

ROCKWELL MEDICAL TECHNOLOGIES INC

Form S-3

July 20, 2009

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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933
ROCKWELL MEDICAL TECHNOLOGIES, INC.
(Exact Name of Registrant as Specified in Its Charter)**

Michigan **38-3317208**
(State or Other Jurisdiction of Incorporation or (I.R.S. Employer Identification Number)
Organization)

**30142 Wixom Road
Wixom, Michigan 48393
(248) 960-9009**
(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal
Executive Offices)

**Robert L. Chioini
President and Chief Executive Officer
30142 Wixom Road
Wixom, Michigan 48393
(248) 960-9009**
(Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copy to:
**Mark A. Metz
Dykema Gossett PLLC
400 Renaissance Center
Detroit, Michigan 48243
Telephone: (313) 568-5434**

Approximate date of commencement of proposed sale to the public: From time to time after the effective date hereof.

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

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

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

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

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

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

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 the 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
 (Do not check if a smaller reporting company)

CALCULATION OF REGISTRATION FEE

| Title of each class of securities to be registered | Amount To be Registered(1) | Proposed Maximum Offering Price Per Unit (2) | Proposed Maximum Aggregate Offering Price | Amount of Registration Fee |
|---|-----------------------------------|---|--|-----------------------------------|
| Common Stock, no par value | 995,000 | \$7.56 | \$7,522,200 | \$419.74 |

(1) Consists of 995,000 shares of common stock issuable upon the exercise of outstanding warrants previously issued to investors in private placements, and an indeterminate number of additional shares of common stock as may from time to time be issued with respect to the foregoing securities as a result of stock splits, stock dividends, reclassifications, recapitalizations, combinations or similar events, which shares shall be deemed registered hereunder pursuant to

Rule 416 under
the Securities
Act.

- (2) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) and (g) under the Securities Act, based on average of high and low price per share of the common stock as reported on the Nasdaq Global Market on July 14, 2009.

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

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The information in this prospectus is not complete and may be changed. The selling shareholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and the selling shareholders named in this prospectus are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated July 20, 2009

PROSPECTUS

995,000 SHARES OF COMMON STOCK

This prospectus relates to resales of shares of our common stock, including shares of common stock issuable upon the exercise of warrants, that we issued to the selling shareholders identified in this prospectus (collectively, the Selling Shareholders) in connection with our private placements of securities during 2007 and 2008. We will not receive any proceeds from the sale of shares of our common stock by Selling Shareholders. Upon any exercise for cash of the warrants, the warrant holders will pay us the exercise price of such warrants. We are paying certain expenses incident to the registration of the shares.

The Selling Shareholders identified in this prospectus, or their pledgees, donees, transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is listed on the Nasdaq Global Market and traded under the symbol RMTI. On July 17, 2009, the closing sale price of our common stock on Nasdaq was \$8.38 per share. You are urged to obtain current market quotations for the common stock.

Investing in our common stock involves a high degree of risk. See Risk Factors beginning on page 6.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is July 20, 2009.

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Rockwell Medical Technologies, Inc.'s principal executive offices are located at 30142 Wixom Road, Wixom, Michigan 48393, our telephone number at that address is (248) 960-9009 and our Internet address is www.rockwellmed.com. The information on our Internet website is not incorporated by reference in this prospectus, and you should not consider it to be a part of this document. Our website address is included as an inactive textual reference only. Unless the context otherwise requires references in this prospectus to Rockwell, we, us, and our reference to Rockwell Medical Technologies, Inc.

We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. The Selling Shareholders are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of common stock.

WHERE YOU CAN GET MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). You can inspect and copy such reports at the SEC's Public Reference Room at 100 F Street, N.E., Washington D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet site at www.sec.gov that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including Rockwell.

We have filed with the SEC a Registration Statement on Form S-3 to register the common shares that are being offered in this prospectus. This prospectus is part of the Registration Statement. This prospectus does not include all of the information contained in the Registration Statement. For further information about us and the common shares offered in this prospectus, you should review the Registration Statement. You can inspect or copy the Registration Statement, at prescribed rates, at the SEC's public reference facilities at the address listed above.

DOCUMENTS INCORPORATED BY REFERENCE

The SEC allows Rockwell to incorporate by reference the information it files with the SEC. This permits us to disclose important information to you by referencing these filed documents. Any information referenced in this way is considered part of this prospectus, and any information filed with the SEC subsequent to this prospectus will

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automatically update and supersede this information. Rockwell incorporates by reference the documents listed below which have been filed with the SEC:

Annual Report on Form 10-K for the fiscal year ended December 31, 2008.

Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2009.

Current Reports on Form 8-K filed April 6, 2009 and June 1, 2009.

The description of our common shares included in our prospectus, dated July 24, 1997, included in our registration statement on Form SB-2 filed with the SEC on July 24, 1997, under the caption Description of Securities on pages 34 through 38 of the prospectus and incorporated by reference into our registration statement on Form 8-A filed with the SEC on January 23, 1998, including any amendment or reports filed for the purpose of updating such description.

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In addition, all documents filed by us under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus but before the termination of this offering are deemed to be incorporated by reference into this prospectus and will constitute a part of this prospectus from the date of filing of those documents.

Any statement contained in a document incorporated by reference in this prospectus will be considered to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any subsequently filed document that is incorporated by reference modifies or supersedes such statement. Any statement that is modified or superseded will not, except as so modified or superseded, constitute a part of this prospectus.

Rockwell will provide without charge, upon written or oral request, a copy of any or all of the documents which are incorporated by reference in this prospectus, including any exhibits which are specifically incorporated by reference into such documents. Requests should be directed to Thomas E. Klema, Secretary, at our principal executive offices, located at 30142 Wixom Road, Wixom, Michigan 48393 (telephone number: (248) 960-9009).

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PROSPECTUS SUMMARY

This summary highlights important features of this offering and the information included or incorporated by reference in this prospectus. This summary does not contain all of the information that you should consider before investing in our common stock. You should read the entire prospectus carefully, especially the risks of investing in our common stock discussed under Risk Factors.

