

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

(Last) (First) (Middle)  
651 CAMPUS DRIVE  
(Street)

ST. PAUL, MN 55112

(City) (State) (Zip)

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

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

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

5. Relationship of Reporting Person(s) to Issuer

(Check all applicable)

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

6. Individual or Joint/Group Filing(Check Applicable Line)  
 Form filed by One Reporting Person  
 Form filed by More than One Reporting Person

**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 <sup>(1)</sup>	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 <sup>(2)</sup>		71,170		<u>(2)</u>	07/16/2011	Common Stock	71
Stock Option (right to buy)	\$ 8.83	04/21/2010		A <sup>(2)</sup>		71,170		<u>(2)</u>	07/16/2016	Common Stock	71
Stock Option (right to buy)	\$ 8.83	04/21/2010		D <sup>(3)</sup>		38,820		<u>(3)</u>	08/14/2011	Common Stock	38
Stock Option (right to buy)	\$ 8.83	04/21/2010		A <sup>(3)</sup>		38,820		<u>(3)</u>	08/14/2016	Common Stock	38
Stock Option (right to buy)	\$ 8.83	04/21/2010		D <sup>(4)</sup>		349,380		<u>(4)</u>	02/14/2012	Common Stock	34
Stock Option (right to buy)	\$ 8.83	04/21/2010		A <sup>(4)</sup>		349,380		<u>(4)</u>	02/14/2017	Common Stock	34
Stock Option (right to buy)	\$ 7.9							<u>(5)</u>	06/11/2017	Common Stock	90
Stock Option (right to buy)	\$ 12.15							<u>(6)</u>	12/11/2017	Common Stock	24
Stock Option (right to buy)	\$ 8.75							<u>(7)</u>	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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