

ROCKWELL MEDICAL TECHNOLOGIES INC

Form 424B5

September 30, 2009

Table of Contents

Filed Pursuant to Rule 424(b)(5)
Registration No. 333-160791

PROSPECTUS SUPPLEMENT
(To Prospectus dated August 17, 2009)

Rockwell Medical Technologies, Inc.
2,840,000 Shares
Warrants to Purchase 1,164,400 Shares
Common Stock

We are offering 2,840,000 shares of our common stock, without par value, and warrants to purchase up to 1,079,200 shares of our common stock to purchasers pursuant to this prospectus supplement and the accompanying prospectus. The common stock and warrants will be sold in units, with each unit consisting of one share of common stock and a warrant to purchase 0.38 shares of common stock at an exercise price of \$9.55 per share of common stock. Each unit will be sold at a purchase price of \$7.75. Units will not be issued or certificated. The shares of common stock and warrants are immediately separable and will be issued separately. We are also issuing warrants to purchase up to an aggregate of 85,200 shares of our common stock at an exercise price of \$9.55 per share to the placement agents in this offering. See Plan of Distribution beginning on page S-13 of this prospectus supplement for more information regarding these arrangements.

Our common stock is listed on the Nasdaq Global Market and traded under the symbol RMTI. On September 29, 2009, the last reported sale price of our common stock on the Nasdaq Global Market was \$9.00 per share.

Investing in our securities involves risks.
See Risk Factors beginning on page S-6.

	Per Unit	Total
Public offering price	\$7.750	\$22,010,000
Placement agents' fees ⁽¹⁾	\$0.465	\$ 1,320,600
Proceeds, before expenses, to us	\$7.285	\$20,689,400

(1) See Plan of Distribution for a description of the compensation payable to the placement agents.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

Because there is no minimum offering amount required as a condition to the closing of this offering, the actual public offering amount, placement agents' fees and proceeds to us, if any, are not presently determinable and may be substantially less than the maximum amounts set forth above.

We have engaged JMP Securities LLC as our lead placement agent and Wedbush Securities Inc., as a co-placement agent in connection with this offering. The placement agents are not required to sell any specific number or dollar amount of securities, but will use their commercially reasonable efforts to arrange for the sale of the securities offered. We have agreed to pay the placement agents the fees set forth in the table above. Because there is no minimum offering amount required as a condition to closing in this offering, the actual public offering amount, placement agent

fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above. Solely to facilitate the offering, pursuant to an escrow agreement among us, the placement agents and an escrow agent, unless otherwise agreed to by us and the placement agents, the funds received in payment for the securities sold in this offering will be wired to an escrow account and held until we and the placement agents notify the escrow agent that the offering has closed. The placement agents are not purchasing or selling any securities pursuant to this prospectus supplement or the accompanying prospectus.

We expect to deliver the securities against payment to investors on October 5, 2009.

JMP Securities

Wedbush PacGrow Life Sciences

The date of this prospectus supplement is September 29, 2009.

TABLE OF CONTENTS
Prospectus Supplement

<u>About this Prospectus Supplement</u>	S-1
<u>Where You Can Get More Information</u>	S-1
<u>Prospectus Supplement Summary</u>	S-3
<u>Risk Factors</u>	S-6
<u>Cautionary Statement Regarding Forward-Looking Statements</u>	S-8
<u>Use of Proceeds</u>	S-9
<u>Dilution</u>	S-10
<u>Price Range of Common Stock</u>	S-11
<u>Description of Securities We Are Offering</u>	S-11
<u>Plan of Distribution</u>	S-13
<u>Legal Matters</u>	S-14
<u>Experts</u>	S-14

Prospectus

	Page
<u>Where You Can Get More Information</u>	2
<u>Documents Incorporated by Reference</u>	2
<u>Our Company</u>	4
<u>Risk Factors</u>	5
<u>Cautionary Statement Regarding Forward-Looking Statements</u>	5
<u>Use of Proceeds</u>	6
<u>Description of Capital Stock</u>	6
<u>Description of Warrants</u>	7
<u>Plan of Distribution</u>	7
<u>Legal Matters</u>	11
<u>Experts</u>	11

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement is part of a registration statement that we filed with the Securities and Exchange Commission (the SEC), using a shelf registration process. This document has two parts. The first part is the prospectus supplement, which describes the specific terms of the offering. The second part is the accompanying prospectus, which describes more general information, some of which may not apply to the offering. You should read both this prospectus supplement and the accompanying prospectus, together with the additional information described under the heading *Where You Can Get More Information*.

You should rely only on the information contained or incorporated by reference in this prospectus supplement, in the accompanying prospectus, in any other prospectus supplement and in any free writing prospectus filed by us with the SEC. We have not, and the placement agents have not, authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and the placement agents are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is accurate only as of each of their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates. To extent that any statement that we make in this prospectus supplement differs from or is inconsistent with statements made in the accompanying prospectus or any documents incorporated by reference therein, the statements made in this prospectus supplement will be deemed to modify or supersede those made in the accompanying prospectus and such documents incorporated by reference therein.

Unless the context otherwise requires, references in this prospectus supplement to Rockwell, we, us, and our refer to Rockwell Medical Technologies, Inc., and include its consolidated subsidiaries where the context so requires.

This prospectus supplement, the accompanying prospectus, and the information incorporated herein and therein by reference includes trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

WHERE YOU CAN GET MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with 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. You can inspect or copy all or any part of these materials, at prescribed rates, at the SEC's public reference facilities. 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.