We manufacture hemodialysis concentrate solutions and dialysis kits, and we sell, distribute and deliver these and other ancillary hemodialysis products primarily to hemodialysis providers in the United States as well as internationally primarily in Latin America, Asia and Europe. Hemodialysis duplicates kidney function in patients with failing kidneys also known as End Stage Renal Disease (ESRD). ESRD is an advanced stage of chronic kidney disease characterized by the irreversible loss of kidney function. Without properly functioning kidneys, a patient s body cannot get rid of excess water and toxic waste products. Without frequent and ongoing dialysis treatments, these patients would not survive.

Our dialysis solutions (also known as dialysate) are used to maintain life, removing toxins and replacing nutrients in the dialysis patient s bloodstream. We have licensed and are currently developing proprietary renal drug therapies for both iron-delivery and carnitine/vitamin-delivery, utilizing dialysate as the delivery mechanism. Iron supplementation is routinely administered to more than 90% of patients receiving treatment for anemia. We have licensed a drug therapy for the delivery of iron supplementation for anemic dialysis patients which we refer to as dialysate iron and more specifically as soluble ferric pyrophosphate (SFP). To realize a commercial benefit from this therapy, and pursuant to the licensing agreement, we must complete clinical trials and obtain U.S. Food and Drug Administration (FDA) approval to market iron supplemented dialysate. We also plan to seek foreign market approval for this product. We believe this product will substantially improve iron maintenance therapy and, if approved, will compete for the global market for iron maintenance therapy. Based on reports from manufacturers of intravenous (IV) iron products, the market size in the United States for IV iron therapy for all indications is approximately \$500 million per year. We estimate the global market for IV iron therapy is in excess of \$850 million per year. We cannot, however, give any assurance that this product will be approved by the FDA, or, if approved, that it will be successfully marketed. We have also entered into a licensing agreement related to a patent for the delivery of carnitine and vitamins via our hemodialysis solutions. To realize a commercial benefit of this product we must obtain regulatory approval of this product. We intend to add other renal therapies to our pipeline in the future.

Hemodialysis patients generally receive their treatments at independent hemodialysis clinics or at hospitals. A hemodialysis provider such as a hospital or a free standing clinic uses a dialysis station to treat patients. A dialysis station contains a dialysis machine that takes concentrate solutions primarily consisting of nutrients and minerals, such as our liquid concentrate solutions or our concentrate powders mixed with purified water, and accurately dilutes those solutions with purified water. The resulting solution known as dialysate, is then pumped through a device known as a dialyzer (artificial kidney), while at the same time the patient s blood is pumped through a semi-permeable membrane within the dialyzer. Excess water and chemicals from the patient s blood pass through the membrane and are carried away in the dialysate while certain nutrients and minerals in the dialysate penetrate the membrane and enter the patient s blood to maintain proper blood chemistry. Dialysate generally contains dextrose, sodium chloride, calcium, potassium, magnesium, sodium bicarbonate and acetic acid. The patient s physician chooses the formula required for each patient based on each particular patient s needs, although most patients receive one of eight common formulations.

In addition to using concentrate solutions and chemical powders (which must be replaced for each use for each patient), a dialysis provider also requires various other ancillary products such as blood tubing, fistula needles, specialized custom kits, dressings, cleaning agents, filtration salts and other supplies, many of which we sell. Hemodialysis treatments are generally performed in independent clinics or hospitals with the majority of dialysis services performed by regional and national for profit dialysis chains. We estimate that there are approximately 5,000 Medicare-certified treatment clinics in the United States. The two largest national for-profit dialysis chains service approximately 63% of the domestic hemodialysis market. According to industry statistics published by the U.S. Renal Data Systems, 345,000 patients in the United States were receiving dialysis treatments at the end of 2006. The domestic dialysis industry has experienced steady patient population growth over the last two decades. In the last five

years, the patient growth rate has averaged 4% per year. Population segments with the highest incidence of ESRD are also among the fastest growing within the U.S. population including the elderly, Hispanic and African-American population segments. Recent U.S. demographic projections indicate that the incidence of ESRD is expected to increase in the years ahead and is expected to exceed current incidence levels.

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ESRD incidence rates vary by country with some higher and some lower than the United States. Based on industry reports, the global ESRD population is estimated to be over 2 million and to be growing at a rate of approximately 6% annually. The three major dialysis markets are the United States, the European Union and Japan, which together represent between approximately 55-60% of the total global treatments based on industry estimates.

Our strategy is to develop our dialysis concentrate and supply business and to develop drugs, nutrients and vitamins to be delivered by our dialysis concentrate products. Our long term objectives are to increase our market share, expand our product line, expand our geographical selling territory and improve our profitability by implementing the following strategies:

increasing our revenues through new innovative products, such as our Dri-Sate® Dry Acid Concentrate Mixing System and SteriLyte® Liquid Bicarbonate Concentrate,

gaining FDA approval to market innovative products such as SFP,

acting as a single source supplier to our customers for the concentrates, chemicals and supplies necessary to support a hemodialysis provider's operation,

offering our customers a higher level of delivery and customer service by using our own delivery vehicles and drivers, and

expanding our market share in target regions, including regions where our proximity to customers will provide us with a competitive cost advantage and allow us to provide superior customer service levels.

THE OFFERING

| | |
|--|--|
| Common Stock offered by Selling Shareholders | 995,000 shares of our common stock issuable upon the exercise of warrants. |
|--|--|

| | |
|-----------------|---|
| Use of proceeds | Proceeds received from the issuance of shares upon exercise of warrants will be used for general corporate purposes. We will not receive any proceeds from the sale of shares in this offering by the Selling Shareholders. |
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|-----------------------------|------|
| Nasdaq Global Market symbol | RMTI |
|-----------------------------|------|

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

We make forward-looking statements in this prospectus. Our forward-looking statements are subject to risks and uncertainties and include information about our expectations and possible or assumed future results of our operations. When we use words such as may, might, will, should, believe, expect, anticipate, estimate, continue, projected, intend or similar expressions, or make statements regarding our intent, belief or current expectations, we are making forward-looking statements. Our forward looking statements also include, without limitation, statements about our competitors, statements regarding the timing and costs of obtaining FDA approval of our new SFP product and statements regarding our anticipated future financial condition, operating results, cash flows and business plans. We claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995 for all of our forward-looking statements. While we believe that our forward looking statements are reasonable, you should not place undue reliance on any such forward-looking statements, which are based on information available to us on the date of this prospectus. Because these forward-looking statements are based on estimates and assumptions that are subject to significant business, economic and competitive uncertainties, many of which are beyond our control or are subject to change, actual results could be materially different. Factors that might cause such a difference include, without limitation, the risks and uncertainties discussed in this prospectus, including under Risk Factors, and from time to time in our reports filed with the Securities and Exchange Commission. Other factors not currently anticipated may also materially and adversely affect our results of operations,

cash flows and financial position. We do not undertake, and expressly disclaim, any obligation to update or alter any statements whether as a result of new information, future events or otherwise except as required by law.

