offered shares or interests therein, the selling stockholder may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholder may also sell shares of our common stock short and deliver the offered shares to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholder may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholder and any broker-dealers or agents that are involved in selling the shares offered under this prospectus may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. The selling stockholder has informed us that it does not have any agreement or understanding, directly or indirectly, with any person to distribute the common stock.

We are required to pay certain fees and expenses incurred by us incident to the registration of the offered shares. We have agreed to indemnify the selling stockholder against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because the selling stockholder may be deemed to be "underwriters" within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act. In addition, any shares of common stock covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. The selling stockholder has advised us that they have not entered into any agreements, understandings or arrangements with any underwriter or broker-dealer regarding the sale of the offered shares. There is no underwriter or coordinating broker acting in connection with the proposed sale of the offered shares by the selling stockholder.

Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of the distribution. In addition, the selling stockholder will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of our common stock by the selling stockholder or any other person.

We will make copies of this prospectus available to the selling stockholder and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale.

DETERMINATION OF OFFERING PRICE

The offering price of the shares of common stock offered by this prospectus will be determined by the selling stockholder on a transaction-by-transaction basis based upon factors that will be the selling stockholder considers appropriate. The offering prices determined by the selling stockholder may, or may not, relate to a current market price but should not, in any case, be considered an indication of the actual value of the shares of common stock. We do not have any influence over the price at which the selling stockholder offers or sell the shares of common stock offered by this prospectus.

LEGAL MATTERS

The validity of the shares being offered hereby is being passed upon for us by Parr Waddoups Brown Gee & Loveless.

EXPERTS

The consolidated financial statements, the related financial statements schedule and management's report on the effectiveness of internal control over financial reporting incorporated in this prospectus by reference from our Annual Report on Form 10-K for the year ended December 31, 2004 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference, and have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

INDEMNIFICATION

Our articles of incorporation provide that we shall indemnify our officers, directors, agents, incorporators and other persons against liabilities incurred by them that result from their acts that are performed in furtherance of our business to the full extent permitted by the laws of the State of Utah. Our bylaws director, officer, incorporator, or other person to the fullest extent permitted by the Utah Revised Business Corporation Act. Our bylaws provide that, to the full extent permitted by law, we shall indemnify any director or officer or former director or officer of our company, or any person who may have served at our request as a director or officer of another corporation in which we own shares, or of which we are a creditor, against expenses actually and reasonably incurred by him or her, in connection with the defense of any action, suit or proceeding, civil or criminal, in which he or she is made a party by reason of being or having been such director or officer, except in relation to matters as to which he or she shall be adjudged in such action, suit or proceeding to be liable for negligence or misconduct in the performance of duty; and to make such other indemnification as shall be authorized by our shareholders.

As a result of the indemnification provisions described about and contained in the Utah Revised Business Corporations Act, subject to certain limitations in the Utah Revised Business Corporation Act, we may be permitted or compelled to provide indemnification and advancement of expenses to our directors, officers, agents, and employees when they are made parties to an investigation or legal action in connection with services performed at our request, including when such persons are alleged to have violated the Securities Act. Insurance purchased with respect to such persons may also cover expenses or other liabilities associated with an allegation of violations of the Securities Act.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to our directors, officers and controlling persons of pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with

the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The rights of indemnification described above are not exclusive of any other rights of indemnification to which the persons indemnified may be entitled under any bylaw, agreement, vote of stockholders or directors or otherwise. In addition to the foregoing, the Registrant maintains insurance through a commercial carrier against certain liabilities which may be incurred by its directors and officers.

The foregoing description is necessarily general and does not describe all details regarding the indemnification of officers, directors or controlling persons of the Registrant.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

As permitted by SEC rules, this prospectus does not contain all of the information in the registration statement of which this prospectus is a part or the exhibits to the registration statement. The SEC permits us to incorporate by reference into this prospectus information filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, except as superseded or modified by information contained directly in this prospectus or in a subsequently filed document that also is (or is deemed to be) incorporated into this prospectus by reference.

This prospectus incorporates by reference the documents set forth below that we (File No. 000-18592) have previously filed with the SEC pursuant to the Exchange Act. These documents contain important information about us and our financial condition.