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 supplement, and any information filed with the SEC subsequent to this prospectus supplement will 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 Reports on Form 10-Q for the fiscal quarters ended March 31, 2009 and June 30, 2009.

Current Reports on Form 8-K filed April 6, 2009, June 1, 2009, and September 30, 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.

Table of Contents

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 supplement but before the termination of this offering are deemed to be incorporated by reference into this prospectus supplement and will constitute a part of this prospectus supplement from the date of filing of those documents.

Any statement contained in a document incorporated by reference in this prospectus supplement will be considered to be modified or superseded for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement 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 supplement.

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 supplement, 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).

S-2

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the information referred to under the heading "Risk Factors" in this prospectus supplement beginning on page S-6, and the risk factors and the financial statements and other information contained in our filings with the SEC which have been incorporated by reference in this prospectus supplement, when making an investment decision.

Rockwell Medical Technologies, Inc.

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.

Table of Contents

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.

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	2,840,000 shares (not including 1,079,200 shares underlying warrants issued to investors or 85,200 shares underlying warrants issued to the placement agents in this offering)
Common Stock Outstanding Before This Offering	14,220,410 shares
Common Stock Outstanding After This Offering	17,060,410 shares (assuming none of the warrants issued in the offering are exercised)
Warrants	Warrants to purchase up to 1,164,400 shares of our common stock will be offered in this offering, including warrants to purchase up to an aggregate of 1,079,200 shares of our common stock to purchasers in the offering and warrants to purchase up to 85,200 shares of our common stock to the

placement agents in this offering. The warrants will be exercisable at any time on or after April 5, 2010 and on or before the close of our business on October 5, 2014 at an exercise price of \$9.55 per share of common stock. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the warrants.

S-4

Table of Contents

Ownership Limitation	In order to comply with Nasdaq Marketplace Rule 5635, we will not sell a number of shares to any purchaser that, together with other shares of our common stock beneficially owned by that purchaser immediately prior to the consummation of the offering, would result in such purchaser beneficially owning 20% or more of the shares of our common stock outstanding immediately after the consummation of the offering.
Use of Proceeds	We expect to use the net proceeds from this offering for general corporate purposes, which may include funding of clinical trials and regulatory activities for SFP and other research and development expenses, and general and administrative expenses.
Risk Factors	See Risk Factors and other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before deciding to invest in our securities.
Listing	Our common stock is listed on the Nasdaq Global Market under the symbol RMTI. The last reported price of our common stock on September 29, 2009 was \$9.00 per share.

The amounts above are based on 14,220,410 common shares outstanding as of September 24, 2009 and assume no exercise of outstanding options since that date. The number of common shares expected to be outstanding after this offering excludes:

- 1,880,000 shares of our common stock issuable upon the exercise of outstanding stock options under our 2007 Long Term Incentive Plan, having a weighted average exercise price of \$5.70 per share;
- 718,333 shares of our common stock reserved for future issuance under our 2007 Long Term Incentive Plan;
- 2,154,169 shares of our common stock issuable upon the exercise of outstanding warrants with a weighted-average exercise price of \$6.36 per share;
- 2,767,000 shares of our common stock issuable upon the exercise of outstanding stock options granted under our 1997 Stock Option Plan, having a weighted average exercise price of \$2.74;
- 1,079,200 shares of common stock issuable upon the exercise of warrants to be issued in this offering, at an exercise price of \$9.55 per share; and
- 85,200 shares of common stock issuable upon exercise of warrants to be issued to the placement agents in this offering, at an exercise price of \$9.55 per share.

Table of Contents

RISK FACTORS

In considering whether to purchase the securities, you should carefully consider all the information we have included or incorporated by reference in this prospectus supplement and the accompanying prospectus. In particular, you should carefully consider the following risk factors, as well as the factors listed in Forward-Looking Statements. You should carefully review all the information in this prospectus supplement and the accompanying prospectus about these securities.

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 (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 September 24, 2009, an additional 1,349,169 shares may be issued upon exercise of outstanding warrants. In addition, as of September 24, 2009, there were an additional 805,000 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 September 24, 2009, there were 3,003,666 shares issuable upon the exercise of outstanding and exercisable stock options, 1,634,334 shares issuable upon the exercise of outstanding stock options that are not yet exercisable and 718,333 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. In addition, our common stock can fluctuate as a result of a variety of factors, many of which are beyond our control. These factors include, but are not limited to, the following:

the results of preclinical or clinical trials relating to our products, including SFP;

the announcement of new products by us or our competitors;

quarterly variations in our or our competitors' results of operations;

announcements by us related to litigation;

changes in our earnings estimates, investors' perceptions, recommendations by securities analysts or our failure to achieve analysts' earnings estimates; and

general domestic economic and market conditions.

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

As of September 24, 2009, our officers and directors beneficially owned approximately 24.3% of our voting shares (assuming the exercise of exercisable options granted to such officers and directors). Accordingly, they may be able

Table of Contents

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.

RISKS RELATING TO THIS OFFERING

Since we have broad discretion in how we use the proceeds from this offering, we may use the proceeds in ways with which you disagree.

We have not allocated specific amounts of the net proceeds from this offering for any specific purpose. Accordingly, our management will have significant flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for us. The failure of our management to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flow.

There is no minimum offering amount required to consummate this offering.