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RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below before purchasing our common stock. The risks and uncertainties described below are not the only ones facing our company. Additional risks and uncertainties may also impair our business operations. If any of the following risks actually occur, our business, financial condition or results of operations would likely suffer. In that case, the trading price of our common stock could fall, and you may lose all or part of the money you paid to buy our common stock.

RISKS RELATED TO OUR BUSINESS

The dialysis provider market is highly concentrated in national and regional dialysis chains that account for the majority of our domestic revenue. Our business is substantially dependent on one of our customers that accounts for a substantial portion of our sales. The loss of this customer would have a material adverse affect on our results of operations and cash flow.

Our revenue is highly concentrated in a few customers and the loss of any of those customers could adversely affect our results. One customer in particular accounted for 51% of our total sales during 2008. If we were to lose this customer or our relationship with any of our other major national and regional dialysis chain customers, it would have a substantial negative impact on our cash flow and operating results and could have a detrimental impact on our ability to continue our operations in their current form or to continue to execute our business strategy. If we lost a substantial portion of our business, we would be required to take actions to conserve our cash resources and to mitigate the impact of any such losses on our business operations.

We operate in a very competitive market against substantially larger competitors with greater resources.

There is intense competition in the hemodialysis product market and our competitors are large diversified companies which have substantially greater financial, technical, manufacturing, marketing, research and development and management resources than we do. We may not be able to successfully compete with these other companies. Our national competitors have historically used product bundling and low pricing as marketing techniques to capture market share of the products we sell and as we do not manufacture or sell the same breadth of products as our competitors, we may be at a disadvantage in competing against their marketing strategies.

Our new drug product requires FDA approval and expensive clinical trials before it can be marketed.

We are seeking FDA approval for SFP, a drug used in the treatment of anemia. Obtaining FDA approval for any drug is expensive and can take a long time. We may not be successful in obtaining FDA approval for SFP. The FDA may change, expand or alter its requirements for testing which may increase the scope, duration and cost of our clinical development plan. Clinical trials are expensive and time consuming to complete, and we may not be able to raise or obtain sufficient funds to complete the clinical trials to obtain marketing approval. Our clinical trials might not prove successful. In addition, the FDA may order the temporary or permanent discontinuation of a clinical trial at any time. Many products that undergo clinical trials are never approved for patient use. Thus, it is possible that our new proprietary products may never be approved to be marketed. If we are unable to obtain marketing approval, our entire investment in new products may be worthless and our licensing rights could be forfeited.

Even if our new drug product is approved by the FDA it may not be successfully marketed.

Several drugs currently dominate treatment for iron deficiency and new drugs treating this indication will have to compete against existing products. It may be difficult to gain market acceptance of a new product. Nephrologists, anemia managers and dialysis chains may be slow to change their clinical practice protocols for new products or may not change their protocols at all.

Dialysis providers are dependent upon government reimbursement practices for the majority of their revenue. Even if we obtain FDA approval for our new product, there is no guarantee that our customers would receive reimbursement for the new product, even though the current treatment method is reimbursed by the government. Without such reimbursement, it is unlikely that our customers would adopt a new treatment method. There is a risk that our new product may not receive reimbursement or may not receive the same level of reimbursement that is currently in place.

We may not be successful in improving our gross profit margins and our business may remain unprofitable.

A significant portion of our costs are for chemicals and fuel which are subject to pricing volatility based on demand and are highly influenced by the overall level of economic activity. Since 2007, we have experienced dramatic

increases in our costs which we have not yet been able to fully recover from our customers through price increases. While we have recently changed certain vendors and

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realized cost decreases in several of our key cost inputs, we may be subject to future cost increases which may negatively impact our results if we are unable to recover those cost increases. If we are unable to improve our gross profit margins by reducing our costs and increasing our prices, our business may remain unprofitable

Our products are distribution-intensive, resulting in a high cost to deliver relative to the selling prices of our products. The cost of diesel fuel represents a significant operating cost for us. If oil costs increase or if oil prices spike upward, we may be unable to recover those increased costs through higher pricing. Also, as we increase our business in certain markets and regions, which are farther from our manufacturing facilities than we have historically served, we may incur additional costs that are greater than the additional revenue generated from these initiatives. Our customer mix may change to a less favorable customer base with lower gross profit margins.

Our competitors have often used bundling techniques to sell a broad range of products and have often offered low prices on dialysis concentrate products to induce customers to purchase their other higher margin products, such as dialysis machines and dialyzers. It may be difficult for us to raise prices due to these competitive pressures.

Our suppliers may increase their prices faster than we are able to raise our prices to offset such increases. We may have limited ability to gain a raw material pricing advantage by changing vendors for certain chemicals and packaging materials.

As we increase our manufacturing and distribution infrastructure we may incur costs for an indefinite period that are greater than the incremental revenue we derive from these expansion efforts.

We depend on government funding of healthcare.

Many of our customers receive the majority of their funding from the government and are supplemented by payments from private health care insurers. Our customers depend on Medicare and Medicaid funding to be viable businesses. If Medicare and Medicaid funding were to be materially decreased, our customers would be severely impacted and could be unable to pay us.

We may not have sufficient cash to fund future growth or SFP development.

Our research and development plan for SFP is expected to result in significant cash outlays beyond 2009. We expect to spend approximately \$4.0 million in 2009 on SFP product development and approval. We believe we have adequate cash resources to fund the testing and regulatory approval for SFP in 2009. However, for us to complete our Phase III clinical development plan we will need to obtain additional funding. SFP development costs for Phase III and to obtain FDA approval are projected from 2010 until approval to be \$15 million or more. Also, if our current clinical trial efforts do not achieve acceptable results, we may have to do more testing and, depending on the scope and duration of any additional testing, our available cash resources may not be sufficient to fund that additional testing. We are likely to require additional capital in 2010. If conditions in the credit and equity markets do not improve during 2009, we may be unable to obtain the financing we will need in future years on terms we deem acceptable or in the best interests of our Company and our shareholders, or such financing may not be available to us at all. If such financing is not available, we may have to take action to conserve capital, such as alter our strategy, delay spending on development initiatives or take other actions to conserve cash resources.