- (a) Our Annual Report on Form 10-K for the year ended December 31, 2004, filed with the SEC on March 15, 2005.
- (b) Our Current Report on Form 8-K filed with the SEC on March 8, 2005.
- (c) Our Current Report on Form 8-K filed with the SEC on April 5, 2005.
- (d) Our Current Report on Form 8-K filed with the SEC on April 21, 2005.
- (e) The description of our shares of common stock contained in our Registration Statement on Form 8-A, SEC File No. 000-18592, filed with the SEC pursuant to the Exchange Act, including any amendment or report filed under the Exchange Act for the purpose of updating such description.

We hereby incorporate by reference all reports and other documents filed by us pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus and prior to the termination of this offering.

Statements contained in this prospectus regarding the contents of any agreement or other document filed as an exhibit to the registration statement or a document incorporated by reference into the prospectus are not necessarily complete, and in each instance we qualify each of these statements in all respects by the reference to the full agreement.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly, and current reports, proxy statements, and other information with the SEC. You may read and copy any reports, statements, or other information that we file at the SEC's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. The SEC also maintains an Internet site (http://www.sec.gov) that makes available to the public reports, proxy statements, and

other information regarding issuers, such as us, that file electronically with the SEC. Our Internet website is http://www.merit.com. Information contained on our website is not a part of this prospectus.

In addition, we will provide, without charge, to each person to whom this prospectus is delivered, upon written or oral request of any such person, a copy of any or all of our annual, quarterly and current reports, proxy statements and other information we have filed with the SEC (other than exhibits to such documents which are not specifically incorporated by reference in such documents or portions of such documents subject to confidential treatment requests). Requests for these copies should be directed to Chief Financial Officer, 1600 West Merit Parkway, South Jordan, Utah 84095, (801) 253-1600.

Our shares of common stock are quoted on the Nasdaq National Market. Reports, proxy statements and other information concerning our company can be inspected and copied at the Public Reference Room of the National Association of Securities Dealers, 1735 K Street, N.W., Washington, D.C. 20006.

ate hereof.					
		100,000 Shares of			
		Common Stock	mon Stock		
		ERIT MEDICA			
	S	YSTEMS, INC	•		
		PROSPECTUS			
		April 29, 2005			

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses of the offering, sale and distribution of the offered securities being registered pursuant to this registration statement (the "Registration Statement"). All of the expenses listed below will be borne by us. All of the amounts shown are estimates except the SEC registration fees

Item	A	Amount
SEC Commission registration fees	\$	164
Accounting fees and expenses		10,000
Legal fees and expenses		10,000
Blue Sky fees and expenses		1,000
Miscellaneous expenses		1,000
Total	\$	22,164

Item 15. Indemnification of Directors and Officers.

We are a Utah corporation. Section 16-10a-902 of the Utah Revised Business Corporation Act (the "Revised Act") provides that a corporation may indemnify any individual who was, is, or is threatened to be made a named defendant or respondent (a "Party") in any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative and whether formal or informal (a "Proceeding"), because he or she is or was a director of the corporation or, while a director of the corporation, is or was serving at its request as a director, officer, partner, trustee, employee, fiduciary or agent of another corporation or other person or of an employee benefit plan (an "Indemnifiable Director"), against any obligation incurred with respect to a Proceeding, including any judgment, settlement, penalty, fine or reasonable expenses (including attorneys' fees), incurred in the Proceeding if his or her conduct was in good faith, he or she reasonably believed that his or her conduct was in, or not opposed to, the best interests of the corporation, and, in the case of any criminal Proceeding, had no reasonable cause to believe such conduct was unlawful; provided, however, that pursuant to Subsections 902(4)-(5): (i) indemnification under Section 902 in connection with a Proceeding by or in the right of the corporation is limited to payment of reasonable expenses (including attorneys' fees) incurred in connection with the Proceeding and (ii) the corporation may not indemnify an Indemnifiable Director in connection with a Proceeding by or in the right of the corporation in which the Indemnifiable Director was adjudged liable to the corporation, or in connection with any other Proceeding charging that the Indemnifiable Director derived an improper personal benefit, whether or not involving action in his or her official capacity, in which Proceeding he or she was adjudged liable on the basis that he or she derived an improper personal benefit.

Section 16-10a-903 of the Revised Act provides that, unless limited by its articles of incorporation, a corporation shall indemnify an Indemnifiable Director who was successful, on the merits or otherwise, in the defense of any Proceeding, or in the defense of any claim, issue or matter in the Proceeding, to which he or she was a Party because he or she is or was an Indemnifiable Director of the corporation, against reasonable expenses (including attorneys' fees) incurred in connection with the Proceeding or claim with respect to which he or she has been successful.