There is no minimum offering amount which must be raised in order for us to consummate this offering. Accordingly, the amount of money raised may not be sufficient for us to meet our business objectives. Moreover, if only a small amount of money is raised, all or substantially all of the offering proceeds may be applied to cover the offering expenses and we will not otherwise benefit from the offering. In addition, because there is no minimum offering amount required, investors will not be entitled to a return of their investment if we are unable to raise sufficient proceeds to meet our business objectives.

Table of Contents

Investors in this offering will pay a much higher price than the book value of our stock.

If you purchase units in this offering, you will incur an immediate and substantial dilution in net tangible book value of \$6.06 per share, after giving effect to the sale by us of 2,840,000 shares of common stock in this offering and assuming no exercise of the warrants offered hereby.

There is no public market for the warrants to purchase common stock in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing the warrants on any securities exchange or other trading market. Without an active market, the liquidity of the warrants will be limited.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

We make forward-looking statements in this prospectus supplement. 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, predict, forecast, 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 supplement. 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 supplement, including under Risk Factors, and from time to time in our reports filed with the Securities and Exchange Commission and incorporated herein by reference.

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 significant portion of our sales. The loss of this customer would have a material adverse effect on our results of operations and cash flows.

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

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

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

If prices of the key commodities we purchase change significantly, we may not be able to continue improving or sustain our current gross profit margins and our business may remain unprofitable.

We depend on government funding of healthcare.

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

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

Table of Contents

We depend on key personnel.

Our business is highly regulated.

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.

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

Health care reform could adversely affect our business.

We may not have sufficient products liability insurance.

Our Board of Directors is subject to potential deadlock.

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

The market price of our securities may be volatile.

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

We do not anticipate paying dividends in the foreseeable future.

Other factors not currently anticipated may also materially and adversely affect our results of operations, cash flows and financial position. There can be no assurance that future results will meet expectations. 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 may be required by applicable law.

USE OF PROCEEDS

We expect the net proceeds from this offering to be up to approximately \$20.5 million (or approximately \$30.8 million if the warrants issued to investors in this offering are exercised in full on a cash exercise basis) after deducting the placement agent fees, as described in Plan of Distribution, and other estimated offering expenses payable by us, which include legal, accounting and printing fees. We intend to use the net proceeds from the sale of the securities under this prospectus supplement for general corporate purposes, including clinical trials and regulatory activities for SFP, and other research and development and general and administrative expenses.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses of the proceeds from this offering. Accordingly, we will retain broad discretion over the use of such proceeds. Pending the use of the net proceeds from this offering as described above, we intend to invest the net proceeds in investment-grade, interest-bearing instruments.

Table of Contents**DILUTION**

The net tangible book value of our common stock on June 30, 2009 was approximately \$8,405,442, or approximately \$0.59 per share, based on 14,208,743 shares of our common stock outstanding as of June 30, 2009. Net tangible book value per share represents the amount of our total tangible assets, less our total liabilities, divided by the total number of shares of our common stock outstanding. Dilution in net tangible book value per share to new investors represents the difference between the amount per unit paid by purchasers of securities in this offering and the net tangible book value per share of our common stock immediately afterwards. Without taking into account any other changes in net tangible book value after June 30, 2009, other than the sale of 2,840,000 units offered by us hereby at a price of \$7.75 per unit and after deducting fees due to the placement agents and our estimated offering expenses, our net tangible book value at June 30, 2009 would have been approximately \$28.9 million, or approximately \$1.69 per share. This represents an immediate increase in net tangible book value of approximately \$1.10 per share to existing shareholders and an immediate dilution in net tangible book value of \$6.06 per share to investors in this offering. Our net tangible book value calculation assumes no exercise of the warrants offered hereby.

The following table illustrates this per share dilution:

Public offering price per unit		\$7.75
Net tangible book value per share as of June 30, 2009	\$0.59	
Increase in net tangible book value per share attributable to this offering	\$1.10	
Net tangible book value per share as of June 30, 2009, after giving effect to this offering		\$1.69
Dilution per share to new investors in the offering		\$6.06

Investors that purchase common stock upon exercise of the warrants offered hereby may experience dilution depending on our net tangible book value at the time of exercise.

The amounts above are based on 14,220,410 common shares outstanding as of September 24, 2009 and assume no exercise of outstanding options or warrants since that date. The number of common shares expected to be outstanding after this offering excludes:

1,880,000 shares of our common stock issuable upon the exercise of outstanding stock options under our 2007 Long Term Incentive Plan, having a weighted average exercise price of \$5.70 per share;

718,333 shares of our common stock reserved for future issuance under our 2007 Long Term Incentive Plan;

2,154,169 shares of our common stock issuable upon the exercise of outstanding warrants with a weighted-average exercise price of \$6.36 per share;

2,767,000 shares of our common stock issuable upon the exercise of outstanding stock options granted under our 1997 Stock Option Plan, having a weighted average exercise price of \$2.74;

1,079,200 shares of common stock issuable upon the exercise of warrants to be issued in this offering, at an exercise price of \$9.55 per share; and

85,200 shares of common stock issuable upon exercise of warrants to be issued to the placement agents in this offering, at an exercise price of \$9.55 per share.

To the extent options or warrants outstanding as of September 24, 2009 have been or may be exercised or other shares have been issued, there may be further dilution to investors.

S-10

Table of Contents**PRICE RANGE OF COMMON STOCK**

In January 2007, our shares began trading on the Nasdaq Global Market under the trading symbol RMTI and previously traded on the Nasdaq Capital Market. The table below sets forth for the periods indicated the quarterly high and low sale prices for common stock on the Nasdaq Global Market.

