Murphy Michael R
Form 4
July 16, 2012

FORM 4

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

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

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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).

(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)
07/12/2012

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	07/12/2012		S		1,632 (1)	D	$ 10.286 (3)	1,786,231	I	By Discovery Equity Partners, L.P. (1)
Common Stock	07/12/2012		S		175 (2)	D	$ 10.286 (3)	259,010	I	By Pleiades Investment Partners - D, L.P (2)
Common Stock	07/13/2012		S		7,787 (1)	D	$ 10.4452 (4)	1,778,444	I	By Discovery Equity

									Partners, L.P. (1)
Common Stock	07/13/2012		S	846 (2)	D	$ 10.4452 (4)	258,164	I	By Pleiades Investment Partners - D, L.P (2)
Common Stock	07/16/2012		S	3,298 (1)	D	$ 10.2987 (5)	1,775,146	I	By Discovery Equity Partners, L.P. (1)
Common Stock	07/16/2012		S	408 (2)	D	$ 10.2987 (5)	257,756	I	By Pleiades Investment Partners - D, L.P (2)

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

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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. Price of Derivative Security (Instr. 5)	9. Nu Deriv Secur Bene Owne Follo Repo Trans (Instr
				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 Partner	07/16/2012
**Signature of Reporting Person	Date
Daniel J. Donoghue	07/16/2012
**Signature of Reporting Person	Date
Michael R. Murphy	07/16/2012
**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 $10.25 - $10.30. 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 $10.31 - $10.57. 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

(5) This transaction was executed in multiple trades at prices ranging from $10.25 - $10.33. 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 beneficia 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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