

Cardiovascular Systems Inc
 Form 4
 November 16, 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 *
NELSON GLEN D

(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)
 11/12/2010

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)

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 Indirect Beneficial Ownership (Instr. 4)
Common Stock	11/12/2010		P	11,151 A	\$ 8.6812 252,853	D	
Common Stock	11/15/2010		P	7,000 A	\$ 8.7921 259,853	D	
Common Stock					246,524	I	Held by LLC (3)

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

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SEC 1474 (9-02)

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

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 Securities (Instr. 3 and 4)	8. Fair Value of Derivative Security (Instr. 3 and 4)	
				Code	V (A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares
Stock Option (right to buy)	\$ 12.37					(4)	11/30/2015	Common Stock	9,705
Stock Option (right to buy)	\$ 9.28					(4)	11/30/2014	Common Stock	6,470
Stock Option (right to buy)	\$ 8.83					(4)	12/18/2016	Common Stock	12,940
Stock Option (right to buy)	\$ 7.9					(4)	10/08/2017	Common Stock	4,322
Stock Option (right to buy)	\$ 11.38					(4)	11/12/2017	Common Stock	15,087
Warrant	\$ 8.78						07/19/2006 07/19/2011	Common Stock	12,131
Warrant	\$ 9.28						09/12/2008 09/12/2013	Common Stock	53,916
Warrant	\$ 8.83						02/25/2009 02/24/2014	Common Stock	56,558
Restricted Stock	(5)					(5)	(5)	Common Stock	5,714

Units					
Restricted				Common	
Stock	(5)	(5)	(5)	Stock	11,628
Units					
Restricted				Common	
Stock	(6)	(6)	(6)	Stock	21,739
Units					

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
NELSON GLEN D 651 CAMPUS DRIVE ST. PAUL, MN 55112		X		

Signatures

/s/ John R. Remakel as Attorney-in-Fact for Glen D. Nelson pursuant to Power of Attorney previously filed.

11/16/2010

__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) The price reported in Column 4 is a weighted average price. These shares were purchased in multiple transactions at prices ranging from \$8.58 to \$8.74 inclusive. The reporting person undertakes to provide Cardiovascular Systems, Inc., any security holder of Cardiovascular Systems, Inc. or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares purchased at each separate price within the range set forth in this footnote.

(2) The price reported in Column 4 is a weighted average price. These shares were purchased in multiple transactions at prices ranging from \$8.58 to \$8.95 inclusive. The reporting person undertakes to provide Cardiovascular Systems, Inc., any security holder of Cardiovascular Systems, Inc. or the staff of the Securities and Exchange Commission, upon request, full information regarding the number of shares purchased at each separate price within the range set forth in this footnote.

(3) Shares are held by GDN Holdings, LLC, of which Dr. Nelson is the sole owner.

(4) Fully exercisable.

(5) Each restricted stock unit represents the right to receive a payment from CSI equal in value to the market price per share of CSI common stock on the date of payment and shall be payable in shares of the Company's Common Stock beginning six months following the termination of each director's board membership.

(6) Each restricted stock unit represents the right to receive a payment from CSI equal in value to the market price per share of CSI common stock on the date of payment, and shall be payable in cash or shares of the Company's Common Stock beginning six months following the termination of each director's board membership; provided, however, that the restricted stock units vest in quarterly amounts of 5,435 on each of 9/30/2010, 12/31/2010, and 3/31/2011 and 5,434 on 6/30/2011.

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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