

Martin David
Form 4
April 23, 2010

FORM 4

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

OMB APPROVAL

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Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
Martin David

2. Issuer Name and Ticker or Trading Symbol
Cardiovascular Systems Inc [CSII]

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

(Last) (First) (Middle)

3. Date of Earliest Transaction (Month/Day/Year)
04/21/2010

Director 10% Owner
 Officer (give title below) Other (specify below)

President and CEO

651 CAMPUS DRIVE

(Street)

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)

Form filed by One Reporting Person

Form filed by More than One Reporting Person

ST. PAUL, MN 55112

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) | 4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------|
| Common Stock | | | | (A) or (D) Price | 168,311 ⁽¹⁾ | D | |

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474 (9-02)

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

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| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date, if any (Month/Day/Year) | 4. Transaction Code (Instr. 8) | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4, and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) | | 7. Title and Amount of Underlying Security (Instr. 3 and 4) | | | |
|--------------------------------------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------------|-----|-------------------------------------------------------------|-----------------|--------------|------------------|
| | | | | Code | V | (A) | (D) | Date Exercisable | Expiration Date | Title | Am Nun Sha |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | D ⁽²⁾ | | 71,170 | | ⁽²⁾ | 07/16/2011 | Common Stock | 71 |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | A ⁽²⁾ | | 71,170 | | ⁽²⁾ | 07/16/2016 | Common Stock | 71 |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | D ⁽³⁾ | | 38,820 | | ⁽³⁾ | 08/14/2011 | Common Stock | 38 |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | A ⁽³⁾ | | 38,820 | | ⁽³⁾ | 08/14/2016 | Common Stock | 38 |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | D ⁽⁴⁾ | | 349,380 | | ⁽⁴⁾ | 02/14/2012 | Common Stock | 34 |
| Stock Option (right to buy) | \$ 8.83 | 04/21/2010 | | A ⁽⁴⁾ | | 349,380 | | ⁽⁴⁾ | 02/14/2017 | Common Stock | 34 |
| Stock Option (right to buy) | \$ 7.9 | | | | | | | ⁽⁵⁾ | 06/11/2017 | Common Stock | 90 |
| Stock Option (right to buy) | \$ 12.15 | | | | | | | ⁽⁶⁾ | 12/11/2017 | Common Stock | 24 |
| Stock Option (right to buy) | \$ 8.75 | | | | | | | ⁽⁷⁾ | 03/01/2019 | Common Stock | 32 |

Reporting Owners

| Reporting Owner Name / Address | Relationships | | | |
|--------------------------------------------------------|---------------|-----------|-------------------|-------|
| | Director | 10% Owner | Officer | Other |
| Martin David 651 CAMPUS DRIVE ST. PAUL, MN 55112 | X | | President and CEO | |

Signatures

/s/ John R. Remakel as Attorney-in-Fact for David L. Martin pursuant to Power of Attorney previously filed.

04/23/2010

__Signature of Reporting Person

Date

Explanation of Responses:

* If the form is filed by more than one reporting person, *see* Instruction 4(b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations. *See* 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

- (1) Includes 6,007 shares acquired through the Issuer's Employee Stock Purchase Plan on December 31, 2009.
- (2) The two reported transactions involved an amendment of an outstanding option, resulting in the deemed cancellation of the "old" option and the grant of a replacement option. The option was originally granted on July 17, 2006 and is fully exercisable.
- (3) The two reported transactions involved an amendment of an outstanding option, resulting in the deemed cancellation of the "old" option and the grant of a replacement option. The option was originally granted on August 15, 2006 and is fully exercisable.
- (4) The two reported transactions involved an amendment of an outstanding option, resulting in the deemed cancellation of the "old" option and the grant of a replacement option. The option was originally granted on February 15, 2007 and is fully exercisable.
- (5) Exercisable: 30,194 on 6/12/08 and 30,193 on 6/12/09 and 6/12/10.
- (6) Exercisable: 121,313 on 2/25/10 and 121,312 on 2/25/11.
- (7) Exercisable: 16,175 on 3/2/10 and 3/2/11.

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, *see* Instruction 6 for procedure.

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