Flynn James E
Form SC 13G/A
February 14, 2012

SECURITIES AND EXCHANGE COMMISSION
Washington, DC 20549

SCHEDULE 13G
(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO RULES 13d-1(b)(c), AND (d) AND AMENDMENTS THERETO FILED PURSUANT TO RULE 13d-2(b)

(Amendment No. 2) *

Rockwell Medical Technologies, Inc.

(Name of Issuer)

Common Stock

(Title of Class of Securities)

774374102

(CUSIP Number)

December 31, 2011

(Date of Event which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

¨ Rule 13d-1(b)

x Rule 13d-1(c)

¨ Rule 13d-1(d)

(Page 1 of 11 Pages)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Deerfield Capital, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) o (b) ý

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH

5. SOLE VOTING POWER

0

6. SHARED VOTING POWER

312,365 (1)

7. SOLE DISPOSITIVE POWER

0

8. SHARED DISPOSITIVE POWER

312,365 (1)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

312,365 (1)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* ¨

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

1.66%

12. TYPE OF REPORTING PERSON*

PN

(1) Comprised of 205,867 shares of common stock and warrants to purchase 106,498 shares of common stock held by Deerfield Special Situations Fund, L.P.

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Deerfield Special Situations Fund, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) o (b) ý

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH		
	5.	SOLE VOTING POWER 0
	6.	SHARED VOTING POWER 312,365 (2)
	7.	SOLE DISPOSITIVE POWER 0
	8.	SHARED DISPOSITIVE POWER 312,365 (2)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

312,365 (2)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* ¨

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

1.66%

12. TYPE OF REPORTING PERSON*

PN

(2) Includes warrants to purchase 106,498 shares of common stock.

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Deerfield Management Company, L.P.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) o (b) ý

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH

5. SOLE VOTING POWER

0

6. SHARED VOTING POWER

468,630 (3)

7. SOLE DISPOSITIVE POWER

0

8. SHARED DISPOSITIVE POWER

468,630 (3)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

468,630 (3)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* ¨

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

2.49%

12. TYPE OF REPORTING PERSON*

PN

(3) Comprised of 280,934 shares of common stock and warrant to purchase 187,696 shares of common stock held by Deerfield Special Situations Fund International Limited.

1. NAME OF REPORTING PERSONS
I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY)

Deerfield Special Situations Fund International Limited

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) o (b) ý

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

British Virgin Islands

NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH

5. SOLE VOTING POWER

0

6. SHARED VOTING POWER

468,630 (4)

7. SOLE DISPOSITIVE POWER

0

8. SHARED DISPOSITIVE POWER

468,630 (4)

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

468,630 (4)

10. CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES* ¨

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

2.49%

12. TYPE OF REPORTING PERSON*

CO

(4) Includes warrants to purchase 187,696 shares of common stock.

1.	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NO. OF ABOVE PERSONS (ENTITIES ONLY) James E. Flynn		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) o (b) ý	
3.	SEC USE ONLY		
4.	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5.	SOLE VOTING POWER 0	
	6.	SHARED VOTING POWER 780,995 (5)	
	7.	SOLE DISPOSITIVE POWER 0	
	8.	SHARED DISPOSITIVE POWER 780,995 (5)	
9.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 780,995 (5)		
10.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES*	¨	
11.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9 4.12%		
12.	TYPE OF REPORTING PERSON* IN		

(5) Comprised of 205,867 shares of common stock and warrants to purchase 106,498 shares of common stock held by Deerfield Special Situations Fund, L.P. and 280,934 shares of common stock and warrant to purchase 187,696 shares of common stock held by Deerfield Special Situations Fund International Limited.

Item 1(a). Name of Issuer:

Rockwell Medical Technologies, Inc.

Item 1(b). Address of Issuer's Principal Executive Offices:

30142 Wixom Road,
Wixom, MI 48393

Item 2(a). Name of Person Filing:

James E. Flynn, Deerfield Capital, L.P., Deerfield Special Situations Fund, L.P., Deerfield Management Company, L.P., Deerfield Special Situations Fund International Limited

Item 2(b). Address of Principal Business Office, or if None, Residence:

James E. Flynn, Deerfield Capital, L.P., Deerfield Special Situations Fund, L.P., Deerfield Management Company, L.P., 780 Third Avenue, 37th Floor, New York, NY 10017, Deerfield Special Situations Fund International Limited, c/o Citi Hedge Fund Services (B.V.I.) Ltd., Bison Court, Columbus Centre, P.O. Box 3460, Road Town, Tortola, D8, British Virgin Islands

Item 2(c). Citizenship:

Deerfield Capital, L.P., Deerfield Management Company, L.P. and Deerfield Special Situations Fund, L.P. - Delaware limited partnerships, Deerfield Special Situations Fund International Limited- British Virgin Islands corporation, James E. Flynn - United States citizen

Item 2(d). Title of Class of Securities:

Common Stock

Item 2(e). CUSIP Number:

774374102

Item 3. If This Statement is Filed Pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

(a) o Broker or dealer registered under Section 15 of the Exchange Act.

(b) o Bank as defined in Section 3(a)(6) of the Exchange Act.

(c) o Insurance company as defined in Section 3(a)(19) of the Exchange Act.

(d) o Investment company registered under Section 8 of the Investment Company Act.

(e) o An investment adviser in accordance with Rule 13d-1(b)(1)(ii)(E);

(f) o An employee benefit plan or endowment fund in accordance with Rule 13d-1(b)(1)(ii)(F);

(g) o A parent holding company or control person in accordance with Rule 13d-1(b)(1)(ii)(G);

(h) o A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act;

(i) o A church plan that is excluded from the definition of an investment company under Section 3(c)(14) of the Investment Company Act;

(j) o A non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J);

(k) o Group, in accordance with Rule 13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with Rule 13d-1(b)(1)(ii)(J), please specify the type of institution: _____

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a) Amount beneficially owned**:

Deerfield Capital, L.P. – 312,365 shares
Deerfield Special Situations Fund, L.P. – 312,365 shares
Deerfield Management Company, L.P. – 468,630 shares
Deerfield Special Situations Fund International Limited – 468,630 shares
James E. Flynn – 780,995 shares

(b) Percent of class**:

Deerfield Capital, L.P. – 1.66%
Deerfield Special Situations Fund, L.P. – 1.66%
Deerfield Management Company, L.P. – 2.49%
Deerfield Special Situations International Limited – 2.49%
James E. Flynn – 4.12%

(c) Number of shares as to which such person has**:

(i) Sole power to vote or to direct the vote:	All Reporting Persons - 0
(ii) Shared power to vote or to direct the vote	Deerfield Capital, L.P. – 312,365 Deerfield Special Situations Fund, L.P. – 312,365 Deerfield Management Company, L.P. – 468,630 Deerfield Special Situations Fund International Limited – 468,630 James E. Flynn - 780,995

(iii) Sole power to dispose or to direct the disposition of	All Reporting Persons - 0
(iv) Shared power to vote or to direct the vote	Deerfield Capital, L.P. – 312,365 Deerfield Special Situations Fund, L.P. – 312,365 Deerfield Management Company, L.P. – 468,630 Deerfield Special Situations Fund International Limited – 468,630 James E. Flynn - 780,995

**See footnotes on cover pages which are incorporated by reference herein.

Item 5. Ownership of Five Percent or Less of a Class.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities check the following x.

Item 6. Ownership of More Than Five Percent on Behalf of Another Person.

If any other person is known to have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, such securities, a statement to that effect should be included in response to this item and, if such interest relates to more than five percent of the class, such person should be identified. A listing of the shareholders of an investment company registered under the Investment Company Act of 1940 or the beneficiaries of employee benefit plan, pension fund or endowment fund is not required.

N/A

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company or Control Person.

If a parent holding company or Control person has filed this schedule, pursuant to Rule 13d-1(b)(1)(ii)(G), so indicate under Item 3(g) and attach an exhibit stating the identity and the Item 3 classification of the relevant subsidiary. If a parent holding company or control person has filed this schedule pursuant to Rule 13d-1(c) or Rule 13d-1(d), attach an exhibit stating the identification of the relevant subsidiary.

N/A

Item 8. Identification and Classification of Members of the Group.

If a group has filed this schedule pursuant to ss.240.13d-1(b)(1)(ii)(J), so indicate under Item 3(j) and attach an exhibit stating the identity and Item 3 classification of each member of the group. If a group has filed this schedule pursuant to ss.240.13d-1(c) or ss.240.13d-1(d), attach an exhibit stating the identity of each member of the group.

See Exhibit B

Item 9. Notice of Dissolution of Group.

Notice of dissolution of a group may be furnished as an exhibit stating the date of the dissolution and that all further filings with respect to transactions in the security reported on will be filed, if required, by members of the group, in their individual capacity. See Item 5.

N/A

Item 10. Certifications.

"By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under §240.14a–11."

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

DEERFIELD CAPITAL, L.P.

By: J.E. Flynn Capital LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner

By: J.E. Flynn Capital LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL LIMITED

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

JAMES E. FLYNN

/s/ Darren Levine
Darren Levine, Attorney-In-Fact

Date: February 14, 2012

Exhibit List

Exhibit A. Joint Filing Agreement.

Exhibit B. Item 8 Statement.

Exhibit C. (1) Power of Attorney.

(1) Previously filed as Exhibit C to the Schedule 13G for Antares Pharma, Inc. filed with the Commission on February 14, 2012 by Deerfield Capital, L.P., Deerfield Special Situations Fund, L.P., Deerfield Management Company, L.P., Deerfield Special Situations Fund International Limited and James E. Flynn.

Exhibit A

Agreement

The undersigned agree that this Schedule 13G, and all amendments thereto, relating to the Common Stock of Rockwell Medical Technologies, Inc. shall be filed on behalf of the undersigned.

DEERFIELD CAPITAL, L.P.

By: J.E. Flynn Capital LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD SPECIAL SITUATIONS FUND, L.P.

By: Deerfield Capital, L.P., General Partner

By: J.E. Flynn Capital LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, General Partner

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

DEERFIELD SPECIAL SITUATIONS FUND INTERNATIONAL LIMITED

By: /s/ Darren Levine
Darren Levine, Attorney-In-Fact

JAMES E. FLYNN

/s/ Darren Levine
Darren Levine, Attorney-In-Fact

Exhibit B

Due to the relationships between them, the reporting persons hereunder may be deemed to constitute a "group" with one another for purposes of Section 13(d)(3) of the Securities Exchange Act of 1934.