Orders from our international distributors may not result in recurring revenue.

Our revenue from international distributors may not recur consistently or may not recur at all. Such revenue is often dependent upon government funding in those nations and there may be local, regional or geopolitical changes that may impact funding of healthcare expenditures in those nations.

We depend on key personnel.

Our success depends heavily on the efforts of Robert L. Chioini, our President and Chief Executive Officer, Dr. Richard Yocum MD, our Vice President of Drug Development & Medical Affairs, and Thomas E. Klema, our Chief Financial Officer, Secretary and Treasurer. Mr. Chioini is primarily responsible for managing our sales and marketing efforts. Dr. Yocum is primarily responsible for managing our product development efforts. None of our executive management are parties to a current employment agreement with the Company. If we lose the services of Mr. Chioini, Dr. Yocum or Mr. Klema, our business, product development efforts, financial condition and results of operations could be adversely affected.

Our business is highly regulated.

The testing, manufacture and sale of the products we manufacture and distribute are subject to extensive regulation by the FDA and by other federal, state and foreign authorities. Before medical devices can be commercially marketed in the United States, the FDA must give either 510(k) clearance or pre-market approval for the devices. If we do not comply with these requirements, we may be subject

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to a variety of sanctions, including fines, injunctions, seizure of products, suspension of production, denial of future regulatory approvals, withdrawal of existing regulatory approvals and criminal prosecution. Our business could be adversely affected by any of these actions.

Although our hemodialysis concentrates have been cleared by the FDA, it could rescind these clearances and any new products or modifications to our current products that we develop could fail to receive FDA clearance. If the FDA rescinds or denies any current or future clearances or approvals for our products, we would be prohibited from selling those products in the United States until we obtain such clearances or approvals. Our business would be adversely affected by any such prohibition, any delay in obtaining necessary regulatory approvals, and any limits placed by the FDA on our intended use. Our products are also subject to federal regulations regarding manufacturing quality. In addition, our new products will be subject to review as a pharmaceutical drug by the FDA. Changes in applicable regulatory requirements could significantly increase the costs of our operations and may reduce our profitability if we are unable to recover any such cost increases through higher prices.

We depend on contract research organizations and consultants to manage and conduct our clinical trials and if they fail to follow our protocol or meet FDA regulatory requirements our clinical trial data and results could be compromised causing us to delay our development plans or have to do more testing than planned.

We utilize a contract research organization to conduct our clinical trials in accordance with a specified protocol. We also contract with other third party service providers for clinical trial material production, packaging and labeling, lab testing, data management services as well as a number of other services. There can be no assurance that these organizations will fulfill their commitments to us on a timely basis or that the accuracy and quality of the clinical data they provide us will not be compromised by their failure to fulfill their obligations. If these service providers do not perform as contracted, our development plans could be adversely affected.

Foreign approvals to market our new drug products may be difficult to obtain.

The approval procedures for the marketing of our new drug products in foreign countries vary from country to country, and the time required for approval may be longer or shorter than that required for FDA approval. Even after foreign approvals are obtained, further delays may be encountered before products may be marketed. Many countries require additional governmental approval for price reimbursement under national health insurance systems. Additional studies may be required to obtain foreign regulatory approval. Further, some foreign regulatory agencies may require additional studies involving patients located in their countries.

Health care reform could adversely affect our business.

The federal and state governments in the United States, as well as many foreign governments, from time to time explore ways to reduce medical care costs through health care reform. Due to uncertainties regarding the ultimate features of reform initiatives and their enactment and implementation, we cannot predict what impact any reform proposal ultimately adopted may have on the pharmaceutical and medical device industry or on our business or operating results.

We may not have sufficient products liability insurance.

As a supplier of medical products, we may face potential liability from a person who claims that he or she suffered harm as a result of using our products. We maintain products liability insurance in the amount of \$3 million per occurrence and \$3 million in the aggregate. We cannot be sure that it will remain economical to retain our current level of insurance, that our current insurance will remain available or that such insurance would be sufficient to protect us against liabilities associated with our business. We may be sued, and we may have significant legal expenses that are not covered by insurance. In addition, our reputation could be damaged by product liability litigation and that could harm our marketing ability. Any litigation could also hurt our ability to retain products liability insurance or make such insurance more expensive. Our business, financial condition and results of operations could be adversely affected by an uninsured or inadequately insured product liability claim in the future.

Our Board of Directors is subject to potential deadlock.

Our Board of Directors presently has four members, and under our bylaws, approval by a majority of the Directors is required for many significant corporate actions. It is possible that our Board of Directors may be unable to obtain majority approval in certain circumstances, which would prevent us from taking action.

RISKS RELATED TO OUR COMMON STOCK

Shares eligible for future sale may affect the market price of our common shares.

We are unable to predict the effect, if any, that future sales of common shares, or the availability of our common shares for future sales, will have on the market price of our common shares from time to time. Sales of substantial amounts of our common shares

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(including shares issued upon the exercise of stock options or warrants), or the possibility of such sales, could adversely affect the market price of our common shares and also impair our ability to raise capital through an offering of our equity securities in the future. As of December 31, 2008 an additional 1,204,169 shares may be issued upon exercise of outstanding warrants. In addition, as of December 31, 2008, there were an additional 955,000 warrants that become exercisable over the next two years. In the future, we may issue additional shares or warrants in connection with investments, repayment of our debt or for other purposes considered advisable by our Board of Directors. Any substantial sale of our common shares may have an adverse effect on the market price of our common shares. In addition, as of December 31, 2008, there were 3,121,364 shares issuable upon the exercise of outstanding and exercisable stock options, 941,667 shares issuable upon the exercise of outstanding stock options that are not yet exercisable and 435,000 additional shares available for grant under our 2007 Long Term Incentive Plan. Additional grants were made in 2009. The market price of the common shares may be depressed by the potential exercise of these options. The holders of these options are likely to exercise them when we would otherwise be able to obtain additional capital on more favorable terms than those provided by the options. Further, while the options are outstanding, we may be unable to obtain additional financing on favorable terms.