	Sale Price	
	High	Low
2009		
Third Quarter (through September 24, 2009)	\$9.39	7.20
Second Quarter	8.79	4.09
First Quarter	4.66	2.56
2008		
Fourth Quarter	4.25	1.50
Third Quarter	6.84	4.14
Second Quarter	7.49	4.86
First Quarter	7.20	5.90
2007		
Fourth Quarter	7.54	5.69
Third Quarter	6.14	4.66
Second Quarter	7.09	5.19
First Quarter	8.10	5.55

As of September 24, 2009, there were 35 holders of record of our common shares. We have never paid any cash dividends on our common shares and do not anticipate paying dividends in the foreseeable future. We intend to retain earnings, if any, to finance the development and expansion of our operations.

DESCRIPTION OF SECURITIES WE ARE OFFERING

In this offering, we are offering a maximum of 2,840,000 units, consisting of 2,840,000 shares of common stock and warrants to purchase 1,079,200 shares of common stock. Each unit consists of one share of common stock and warrants to purchase 0.38 shares of common stock at an exercise price of \$9.55 per share. We are also issuing warrants to purchase an aggregate of 85,200 shares of common stock at an exercise price of \$9.55 per share to the placement agents in this offering. This prospectus supplement also relates to the offering of shares of our common stock upon exercise, if any, of the warrants.

Common Stock

The material terms and provisions of our common stock are described under the caption Description of Capital Stock starting on page 5 of the accompanying prospectus.

Warrants

The material terms and provisions of the warrants being offered pursuant to this prospectus supplement are summarized below.

Exercisability. The warrants will be exercisable at any time on or after April 5, 2010 and on or before the close of our business on October 5, 2014. The warrants will be exercisable, at the option of each holder, upon the surrender of the warrants to us and the payment in cash, or in the case of a cashless exercise described below, by delivery of shares of common stock by the holder equal in value to the exercise price of the shares being acquired upon exercise of the warrants. The holder will not have the right to exercise any portion of the warrant if the holder, together with its affiliates, would beneficially own in excess of 4.99% (the Maximum Percentage) of the number of shares of our common stock outstanding immediately after the exercise, provided however, that upon 61 days prior written notice, the holder may increase the Maximum Percentage to 9.99%.

Cashless Exercise. If there is no effective registration statement registering the shares of common stock underlying the warrants or the average closing price of the Company's common stock for five consecutive trading days immediately preceding exercise is greater than \$12.00, then the warrant may be exercised by means of a cashless exercise in which the holder will be

Table of Contents

entitled to surrender a portion of the shares of common stock subject to the warrant in lieu of cash for the exercise price.

Exercise Price. The exercise price per share of common stock purchasable upon exercise of the warrants is \$9.55 with respect to warrants issued to purchasers in this offering and \$9.55 for the placement agents' warrants. The exercise price is subject to appropriate adjustment in the event of stock dividends, stock splits, stock combinations, reclassifications or similar events affecting our common stock.

Transferability. The warrants issued to purchasers in the offering may be transferred at the option of the warrant holder upon surrender of the warrants to the Company with the appropriate instruments of transfer. The warrants issued to the placement agents become similarly transferable 180 days after the closing date of the offering.

Effect of Merger, Consolidation or Sale of Assets. If we amend our articles of incorporation to reorganize our capital or reclassify our capital stock, or consolidate or merge with or into another corporation (where we are not the surviving corporation or where there is a change in or distribution with respect to our common stock), or sell, transfer or otherwise dispose of all or substantially all of our property, assets or business to another corporation and, pursuant to the terms of such transaction our common stock is converted into or exchanged for other securities or property, the holder of any warrants will thereafter receive upon exercise of the warrants, either (i) publicly traded capital stock of the successor entity or (ii) the securities or property to which a holder of the number of shares of common stock then deliverable upon the exercise or conversion of such warrants would have been entitled upon such transaction.

Notwithstanding the foregoing, in the event that we consolidate or merge with or into another corporation (where we are not the surviving corporation and, after such transaction, the holders of the Company's voting power immediately prior to such transaction do not continue after such transaction to hold publicly traded securities and the voting power of the surviving entity necessary to elect a majority of the board of directors of such entity), then we (or the successor entity to the warrant) will purchase the warrant from the holder by paying the holder cash, in an amount equal to the value of the remaining unexercised portion of the warrant on the date of such transaction determined using a Black-Scholes option pricing model with an expected volatility equal to the greater of 75% and the 30-day historical price volatility obtained from Bloomberg L.P. as of the trading day immediately following the public announcement of the transaction.

Dividends. If, during any six-month period, the Company declares a cash dividend in an amount that, when combined with all other cash dividends paid and distributed to the holders of the Company's common stock during that six-month period, exceeds five percent of the Company's market capitalization, then the Company will pay to the holders of warrants cash payments equal to the aggregate amount of dividends to which the holders would have been entitled if they had exercised their warrants.

Table of Contents

PLAN OF DISTRIBUTION

We have engaged JMP Securities LLC, as lead placement agent, and Wedbush Securities Inc., as a co-placement agent and are offering the securities through the placement agents. Subject to the terms and conditions contained in the placement agency agreement, dated September 29, 2009, the placement agents have agreed to act as the placement agents for the sale of up to 2,840,000 units. The placement agents are not required to arrange for the purchase or sale of any specific number or dollar amount of securities, but have agreed to use their commercially reasonable efforts to arrange for the sale of all of the securities.

