

Murphy Michael R
Form 4
October 12, 2011

FORM 4

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

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

OMB APPROVAL

OMB
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(Print or Type Responses)

1. Name and Address of Reporting Person *
Discovery Group I, LLC

(Last) (First) (Middle)

191 N. WACKER DRIVE SUITE
1685,

(Street)

CHICAGO, IL 60606

(City) (State) (Zip)

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

3. Date of Earliest Transaction
(Month/Day/Year)
10/11/2011

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

5. Relationship of Reporting Person(s) to
Issuer

(Check all applicable)

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

6. Individual or Joint/Group Filing(Check
Applicable Line)
____ Form filed by One Reporting Person
____X____ 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)
			Code	V	Amount	(A) or (D) Price			
Common Stock	10/11/2011		P		60,970 ⁽¹⁾	A \$ 7.9892 ⁽³⁾	1,677,764	I	By Discovery Equity Partners, L.P. ⁽¹⁾
Common Stock	10/11/2011		P		9,030 ⁽²⁾	A \$ 7.9892 ⁽³⁾	242,359	I	By Pleiades Investment Partners - D, L.P ⁽²⁾
Common Stock	10/12/2011		P		62,234 ⁽¹⁾	A \$ 8.3914 ⁽⁴⁾	1,739,998	I	By Discovery Equity

Common Stock	10/12/2011	P	9,382 (2)	A	\$ 8.3914 (4)	251,741	I	Partners, L.P. (1) By Pleiades Investment Partners - D, L.P (4)
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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)

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. Price of Derivative Security (Instr. 5)	9. Number of Derivative Securities Beneficially Owned Following the Reported Transaction (Instr. 6)
				Code	V (A) (D)	Date Exercisable	Expiration Date	Title	Amount or Number of Shares

Reporting Owners

Reporting Owner Name / Address	Relationships			
	Director	10% Owner	Officer	Other
Discovery Group I, LLC 191 N. WACKER DRIVE SUITE 1685 CHICAGO, IL 60606		X		
Donoghue Daniel J C/O DISCOVERY GROUP I, LLC 191 N. WACKER DRIVE SUITE 1685 CHICAGO, IL 60606		X		
Murphy Michael R C/O DISCOVERY GROUP I, LLC 191 N. WACKER DRIVE SUITE 1685 CHICAGO, IL 60606		X		

Signatures

Michael R. Murphy, Managing Member 10/12/2011

__Signature of Reporting Person Date

Daniel J. Donoghue 10/12/2011

__Signature of Reporting Person Date

Michael R. Murphy 10/12/2011

__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) Discovery Group I, LLC is the General Partner of Discovery Equity Partners, L.P., which is a discretionary client of the reporting person, that owns the reported securities. The reporting person disclaims beneficial ownership of the reported securities except to the extent of its pecuniary interest therein

(2) Discovery Group I, LLC is an investment manager for Pleiades Investment Partners - D, L.P., which is a discretionary client of the reporting person, that owns the reported securities. The reporting person disclaims beneficial ownership of the reported securities except to the extent of its pecuniary interest therein.

(3) This transaction was executed in multiple trades at prices ranging from \$7.55 to \$8.00. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer full information regarding the number of shares and prices at which the transaction was effected."

(4) This transaction was executed in multiple trades at prices ranging from \$8.13 to \$8.50. The price reported above reflects the weighted average purchase price. The reporting person hereby undertakes to provide upon request to the SEC staff, the issuer or a security holder of the issuer full information regarding the number of shares and prices at which the transaction was effected."

Remarks:

Michael R. Murphy and Daniel J. Donoghue are managing members of Discovery Group I, LLC, and each disclaims beneficial ownership of the reported securities except to the extent of his pecuniary interest therein.

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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