The market price of our securities may be volatile.

The historically low trading volume of our common shares may also cause the market price of the common shares to fluctuate significantly in response to a relatively low number of trades or transactions.

Voting control and anti-takeover provisions reduce the likelihood that you will receive a takeover premium.

As of December 31, 2008, our officers and directors beneficially owned approximately 23.2% of our voting shares (assuming the exercise of exercisable options granted to such officers and directors). Accordingly, they may be able to effectively control our affairs. Our shareholders do not have the right to cumulative voting in the election of directors. In addition, the Board of Directors has the authority, without shareholder approval, to issue shares of preferred stock having such rights, preferences and privileges as the Board of Directors may determine. Any such issuance of preferred stock could, under certain circumstances, have the effect of delaying or preventing a change in control and may adversely affect the rights of holders of common shares, including by decreasing the amount of earnings and assets available for distribution to holders of common shares and adversely affect the relative voting power or other rights of the holders of the common shares. In addition, we are subject to Michigan statutes regulating business combinations which might also hinder or delay a change in control. Anti-takeover provisions that could be included in the preferred stock when issued and the Michigan statutes regulating business combinations, takeovers and control share acquisitions can have a depressive effect on the market price of our common shares and can limit shareholders ability to receive a premium on their shares by discouraging takeover and tender offers.

Our directors serve staggered three-year terms, and directors may not be removed without cause. Our Articles of Incorporation also set the minimum and maximum number of directors constituting the entire Board at three and fifteen, respectively, and require approval of holders of a majority of our voting shares to amend these provisions. These provisions could have an anti-takeover effect by making it more difficult to acquire us by means of a tender offer, a proxy contest or otherwise, or to remove incumbent directors. These provisions could delay, deter or prevent a tender offer or takeover attempt that a shareholder might consider in his or her best interests, including those attempts that might result in a premium over the market price for the common shares.

We do not anticipate paying dividends in the foreseeable future.

Since inception, we have not paid any cash dividend on our common shares and do not anticipate paying such dividends in the foreseeable future. The payment of dividends is within the discretion of our Board of Directors and depends upon our earnings, capital requirements, financial condition and requirements, future prospects, restrictions in future financing agreements, business conditions and other factors deemed relevant by the Board. We intend to retain earnings and cash resources, if any, to finance our operations and, therefore, it is highly unlikely we will pay cash dividends.

Table of Contents**USE OF PROCEEDS**

Upon any exercise for cash of the warrants, the warrant holders will pay us the exercise price of the warrants as set forth in the following table. We will use any cash we receive upon the exercise of the warrants for general corporate purposes. There is no assurance that all or any of the warrants will be exercised prior to their expiration nor any assurance of the timing of the receipt of exercise proceeds. Assuming that all of the warrants are exercised for cash, we expect to receive proceeds of approximately \$5.2 million. We will not receive any proceeds from the sale of shares by the Selling Shareholders.

| Name of Warrant Holder | Number of Shares Underlying Warrants | Per Share Exercise Price | Total |
|--------------------------------------|---|---|--------------|
| Emerald Asset Advisors, LLC | 300,000 | 1.99 | \$ 597,000 |
| Emerald Asset Advisors, LLC | 200,000 | 4.54 | 908,000 |
| RJ Aubrey IR Services LLC | 60,000 | 6.50 | 390,000 |
| Emerald Asset Advisors, LLC | 200,000 | 7.00 | 1,400,000 |
| Lions Gate Capital | 90,000 | 7.00 | 630,000 |
| Lions Gate Capital | 45,000 | 7.50 | 337,500 |
| Capitol Securities Management, Inc.* | 100,000 | 9.00 | 900,000 |
| Total | 995,000 | | \$ 5,162,500 |

* Warrant initially issued to Capitol Securities Management, Inc., a portion of which was transferred to five Selling Shareholders.

The Selling Shareholders will pay any underwriting discounts and commissions and expenses incurred by the Selling Shareholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Shareholders in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees, Nasdaq Global Market listing fees and fees and expenses of our counsel and our accountants.

SELLING SHAREHOLDERS

The shares of common stock being sold by the Selling Shareholders consist of 995,000 shares of our common stock that are issuable upon exercise of warrants we issued to the parties listed in the table above in private placements during 2007 and 2008. Throughout this prospectus, when we refer to the Selling Shareholders, we mean the persons listed in the table below, as well as the pledgees, donees, assignees, transferees, successors and others who later hold any of the Selling Shareholders' interests, and when we refer to the shares of our common stock being offered by this prospectus, we are referring to the shares of our common stock issuable upon the exercise of the warrants issued in the private placements, collectively, unless otherwise indicated.

In connection with the registration rights we granted in connection with the issuance of the warrants, we filed with the SEC a registration statement on Form S-3, of which this prospectus forms a part, with respect to the resale or other disposition of the shares of common stock offered by this prospectus or interests therein from time to time on the

Nasdaq Global Market, in privately negotiated transactions or otherwise.

The actual number of shares of common stock covered by this prospectus, and included in the registration statement of which this prospectus forms a part, includes additional shares of common stock that may be issued with respect to the shares of common stock described herein as a result of stock splits, stock dividends, reclassifications, recapitalizations, combinations or similar events.

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The table below sets forth, to our knowledge, information about the Selling Shareholders as of June 19, 2009. Beneficial ownership is determined in accordance with the rules of the SEC and includes voting or investment power with respect to shares of our common stock. The number representing the number of shares of common stock beneficially owned prior to the offering for each Selling Shareholder includes (i) all shares held by a Selling Shareholder, as well as (ii) all options, warrants, or other derivative securities which are exercisable within 60 days after June 19, 2009, including the warrants referenced in this prospectus, held by such Selling Shareholder. The percentages of shares owned after the offering are based on 14,132,712 shares of our common stock outstanding as of April 30, 2009. Unless otherwise indicated below, to our knowledge, all persons named in this table have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under applicable law. The inclusion of any shares in this table does not constitute an admission of beneficial ownership by the person named below.