The placement agency agreement provides that the obligations of the placement agents and the investors are subject to certain conditions precedent, including the absence of any material adverse change in our business and the receipt of customary legal opinions, letters and certificates.

Solely to facilitate the offering, pursuant to an escrow agreement among us, the placement agents and an escrow agent, unless otherwise agreed to by us and the placement agents, the funds received in payment for the securities sold in this offering will be wired to an escrow account and held until we and the placement agents notify the escrow agent that the offering has closed. We currently anticipate that the closing will take place on or about October 5, 2009.

In order to comply with Nasdaq Marketplace Rule 5635, we will not sell a number of shares to any purchaser that, together with other shares of our common stock beneficially owned by that purchaser immediately prior to the consummation of the offering, would result in such purchaser beneficially owning 20% or more of the shares of our common stock outstanding immediately after the consummation of the offering.

On the scheduled closing date, the following will occur:

we will receive funds in the amount of the aggregate purchase price; and

the placement agents will receive the agency fee in accordance with the terms of the placement agency agreement.

We will pay the placement agents a commission equal to an aggregate of 6% of the gross proceeds we receive from the sale of the securities sold in this offering (the Agency Fee) and will reimburse the placement agents for out of pocket expenses (not to exceed \$50,000 without our written consent). As additional compensation to the placement agents, upon consummation of this offering, we will issue warrants to purchase an aggregate number of shares of our common stock equal to 3% percent of all shares of common stock sold in the offering at an exercise price per share equal to \$9.55 (the Agency Warrants). The Agency Warrants may be exercised by means of a cashless exercise, will become exercisable no earlier than six months from the date of issuance and have a term of three years from the date of issuance. The Agency Warrants and underlying shares of common stock will not be exercised, sold, transferred, assigned, or hypothecated or be the subject of any hedging, short sale, derivative, put or call transaction that would result in the effective economic disposition of the Agency Warrants by any person for a period of 180 days from issuance of the Agency Warrants on the closing date of this offering in accordance with Financial Industry Regulatory Authority (FINRA) Rule 5110. The Agency Fee and Agency Warrants shall be payable and issuable, respectively, 55% to JMP Securities LLC and 45% to Wedbush Securities Inc.

In compliance with the guidelines of FINRA, the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate amount of the securities offered pursuant to this prospectus supplement.

Table of Contents

The following table shows the per unit and total fees we will pay to the placement agents in connection with the sale of the securities offered pursuant to this prospectus supplement.

	Per Unit	Total
Agency Fee	\$0.465	\$1,320,600
Legal fees and expenses	\$0.080	\$ 50,000

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering commissions, if any, are not presently determinable and may be substantially less than the maximum amount set forth above. The estimated offering expenses payable by us, in addition to the placement agents fee, are expected to be approximately \$230,000, which includes legal, accounting and printing costs and various other fees associated with registering and listing the shares of common stock (including amounts payable by us to the placement agents for out of pocket expenses incurred by them in connection with this offering in an amount not to exceed \$50,000 without our prior written consent). After deducting the fees due to the placement agents and our estimated offering expenses, we expect the net proceeds from this offering to be up to approximately \$20.5 million. The price per unit was determined based on negotiations with the purchasers and discussions with the placement agents.

The placement agents may in the future perform various financial advisory, commercial banking and investment banking services for us in the ordinary course of business, for which they will receive customary fees.

We have agreed to indemnify the placement agents against certain liabilities, including liabilities under the Securities Act of 1933, as amended, and liabilities arising from breaches of representations and warranties contained in the placement agency agreement. We have also agreed to contribute to payments the placement agents may be required to make in respect of such liabilities.

We, and our directors and executive officers, have agreed, subject to certain enumerated exceptions, to certain lock-up provisions with regard to future sales of our common stock for a period ending 90 days after the date of this prospectus supplement as set forth in the placement agency agreement.

The placement agency agreement, the form of subscription agreement that each investor will execute, the form of investor warrants, and the form of Agency Warrants are included as exhibits to our Current Report on Form 8-K that will be filed with the SEC in connection with this offering.

The transfer agent for our common stock is American Stock Transfer & Trust Company.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon by our counsel, Dykema Gossett PLLC, Detroit, Michigan. The placement agents are being represented in connection with this offering by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements incorporated in this prospectus supplement by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2008, and the effectiveness of the Company's internal control over financial reporting as of December 31, 2008, have been audited by Plante & Moran, PLLC, independent auditors, as stated in their reports which are incorporated in this prospectus supplement 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.

Table of Contents

PROSPECTUS

**COMMON STOCK
WARRANTS**

We may offer to sell from time to time, in one or more offerings, in amounts, at prices and on terms determined at the time of any such offering, shares of our common stock and warrants to purchase our common stock.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis.

This prospectus describes some of the general terms that may apply to these securities. The specific terms of any securities to be offered will be described in a supplement to this prospectus. The prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you make your investment decision.

Our common stock is listed on the Nasdaq Global Market and traded under the symbol RMTI. On July 23, 2009, the closing sale price of our common stock on Nasdaq was \$8.75 per share. You are urged to obtain current market quotations for the common stock. Each prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange.

Investing in our securities involves a high degree of risk. See the section entitled Risk Factors, on page 5 of this prospectus and in the documents we file with the SEC that are incorporated in this prospectus by reference for certain risks and uncertainties you should consider.

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 August 17, 2009.

TABLE OF CONTENTS

	Page
<u>Where You Can Get More Information</u>	2
<u>Documents Incorporated by Reference</u>	2
<u>Our Company</u>	4
<u>Risk Factors</u>	5
<u>Cautionary Statement Regarding Forward-Looking Statements</u>	5
<u>Use of Proceeds</u>	6
<u>Description of Capital Stock</u>	6
<u>Description of Warrants</u>	7
<u>Plan of Distribution</u>	7
<u>Legal Matters</u>	11
<u>Experts</u>	11

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 refer to Rockwell Medical Technologies, Inc. and its subsidiaries on a consolidated basis.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf process, we may, from time to time, sell any combination of the securities described in this prospectus together or separately, in one or more offerings, up to a maximum aggregate offering price of \$60,000,000. This prospectus provides you with a general description of those securities which is not meant to be a complete description of each security. Each time we sell securities, we will provide a prospectus supplement that will contain specific information about the terms of that offering, including the specific amounts, prices and terms of the securities offered. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information in the prospectus supplement. You should read this prospectus and the applicable prospectus supplement together with the additional information described under the heading **Where You Can Get More Information**.

You should not assume that the information contained in this prospectus or any prospectus supplement is accurate as of any date other than the date on the front cover of such documents. Neither the delivery of this prospectus or any applicable prospectus supplement nor any distribution of securities pursuant to such documents shall, under any circumstances, create any implication that there has been no change in the information set forth in this prospectus or any applicable prospectus supplement or in our affairs since the date of this prospectus or any applicable prospectus supplement.

WHERE YOU CAN GET MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with 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. You can inspect or copy all or any part of these materials, at prescribed rates, at the SEC's public reference facilities. 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.

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

Table of Contents

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.

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).

You should rely only on the information contained or incorporated by reference in this prospectus, in any accompanying prospectus supplement or in any free writing prospectus filed by us with the SEC and any information about the terms of securities offered conveyed to you by us, our underwriters or agents. We have not authorized anyone else to provide you with additional or different information. These securities are only being offered in jurisdictions where the offer is permitted. You should not assume that the information contained in this prospectus, any accompanying prospectus supplement or any free writing prospectus is accurate as of any date other than their respective dates.

Table of Contents

OUR COMPANY

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.

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.

Table of Contents

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.

RISK FACTORS

Before making an investment decision, you should carefully consider the risks described under "Risk Factors" in the applicable prospectus supplement and in our most recent Annual Report on Form 10-K, and in our updates to those Risk Factors in our Quarterly Reports on Form 10-Q, together with all of the other information appearing in this prospectus or incorporated by reference into this prospectus and any applicable prospectus supplement, in light of your particular investment objectives and financial circumstances. In addition to those risk factors, there may be additional risks and uncertainties of which management is not aware or that management deems immaterial. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment.

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. There can be no assurance that future results will meet expectations. 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.

Table of Contents

USE OF PROCEEDS

Except as may be otherwise set forth in the applicable prospectus supplement accompanying this prospectus, the net proceeds from the sale of the securities will be used for general corporate purposes.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock is 40,000,000 shares of common stock and 3,416,664 shares of preferred stock (including 1,416,664 shares of Series A Preferred Shares which were previously issued and cancelled and which are not available for issuance). At June 30, 2009, 14,208,743 shares of common stock and no shares of preferred stock were outstanding. This description is subject to, and qualified in its entirety by, the provisions of our amended and restated articles of incorporation and bylaws, as well as the provisions of any applicable laws. A copy of our amended and restated articles of incorporation, was filed with the SEC as Exhibit 3.1 to our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2008. A copy of our amended and restated bylaws was filed with the SEC as Exhibit 3.2 to our Current Report on Form 8-K filed on November 25, 2008.

We may issue shares of our common stock, either separately or together with other warrants offered pursuant to this prospectus. Holders of our common stock are entitled to one vote for each share held of record on all matters on which shareholders are generally entitled to vote. The vote of the holders of a majority of the stock represented at a meeting at which a quorum is present is generally required to take shareholder action, unless a greater vote is required by law. Directors are elected by a plurality of the votes cast at any election and there is no cumulative voting of shares. Holders of our common stock are entitled to receive dividends when, as and if declared by our board of directors out of funds legally available for the payment of dividends. Upon the liquidation, dissolution or winding up of the Company, holders of common stock are entitled to share pro rata in any assets available for distribution to shareholders after payment of all obligations of the Company and after provision has been made with respect to each class of stock, if any, having preference over the common stock. Holders of common stock do not have cumulative voting rights or preemptive, subscription or conversion rights and shares of common stock are not redeemable. The shares of common stock presently outstanding are duly authorized, validly issued, fully paid and non-assessable. There will be a prospectus supplement relating to any offering of common stock offered by this prospectus. The directors of the Company serve staggered three-year terms. Directors may not be removed without cause. The Articles of Incorporation also set the minimum and maximum number of directors constituting the entire Board at three and fifteen, respectively, with the exact number to be determined by the board from time to time.

Our amended and restated articles of incorporation and bylaws contain provisions that could have the effect of delaying, deterring or preventing a merger, tender offer or other takeover attempt. Our amended and restated articles of incorporation authorize the Board to issue up to 40 million shares of common stock (less shares already outstanding or reserved for issuance) and up to two million shares of preferred stock without shareholder approval. In addition, the amended and restated articles of incorporation provide that shareholder action without a meeting requires the unanimous consent of the shareholders. Our bylaws permit incumbent directors to fill any vacancies on the board of directors, however occurring, whether by an increase in the number of directors, death, resignation, retirement, disqualification, removal from office or otherwise, unless filled by proper action of the shareholders. Furthermore, our bylaws require shareholders to give advance notice of proposals to be presented at meetings of shareholders, including director nominations.

These provisions may delay shareholder actions with respect to business combinations and the election of new members to our board of directors. As such, the provisions could discourage open market purchases of our common stock because a shareholder who desires to participate in a business combination or elect a new director may consider them disadvantageous.

Subject to certain exceptions, Chapter 7A of the Michigan Business Corporation Act prohibits a corporation from engaging in any business combination with an interested shareholder (defined as a 10% shareholder) unless approved by (1) 90% of the votes of each class of stock entitled to vote and (2) two-thirds of the votes of each class of stock entitled to be cast by the shareholders other than the interested shareholder. We are currently not subject to Chapter 7A but may opt in at any time by resolution of our board of directors.

Listing

Table of Contents

Our common stock is listed and traded on the NASDAQ Global market under the symbol RMTI.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase common stock. Warrants may be issued independently or together with shares of common stock and may be attached to or separate from the common stock. The warrants will be issued under warrant agreements to be entered into between us and the purchasers or a warrant agent as detailed in the prospectus supplement relating to warrants being offered.

The applicable prospectus supplement will describe the following terms, where applicable, of the warrants in respect of which this prospectus is being delivered:

the title of the warrants;

the aggregate number of the warrants;

the price or prices at which the warrants will be issued;

the currencies in which the exercise price or prices of the warrants may be payable if other than U.S. dollars;

the number of shares of common stock purchasable upon exercise of the warrants;

whether the warrants are issued with shares of common stock and, if so, the number of the warrants issued with each share;

if applicable, the date on and after which the warrants and the common stock purchasable upon exercise of the warrants will be separately transferable;

the price or prices at which the offered securities purchasable upon exercise of the warrants may be purchased and provisions for changes to or adjustments in the exercise price of the warrants;

the date on which the right to exercise the warrants shall commence and the date on which the right shall expire;

the minimum or maximum amount of the warrants which may be exercised at any one time;

the identity of the warrant agent, if any;

information with respect to book-entry procedures, if any;

a discussion of any material federal income tax considerations; and

any other material terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

No warrant agreement will be qualified as an indenture, and no warrant agent will be required to qualify as a trustee, under the Trust Indenture Act of 1939. Therefore, holders of warrants issued under a warrant agreement will not have the protection of the Trust Indenture Act with respect to their warrants.

PLAN OF DISTRIBUTION

Table of Contents

We may sell the securities being offered hereby in one or more of the following ways from time to time:
through agents;

through underwriters or dealers, or underwriting syndicates represented by managing underwriters;

in short or long transactions;

in at the market offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market marker or into an existing trading market, on an exchange or otherwise;

directly to investors; or

through a combination of any of these methods of sale.

A distribution of the securities offered by this prospectus may also be effected through the issuance of derivative securities, including without limitation, warrants, subscriptions, exchangeable securities, forward delivery contracts and the writing of options.

In addition, the manner in which we may sell some or all of the securities covered by this prospectus includes, without limitation, through:

a block trade in which a broker-dealer will attempt to sell as agent, but may position or resell a portion of the block, as principal, in order to facilitate the transaction;

purchases by a broker-dealer, as principal, and resale by the broker-dealer for its account;

ordinary brokerage transactions and transactions in which a broker solicits purchasers;

competitively bid transactions; or

privately negotiated transactions.

We may also enter into hedging transactions. For example, we may:

enter into transactions with a broker-dealer or affiliate thereof in connection with which such broker-dealer or affiliate will engage in short sales of the common stock pursuant to this prospectus, in which case such broker-dealer or affiliate may use shares of common stock received from us to close out its short positions;

sell securities short and redeliver such shares to close out our short positions;

enter into option or other types of transactions that require us to deliver common stock to a broker-dealer or an affiliate thereof, who will then resell or transfer the common stock under this prospectus; or

loan or pledge the common stock to a broker-dealer or an affiliate thereof, who may sell the loaned shares or, in an event of default in the case of a pledge, sell the pledged shares pursuant to this prospectus.

We will set forth in a prospectus supplement the terms of the offering of securities, including:

the name or names of any agents, underwriters or dealers and the amounts of securities underwritten or purchased by them;

the purchase price of the securities being offered and the proceeds we will receive from the sale;

any over-allotment options under which underwriters may purchase additional securities from us;

Table of Contents

any delayed delivery arrangements;

any agency fees or underwriting discounts or commissions and other items constituting agents or underwriters compensation;

the public offering or purchase price;

any discounts or concessions allowed or reallocated or paid to dealers; and

the securities exchanges on which such securities may be listed, if any.

We may enter into derivative transactions with third parties or sell securities not covered by this prospectus to third parties in privately negotiated transactions from time to time. If the applicable prospectus supplement indicates, in connection with those derivative transactions, such third parties (or affiliates of such third parties) may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, such third parties (or affiliates of such third parties) may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivative transactions to close out any related open borrowings of stock. The third parties (or affiliates of such third parties) in such sale transactions will be underwriters and will be identified in an applicable prospectus supplement (or a post-effective amendment).

We may loan or pledge securities to a financial institution or other third party that in turn may sell the securities using this prospectus and an applicable prospectus supplement. Such financial institution or third party may transfer its economic short position to investors in our securities or in connection with a simultaneous offering of other securities offered by this prospectus.

The offer and sale of the securities described in this prospectus by us, the underwriters or the third parties described above may be effected from time to time in one or more transactions, including privately negotiated transactions, either:

at a fixed price or prices, which may be changed;

at a price or prices determined pursuant to competitive bidding;

at market prices prevailing at the time of sale;

at prices related to the prevailing market prices; or

at negotiated prices.

Any public offering price and any discounts, commissions, concessions or other items constituting compensation allowed or reallocated or paid to underwriters, dealers, agents or remarketing firms may be changed from time to time. Underwriters, dealers, agents and remarketing firms that participate in the distribution of the offered securities may be underwriters as defined in the Securities Act. Any discounts or commissions they receive from us and any profits they receive on the resale of the offered securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify any underwriters, agents or dealers and describe their commissions, fees or discounts in the applicable prospectus supplement or pricing supplement, as the case may be.

Underwriters, Agents and Dealers

We may designate agents who agree to use their reasonable efforts to solicit purchases for the period of their appointment or to sell our securities for which they have been appointed an agent on a continuing basis.

If we use underwriters for a sale of our securities, the underwriters will acquire the securities for their own account.

The underwriters may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale.

Table of Contents

Underwriters may offer securities to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more firms acting as underwriters. The obligations of the underwriters to purchase our securities will be subject to the conditions set forth in the applicable underwriting agreement. The underwriters may change from time to time any public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe in an applicable prospectus supplement the name of the underwriter and the nature of any such relationship.

If a dealer is utilized in the sale of securities in respect of which this prospectus is delivered, we will sell such securities to the dealer as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

We may designate agents to sell the offered securities. Unless otherwise specified in connection with any particular offering of securities, the agents will agree to use their best efforts to solicit purchases for the period of their appointment. We may also sell the offered securities to one or more remarketing firms, acting as principals for their own accounts or as agents for us. These firms will remarket the offered securities upon purchasing them in accordance with a redemption or repayment pursuant to the terms of the offered securities. A prospectus supplement or pricing supplement, as the case may be will identify any remarketing firm and will describe the terms of its agreement, if any, with us and its compensation.

Underwriters, dealers and agents that participate in the distribution of our securities may be underwriters as defined in the Securities Act, and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act.

Institutional Purchasers

We may authorize agents, dealers or underwriters to solicit certain institutional investors to purchase offered securities on a delayed delivery basis pursuant to delayed delivery contracts providing for payment and delivery on a specified future date. The applicable prospectus supplement or pricing supplement, as the case may be will provide the details of any such arrangement, including the offering price and commissions payable on the solicitations.

We will enter into such delayed contracts only with institutional purchasers that we approve. These institutions may include commercial and savings banks, insurance companies, pension funds, investment companies and educational and charitable institutions.

Indemnification; Other Relationships

We may have agreements with agents, underwriters, dealers and remarketing firms to indemnify them against certain civil liabilities, including liabilities under the Securities Act. Agents, underwriters, dealers and remarketing firms, and their affiliates, may engage in transactions with, or perform services for, us or our subsidiaries or affiliates in the ordinary course of their business. This includes commercial banking and investment banking transactions.

Stabilization Activities

In connection with an offering through underwriters, an underwriter may purchase and sell securities in the open market. These transactions may include short sales, stabilizing transactions and purchases to cover positions created by short sales. Short sales involve the sale by the underwriters of a greater number of securities than they are required to purchase in the offering. Covered short sales are sales made in an amount not greater than the underwriters' option to purchase additional securities from us in the offering, if any. If the underwriters have an over-allotment option to purchase additional securities from us, the underwriters may consider, among other things, the price of securities available for purchase in the open market as compared to the price at which they may purchase securities through the over-allotment option. Naked short sales are any sales in excess of such option or where the underwriters do not have an over-allotment option. The underwriters must close out any naked short position by purchasing securities in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the securities in the open market after pricing that could adversely affect investors who purchase in the offering.

Accordingly, to cover these short sales positions or to otherwise stabilize or maintain the price of the securities, the underwriters may bid for or purchase securities in the open market and may impose penalty bids. If penalty bids are imposed, selling concessions

Table of Contents

allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if securities previously distributed in the offering are repurchased, whether in connection with stabilization transactions or otherwise. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the securities to the extent that it discourages resale of the securities. The magnitude or effect of any stabilization or other transactions is uncertain.

Direct Sales

We may also sell securities directly to one or more purchasers without using or involving underwriters, dealers or agents. We may sell securities upon the exercise of rights that we may issue to our securityholders. We may also sell the securities directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any sale of those securities.

Trading Market and Listing of Securities

Unless otherwise specified in an applicable prospectus supplement, each class or series of securities will be a new issue with no established trading market, other than our common stock, which is listed on the NASDAQ Global Market. We may elect to list any other class or series of securities on any exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters will not be obligated to do so and may discontinue any market making at any time without notice. We cannot give any assurance as to the liquidity of the trading market for any of the securities.

LEGAL MATTERS

Unless otherwise indicated in an applicable prospectus supplement, the validity of the securities offered by this prospectus will be passed upon for us by Dykema Gossett PLLC, and for any underwriters or agents by counsel named in an applicable prospectus supplement.

EXPERTS

The consolidated 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, and the effectiveness of the Company's internal control over financial reporting as of December 31, 2008, have been audited by Plante & Moran, PLLC, independent auditors, as stated in their reports which are incorporated in this prospectus 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.