In addition to the indemnification provided by Sections 902 and 903, Section 16-10a-905 of the Revised Act provides that, unless otherwise limited by a corporation's articles of incorporation, an Indemnifiable Director may apply for indemnification to the court conducting the Proceeding or to another court of competent jurisdiction.

Section 16-10a-904 of the Revised Act provides that a corporation may pay for or reimburse the reasonable expenses (including attorneys' fees) incurred by an Indemnifiable Director who is a Party to a Proceeding in advance of the final disposition of the Proceeding upon the satisfaction of certain conditions.

Section 16-10a-907 of the Revised Act provides that, unless a corporation's articles of incorporation provide otherwise, (i) an officer of the corporation is entitled to mandatory indemnification under Section 903 and is entitled to apply for court-ordered indemnification under Section 905, in each case to the same extent as an Indemnifiable Director, (ii) the corporation may indemnify and advance expenses to an officer, employee, fiduciary or agent of the corporation to the same extent as an Indemnifiable Director, and (iii) a corporation may also indemnify and advance expenses to an officer, employee, fiduciary or agent who is not an Indemnifiable Director to a greater extent than the right of indemnification granted to an Indemnifiable Director, if not inconsistent with public policy, and if provided for by its articles of incorporation, bylaws, general or specific action of its board of directors or contract.

Section 16-10a-908 of the Revised Act provides that a corporation may purchase and maintain liability insurance on behalf of a person who is or was a director, officer, employee, fiduciary, or agent of the corporation or who, while serving as a director, officer, employee, fiduciary, or agent of the corporation, is or was serving at the request of the corporation as a director, officer, partner, trustee, employee, fiduciary, or agent of another foreign or domestic corporation or other person, or of an employee benefit plan against liability asserted against or incurred by the individual in that capacity or arising from his or her status as such, whether or not the corporation would have the power to indemnify him or her against the same liability under Section 902, 903, or 907 of the Revised Act.

Section 16-10a-909 of the Revised Act provides that a provision treating a corporation's indemnification of or advance for expenses to, Indemnifiable Directors that is contained in its articles of incorporation or bylaws, in a resolution of its stockholders or board of directors or in a contract, except an insurance policy, or otherwise, is valid only if and to the extent the provision is not inconsistent with Sections 901 through 909 of the Revised Act. If the articles of incorporation limit indemnification or advancement of expenses, indemnification and advancement of expenses are valid only to the extent not inconsistent with the articles.

Our articles of incorporation provide that we shall indemnify any person who is or was a director, officer, employee or agent of our company, or who was serving at our request as a director, officer, employee of agent of another entity, trust or plan to the fullest extent permitted by the Revised Act. Our bylaws also include mandatory indemnification provisions with respect of our officers and directors and discretionary indemnification provisions with respect to employees and agents, each subject to limitations generally reflecting the limitations on indemnification set forth in the Revised Act.

Our bylaws provide that we may purchase and maintain insurance on behalf of any person who is or was one of our directors, officers, employees or agents, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her or incurred by him or her in such capacity or arising out of his or her status in such capacity, whether or not we would have the power to indemnify him or her against such liability under the indemnification provisions of the bylaws or the laws of the State of Utah, as the same are amended or modified. We maintain insurance from commercial carriers against certain liabilities that may be incurred by our directors and officers.

Indemnification may be granted pursuant to any other agreement, bylaw or vote of stockholders or directors. The foregoing description is necessarily general and does not describe all details regarding the indemnification of our officers, directors or controlling persons.

Item 16. Exhibits.

The following exhibits required by Item 601 of Regulation S-K promulgated under the Securities Act have been included herewith or have been filed previously with the SEC as indicated below.