We do not know when or in what amounts a Selling Shareholder may offer shares for sale. The Selling Shareholders might not sell any or all of the shares offered by this prospectus. Because the Selling Shareholders may offer all or some of the shares pursuant to this offering, and because there are currently no agreements, arrangements or understandings with respect to the sale of any of the shares, we cannot estimate the number of the shares that will be held by the Selling Shareholders after completion of the offering. For purposes of the table below, we have assumed that, after completion of the offering, none of the shares covered by this prospectus will be held by the Selling Shareholders.

The Selling Shareholders may have sold or transferred, in transactions exempt from the registration requirements of the Securities Act, some or all of their shares of common stock since the date on which the information in the table below is presented. Information about the Selling Shareholders may change over time.

| Name of Selling Shareholder | Shares of Common Stock | | Number of | Shares of Common | |
|-------------------------------------|--------------------------------------|------------|---------------------|---|------------|
| | Beneficially Owned Prior to Offering | | Shares of Common | Stock to be Beneficially Owned After Offering | |
| | Number | Percentage | Stock Being Offered | Number | Percentage |
| Emerald Asset Advisors, LLC | 0 | *% | 700,000(1) | 0 | 0 |
| Capitol Securities Management, Inc. | 5,000(2) | *% | 5,000 | 0 | 0 |
| John Rick | 42,000(3) | *% | 42,000 | 0 | 0 |
| Mitchell Pizzirusso | 20,000(4) | *% | 20,000 | 0 | 0 |
| Walter Ries | 10,000(5) | *% | 8,000 | 2,000 | *% |
| Raymond Meyers | 12,500(6) | *% | 12,500 | 0 | 0 |
| Vincent Pace | 12,500(7) | *% | 12,500 | 0 | 0 |
| RJ Aubrey IR Services LLC | 118,385(8) | *% | 60,000 | 58,385 | *% |
| Lions Gate Capital | 135,000(9) | *% | 135,000 | 0 | 0 |

* Less than one percent.

(1) Consists of 700,000 shares of common stock issuable to Emerald Asset Advisors, LLC

(Emerald) upon the exercise of warrants by Emerald. Michael Xirinachs is the sole managing partner of Emerald. Michael Xirinachs expressly disclaims beneficial ownership of the securities, other than to the extent of his pecuniary interest therein.

- (2) Consists of 5,000 shares of common stock issuable to Capitol Securities Management, Inc. (Capitol) upon the exercise of warrants by Capitol. Mark Hamby is the President of Capitol and Joseph Jianos is the Chief Executive Officer of Capitol. Messrs. Hamby and Jianos expressly disclaim beneficial ownership of the securities, other than to the extent of their pecuniary

interest therein.
The ownership
information
shown reflects
the transfer of
warrants by
Capitol and is
current as of
July 17, 2009.

(3) Consists of
42,000 shares of
common stock
issuable to John
Rick upon the
exercise of
warrants by
Mr. Rick. The
ownership
information
shown reflects
the transfer of
warrants by
Capitol and is
current as of
July 17, 2009.

(4) Consists of
20,000 shares of
common stock
issuable to
Mitchell
Pizzirusso upon
the exercise of
warrants by
Mr. Pizzirusso.
The

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ownership information shown reflects the transfer of warrants by Capitol and is current as of July 17, 2009.

- (5) Consists of 8,000 shares of common stock issuable to Walter Ries upon the exercise of warrants by Mr. Ries and 2,000 shares of common stock held in a brokerage account. The ownership information shown reflects the transfer of warrants by Capitol and is current as of July 17, 2009.

- (6) Consists of 12,500 shares of common stock issuable to Mr. Meyers upon the exercise of warrants by Mr. Meyers. The ownership information shown reflects the transfer of warrants by Capitol and is current as of July 17, 2009.

- (7) Consists of 12,500 shares of common stock issuable to Mr. Pace upon the exercise of warrants by Mr. Pace. The ownership information shown reflects the transfer of warrants by Capitol and is current as of July 17, 2009.
- (8) Consists of 38,385 shares of common stock owned by RJ Aubrey IR Services LLC (RJ Aubrey) and 80,000 shares of common stock issuable upon the exercise of currently exercisable warrants by RJ Aubrey. Ronald J. Aubrey is the sole member of RJ Aubrey and expressly disclaims beneficial ownership of the securities, other than to the extent of his pecuniary interest therein.
- (9) Consists of 135,000 shares of common stock issuable upon the

exercise of warrants by Lions Gate Capital (Lions Gate). Jim Braseth and Brad Holt are the managing members of Lions Gate and may be deemed to share voting and dispositive power over the shares beneficially owned by Lions Gate. Each of the above persons expressly disclaims beneficial ownership of the securities, other than to the extent of his pecuniary interest therein.

Relationships with Selling Shareholders

Each of the Selling Shareholders acts or has acted as a non-employee consultant providing various advisory services, including without limitation investor relations consulting services, introducing the Company to potential licensing partners and acquisition candidates and acting as a liaison to the equity investment community. Except as otherwise disclosed in the preceding sentence, none of the Selling Shareholders has held any position or office with us or our affiliates within the last three years or has had a material relationship with us or any of our predecessors or affiliates within the past three years.

PLAN OF DISTRIBUTION

Selling Shareholders

The Selling Shareholders of the common shares covered by this prospectus or any of their pledgees, donees, transferees and successors-in-interest may, from time to time, sell any or all of their shares of common shares on any stock exchange market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed, negotiated or market prices. The Selling Shareholders may use any one or more of the following methods when selling 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 distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the date of this prospectus;

broker-dealers may agree with the Selling Shareholder to sell a specified number of such shares at a stipulated price per share;

a combination of any such methods of sale;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise; or

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any other method permitted pursuant to applicable law.

The Selling Shareholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus. Broker-dealers engaged by the Selling Shareholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Shareholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with NASDR Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with NASDR IM-2440.

In connection with the sale of the common shares or interests therein, the Selling Shareholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common shares in the course of hedging the positions they assume. The Selling Shareholders may also, on or after the date of this prospectus, sell the common shares short and deliver these securities to close out their short positions, or loan or pledge the common shares to broker-dealers that in turn may sell these securities. The Selling Shareholders 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).

Any broker-dealers or agents that are involved in selling or distributing the shares 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. Each Selling Shareholder has informed the Company that it does not have any written or oral agreement, arrangement or understanding, directly or indirectly, with any underwriter, broker-dealer or other person to distribute or resell the common shares.

Under applicable rules and regulations under the Securities Exchange Act of 1934, any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common shares for a period of two business days prior to the commencement of the distribution. In addition, the Selling Shareholders 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 the common shares by the Selling Shareholders or any other person. We will make copies of this prospectus available to the Selling Shareholders 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.

Warrants

In 2007 and 2008, we issued warrants to purchase common shares pursuant to compensation arrangements with four non-employee consultants who provide (or provided) services to us, including providing investor relations consulting services and introducing the Company to potential licensing partners and acquisition candidates and acting as a liaison to the equity investment community. The exercise price and the number of shares of common stock purchasable upon exercise of the warrants are subject to adjustment in certain events including: (a) a stock dividend payable in common stock, stock split, or subdivision of our common stock; and (b) reclassification of our common stock or any reorganization, consolidation, merger, or sale, lease, license, exchange or other transfer of all or substantially all of the business and/or assets of the Company.

The following description is a summary of material provisions of the warrants the underlying shares of which are covered by this prospectus. It does not restate the terms of the warrants in their entirety. We urge you to read the forms of warrant because they, and not this description, define the rights of the holders of the warrants.

As of October 3, 2007, we entered into a consulting agreement with Lions Gate Capital pursuant to which we have issued warrants to acquire 135,000 common shares. The warrants were earned at the rate of 15,000 warrants per month of service beginning October 3, 2007 and continuing on the first day of each month thereafter from November 1, 2007 through June 1, 2008. The first 90,000 warrants that were earned have an exercise price of \$7.00 per share and the remaining 45,000 warrants have an exercise price of \$7.50 and in each case are exercisable for cash. The warrants expire at the close of business on October 3, 2011. These warrants become exercisable on the first anniversary of the date on which they are earned and may be exercised in whole or in part at any time until their

expiration. The warrants are subject to customary restrictions on transfer.

On May 28, 2008, we entered into an advisory agreement with Capitol Securities Management, Inc. pursuant to which we issued warrants to acquire 100,000 common shares. The warrants were immediately earned and became exercisable on May 28, 2009. The

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warrants will expire on the earlier of (i) May 28, 2012, or (ii) the termination of the agreement prior to May 28, 2009 (A) by us due to a material breach of the agreement by the consultant or (B) by the consultant. The warrants have an exercise price of \$9.00 per share and may be exercised on a cashless basis or for cash. The warrant holder is generally prohibited from transferring the warrants except to an affiliate who is an accredited investor and who agrees to be bound by the terms of the advisory agreement and warrants.

On September 30, 2008, we entered into an advisory agreement RJ Aubrey IR Services LLC pursuant to which we issued warrants to acquire 60,000 common shares. The warrants are earned in 20,000 share increments on September 30, 2008, January 1, 2009 and July 1, 2009. To the extent earned, the warrants become exercisable on January 1, 2010 and will expire on September 30, 2012. Upon a termination of the agreement (A) by us due to a material breach of the agreement by the consultant or (B) by the consultant, any unearned warrants at the time of such termination will expire. The warrants have an exercise price of \$6.50 per share and may be exercised on a cashless basis or for cash. The warrant holder is generally prohibited from transferring the warrants except to an affiliate who is an accredited investor and who agrees to be bound by the terms of the advisory agreement and warrants.

In November 2008, we entered into an advisory agreement, as amended, with Emerald Asset Advisors, LLC pursuant to which we issued warrants to acquire a total of 700,000 common shares. All of the warrants were immediately earned. Warrants to purchase 300,000 common shares at an exercise price of \$1.99 per share will become exercisable on November 5, 2009, and will expire on the earlier of (i) November 5, 2011, or (ii) the termination of the agreement prior to November 5, 2009 (A) by us due to a material breach of the agreement by the consultant or (B) by the consultant. Warrants to purchase 400,000 common shares will become exercisable on November 5, 2010, and will expire on the earlier of (i) November 5, 2011, or (ii) the termination of the agreement prior to November 5, 2010 (A) by us due to a material breach of the agreement by the consultant or (B) by the consultant. 200,000 of these warrants have an exercise price of \$4.54, and the remaining 200,000 have an exercise price of \$7.00 per share. The warrants are exercisable only for cash. The warrant holder is generally prohibited from transferring the warrants except to an affiliate who is an accredited investor and who agrees to be bound by the terms of the advisory agreement and warrants.

Expenses

The Company is bearing the expenses incident to the registration of the shares. The following table sets forth the estimated amounts of expenses to be borne by the Company in connection with the issuance and distribution of the common shares being registered, other than underwriting discounts and commissions (which will be borne by the Selling Shareholders):

| | |
|---|------------------|
| Securities and Exchange Commission registration fee | \$ 420 |
| Accounting fees and expenses | 3,000 |
| Legal fees and expenses | 30,000 |
| Transfer agent's and registrar's fees and expenses | 3,000 |
| Miscellaneous expenses | 13,580 |
| Total | \$ 50,000 |

None of these expenses will be borne by the Selling Shareholders. All of these expenses, except the Securities and Exchange Commission registration fee, are estimated.

LEGAL MATTERS

The validity of the issuance of the common stock offered by this prospectus will be passed upon for us by Dykema Gossett PLLC.

EXPERTS

The financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2008 have been audited by Plante & Moran, PLLC, independent auditors, as stated in their report which is incorporated in this prospectus by reference, and have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the sale and distribution of the securities being registered hereby, all of which will be borne by Rockwell Medical Technologies, Inc. (except any underwriting discounts and commissions and expenses incurred by the Selling Shareholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Shareholders in disposing of the shares). All amounts shown are estimates except the SEC registration fee.

| | |
|--|---------------|
| SEC registration fee | \$ 420 |
| Legal fees and expenses | 30,000 |
| Accounting fees and expenses | 3,000 |
| Transfer agent's and registrar's fees and expenses | 3,000 |
| Miscellaneous expenses | 13,580 |
| Total expenses | \$ 50,000 |

Item 15. Indemnification of Directors and Officers.

The Michigan Business Corporation Act, as amended (the "MBCA"), authorizes a Michigan corporation under specified circumstances to indemnify its directors and officers (including reimbursement for expenses incurred). The provisions of the Company's Bylaws relating to indemnification of directors and officers generally provide that present and former directors and officers will be indemnified to the fullest extent permissible under Michigan law. The provision also provides for the advancement of litigation expenses at the request of a director or officer.

The MBCA also permits Michigan corporations to limit the personal liability of directors for a breach of their fiduciary duty. The provisions of the Company's Articles of Incorporation limit director liability to the maximum extent currently permitted by Michigan law. Michigan law allows a corporation to provide in its articles of incorporation that a director of the corporation will not be personally liable to the corporation or its shareholders for monetary damages for breach of fiduciary duty as a director, except for liability for specified acts.

Section 567 of the MBCA authorizes the Company to purchase and maintain insurance on behalf of a person who is or was a director, officer, employee or agent of the Company or who serves at the request of the Company as a director, officer, partner, trustee, employee or agent of another enterprise, whether or not the Company would have the power to indemnify him or her under the Bylaws or the laws of the State of Michigan. The Company maintains a directors and officers' insurance policy.

Item 16. Exhibits.**EXHIBIT****NUMBER DESCRIPTION**

| | |
|-------|---|
| 4.1 | Warrant issued to RJ Aubrey IR Services LLC as of September 30, 2008 |
| 4.2 | Warrant issued to Lions Gate Capital as of October 3, 2007 |
| 4.3 | Warrant issued to Capitol Securities Management, Inc. as of May 28, 2008 |
| 4.4 | Warrant issued to Emerald Asset Advisors, LLC |
| 4.5 | Form of Warrant issued to Messrs. Rick, Pizzirusso, Ries, Meyers and Pace as of July 17, 2009 |
| 5.1 | Opinion of Dykema Gossett PLLC |
| 10.17 | Consulting Agreement, dated as of October 3, 2007, filed as an exhibit to the Company's Current Report on Form 8-K on October 9, 2007 and incorporated herein by reference |
| 10.24 | Advisory Agreement dated May 28, 2008 between the Company and Capitol Securities Management, Inc., filed as an exhibit to the quarterly report on Form 10-Q filed on August 12, 2008 and incorporated herein by reference |
| 10.26 | Advisory Agreement dated September 30, 2008 between the Company and RJ Aubrey IR Services LLC, filed as an exhibit to the quarterly report on Form 10-Q filed on November 13, 2008 and incorporated herein by reference |

10.27 Advisory Agreement dated November 5, 2008 between the Company and Emerald Asset Advisors, LLC,
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EXHIBIT

NUMBER DESCRIPTION

| | |
|-------|---|
| | filed as an exhibit to the quarterly report on Form 10-Q filed on November 13, 2008 and incorporated herein by reference |
| 10.29 | Amendment to Advisory Agreement dated November 21, 2008 between the Company and Emerald Asset Advisors, LLC, filed as an exhibit to the annual report on Form 10-K filed on March 16, 2009 and incorporated herein by reference |
| 23.1 | Consent of Plante & Moran, PLLC |
| 23.2 | Consent of Dykema Gossett PLLC, included in Exhibit 5.1 filed herewith |
| 24.1 | Power of Attorney of Ronald D. Boyd |
| 24.2 | Power of Attorney of Kenneth L. Holt |
| 24.3 | Power of Attorney of Patrick J. Bagley |

Item 17. Undertakings.

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, as amended (the Securities Act);

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

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement; *provided, however*, that paragraphs (1)(i), (1)(ii) and (1)(iii) 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 Section 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), that are incorporated by reference in this Registration Statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of this Registration Statement.

(2) That, for the purposes of determining any liability under the Securities Act, each 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 the 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.

Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness.

Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act that is incorporated by reference in this 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.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the indemnification provisions described herein, 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 Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the

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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.

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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 Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Wixom, State of Michigan, on July 20, 2009.

ROCKWELL MEDICAL TECHNOLOGIES,
INC.

By: /s/ Robert L. Chioini
Robert L. Chioini
President, Chief Executive Officer, and
Chairman of the Board

SIGNATURES AND POWER OF ATTORNEY

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date |
|--|---|---------------|
| /s/ Robert L. Chioini Robert L. Chioini | President, Chief Executive Officer and Chairman of the Board (Principal Executive Officer) | July 20, 2009 |
| /s/ Thomas E. Klema Thomas E. Klema | Vice President of Finance, Chief Financial Officer, Treasurer, and Secretary (Principal Financial Officer and Principal Accounting Officer) | July 20, 2009 |
| * Ronald D. Boyd | Director | July 20, 2009 |
| * Kenneth L. Holt | Director | July 20, 2009 |
| * Patrick J. Bagley | Director | July 20, 2009 |

/s/ Thomas E. Klema
* By Thomas E. Klema, attorney in fact

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EXHIBIT INDEX

EXHIBIT

| NUMBER | DESCRIPTION |
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| 10.24 | Advisory Agreement dated May 28, 2008 between the Company and Capitol Securities Management, Inc., filed as an exhibit to the quarterly report on Form 10-Q filed on August 12, 2008 and incorporated herein by reference |
| 10.26 | Advisory Agreement dated September 30, 2008 between the Company and RJ Aubrey IR Services LLC, filed as an exhibit to the quarterly report on Form 10-Q filed on November 13, 2008 and incorporated herein by reference |
| 10.27 | Advisory Agreement dated November 5, 2008 between the Company and Emerald Asset Advisors, LLC, filed as an exhibit to the quarterly report on Form 10-Q filed on November 13, 2008 and incorporated herein by reference |
| 10.29 | Amendment to Advisory Agreement dated November 21, 2008 between the Company and Emerald Asset Advisors, LLC, filed as an exhibit to the annual report on Form 10-K filed on March 16, 2009 and incorporated herein by reference |
| 23.1 | Consent of Plante & Moran, PLLC |
| 23.2 | Consent of Dykema Gossett PLLC, included in Exhibit 5.1 filed herewith |
| 24.1 | Power of Attorney of Ronald D. Boyd |
| 24.2 | Power of Attorney of Kenneth L. Holt |
| 24.3 | Power of Attorney of Patrick J. Bagley |