Martin David Form SC 13G/A February 09, 2011

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 1)*

Cardiovascular Systems, Inc.
(Name of Issuer)
Common Stock, \$0.001 par value per share
(Title of Class of Securities)
141619106
(CUSIP Number)
December 31, 2010
(Date of Event which Requires Filing of this Statement)

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

- o Rule 13d-1(b)
- o Rule 13d-1(c)
- b Rule 13d-1(d)

The information required on the remainder of this cover page shall not be deemed to be filed for the purpose of Section 18 of the Securities Act of 1934 (Act) 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).

^{*} 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 disclosures provided in a prior cover page.

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Item 1(a). Name of Issuer:

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

Item 2(a). Name of Person Filing:

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

Item 2(c). Citizenship:

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

Item 2(e). CUSIP Number:

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:

Item 4. Ownership.

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

<u>Item 6. Ownership of More Than Five Percent on Behalf of Another Person.</u>

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported

on by the Parent Holding Company or Control Person.

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

Item 9. Notice of Dissolution of Group.

Item 10. Certifications.

SIGNATURE

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CUSIP No. 141619106

1. NAMES OF REPORTING PERSONS.

David L. Martin

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2.

(a) o

(b) o

SEC USE ONLY

3.

CITIZENSHIP OR PLACE OF ORGANIZATION

4.

United States of America

SOLE VOTING POWER

5.

NUMBER OF 1,090,872(1)

SHARES SHARED VOTING POWER

BENEFICIALLY 6.

OWNED BY 0

EACH SOLE DISPOSITIVE POWER

REPORTING 7.

PERSON 1,090,872(1)

WITH SHARED DISPOSITIVE POWER

8.

0

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9.

1,090,872(1)

CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS)

o

PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

11.

6.6%(2)

TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)

12.

IN

- (1) Includes options exercisable within 60 days to acquire 824,925 shares of common stock.
- (2) The percentage is based upon 15,811,068 shares of common stock outstanding as of November 9, 2010, as reported by the Issuer in its latest Quarterly Report on Form 10-Q, as filed with the Securities and Exchange Commission on November 12, 2010, and 824,925 shares of common stock that may be acquired by the Reporting Person upon the exercise of options exercisable within 60 days, which are deemed outstanding in accordance with Rule 13d-3(d)(1) under the Exchange Act.

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Item 1(a). Name of Issuer:

Cardiovascular Systems, Inc.

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

651 Campus Drive

St. Paul, Minnesota 55112-3495

Item 2(a). Name of Person Filing:

David L. Martin

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

c/o Cardiovascular Systems, Inc.

651 Campus Drive

St. Paul, MN 55112-3495

Item 2(c). Citizenship:

United States of America

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

Common Stock, \$0.001 per share par value

Item 2(e). CUSIP Number:

141619106

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 Group, in accordance with $\S240.13d-1(b)(1)(ii)(J)$.

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:

1,090,872 shares (includes options exercisable within 60 days to acquire 824,925 shares of common stock)

(b) Percent of class:

6.6% (based on 15,811,068 shares of common stock outstanding as of November 9, 2010, as reported by the Issuer, and 824,925 shares of common stock that may be acquired by the Reporting Person upon the exercise of options exercisable within 60 days)

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- (c) Number of shares as to which such person has:
 - (i) Sole power to vote or to direct the vote: 1,090,872
 - (ii) Shared power to vote or to direct the vote: 0
 - (iii) Sole power to dispose or to direct the disposition of: 1,090,872
 - (iv) Shared power to dispose or to direct the disposition of: 0

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 o.

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

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.

N/A

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

N/A

Item 9. Notice of Dissolution of Group.

N/A

Item 10. Certifications.

N/A

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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.

Dated: February 9, 2011 /s/ David L. Martin DAVID L. MARTIN