Exhibit No.	Description			
4.1	Form of common stock certificate (Incorporated by reference to our Registration Statement on Form S-18 filed with the SEC on October 19, 1989).			
4.2	Articles of Incorporation (Incorporated by reference to our Quarterly Report on Form 10-Q filed with the SEC on August 14, 1996).			
4.3	Articles of Amendment of the Articles of Incorporation dated May 14, 1993 (Incorporated by reference to our Registration Statement on Form S-3 filed with the SEC on February 14, 2005).			
4.4	Articles of Amendment to Articles of Incorporation dated June 6, 1996 (Incorporated by reference to our Registration Statement on Form S-3 filed with the SEC on February 14, 2005).			
4.5	Articles of Amendment to Articles of Incorporation dated June 12, 1997(Incorporated by reference to our Registration Statement on Form S-3 filed with the SEC on February 14, 2005).			
4.6	Articles of Amendment to Articles of Incorporation dated August 27, 1997 (Incorporated by reference to our Registration Statement on Form 8-A filed with the SEC on October 9, 1997).			
4.7	Articles of Amendment to the Articles of Incorporation dated May 22, 2003(Incorporated by reference to our Registration Statement on Form S-3 filed with the SEC on February 14, 2005).			
4.8	Bylaws (Incorporated by reference to our Registration Statement on Form S-18 filed with the SEC on October 19, 1989).			
4.9	Form of Warrant (Incorporated by reference to our Registration Statement on Form S-3 filed with the SEC on February 14, 2005).			
5.1	Opinion of Parr Waddoups Brown Gee & Loveless.*			
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.*			
23.2	Consent of Parr Waddoups Brown Gee & Loveless (included in Exhibit 5.1).*			

^{*} Filed herewith.

Item 17. Undertakings.

- 1. 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 a 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 paragraphs (i) and (ii) above do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- 2. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof."
- 3. 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, as amended, 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 Amendment No. 1 to Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in Salt Lake City, Utah on April 28, 2005.

MERIT	MEDICAL	SYSTEMS.	INC
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By:	/s/ KENT W. STANGER			
	Kent W. Stanger			

Kent W. Stanger Secretary and Chief Financial Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Amendment No. 1 to Form S-3 has been signed by the following persons in the capacities and on the dates indicated.

Signature	Capacity in Which Signed	Date
/s/ FRED P. LAMPROPOULOS Fred P. Lampropoulos	President, Chief Executive Officer and Director	April 28, 2005
/s/ KENT W. STANGER	Chief Financial Officer, Secretary, Treasurer and Director (Principal financial	April 28, 2005
Kent W. Stanger	and accounting officer)	
/s/ RICHARD W. EDELMAN		
Richard W. Edelman	Director	April 28, 2005
/s/ REX C. BEAN		
Rex C. Bean	Director	April 28, 2005
/s/ JAMES J. ELLIS		
James J. Ellis	Director	April 28, 2005
/s/ MICHAEL E. STILLABOWER		
Michael E. Stillabower	Director	April 28, 2005

EXHIBIT INDEX

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23.2	Consent of Parr Waddoups Brown Gee & Loveless (included in Exhibit 5.1).*

 ^{*} Filed herewith.

Exhibit 5.1

April 28, 2005

The Board of Directors Merit Medical Systems, Inc. 1600 West Merit Parkway South Jordan, Utah 84095

Re: Registration Statement on Form S-3 filed by Merit Medical Systems, Inc., a Utah corporation (the "Company")

Gentlemen:

As counsel to the Company in connection with the prospective sale by MedSource Packaging Concepts, LLC (the "Selling Stockholder") of up to 100,000 shares of the Company's common stock (the "Shares") pursuant to a Registration Statement on Form S-3, as amended (the "Registration Statement"), we have examined the originals or certified, conformed or reproduction copies of all such records, agreements, instruments and documents as we have deemed necessary as the basis for the opinion expressed herein. In all such examinations, we have assumed the genuineness of all signatures on original or certified copies and the conformity to original or certified copies of all copies submitted to us as conformed or reproduction copies. As to various questions of fact relevant to the opinion hereafter expressed, we have relied upon certificates of public officials and statements or certificates of officers of representatives of the Company and others.

Based upon and subject to the foregoing, we are of the opinion that the Shares to be sold by the Selling Stockholder were legally issued and are fully paid and nonassessable.

We hereby consent to the reference to our firm under "Legal Matters" in the prospectus that constitutes a part of the Registration Statement and the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

/s/ Parr Waddoups Brown Gee & Loveless

PARR WADDOUPS BROWN GEE & LOVELESS

QuickLinks

Exhibit 5.1

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Amendment No. 1 to Registration Statement No. 333-122803 on Form S-3 of our reports dated March 11, 2005, relating to the financial statements and financial statement schedule of Merit Medical Systems, Inc. and to management's report on the effectiveness of internal control over financial reporting appearing in and incorporated by reference in the Annual Report on Form 10-K of Merit Medical Systems, Inc. for the year ended December 31, 2004 and to the reference to us under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ DELOITTE & TOUCHE LLP

Salt Lake City, Utah April 6, 2005

QuickLinks

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM