

CARDIOVASCULAR SYSTEMS INC

Filed by
CSI MINNESOTA, INC

FORM SC 13D/A (Amended Statement of Beneficial Ownership)

Filed 12/31/08

Address	651 CAMPUS DRIVE ST PAUL, MN 55112
Telephone	651-259-1600
CIK	0001180145
Symbol	CSII
SIC Code	3841 - Surgical and Medical Instruments and Apparatus
Industry	Medical Equipment & Supplies
Sector	Healthcare
Fiscal Year	06/30

SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

SCHEDULE 13D

Under the Securities Exchange Act of 1934
(Amendment No. 1)*

Replidyne, Inc.

(Name of Issuer)

Common Stock, \$0.001
(Title of Class of Securities)

76028W-107
(CUSIP Number)

Laurence L. Betterley
Cardiovascular Systems, Inc.
651 Campus Drive
St. Paul, MN 55112
(877) 274-0360

(Name, Address and Telephone Number of Person Authorized to
Receive Notices and Communications)

December 19, 2008
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

SCHEDULE 13D

CUSIP No. 76028W-107

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1	NAMES OF REPORTING PERSONS Cardiovascular Systems, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)* (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO (See Item 3)	
5	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e) <input checked="" type="checkbox"/>	
6	CITIZENSHIP OR PLACE OF ORGANIZATION Minnesota	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 8,789,801 shares of Common Stock (See Items 4 and 5)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 0
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 8,789,801 shares of Common Stock	
12	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="checkbox"/>	
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 32.4% shares of Common Stock*	
14	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) CO	

* Calculated based on 27,109,545 shares outstanding at November 3, 2008, as represented by Replidyne in the Merger Agreement described in Item 3.



Explanatory Note : This Amendment No. 1 relates to and amends the Statement of Beneficial Ownership on Schedule 13D filed with the Securities and Exchange Commission (the "SEC") on November 13, 2008 (the "Statement") by Cardiovascular Systems, Inc. ("CSI") with respect to the common stock, \$0.001 par value per share, of Replidyne, Inc., a Delaware corporation ("Replidyne").

Items 3, 4 and 5 of the Statement are hereby amended to the extent hereinafter expressly set forth. All capitalized terms used and not expressly defined herein have the respective meanings ascribed to such terms in the Statement.

Item 3. Source and Amount of Funds or Other Consideration

Since the date of the Statement, on December 18, 2008, CSI released the Shares owned by HealthCare Investment Partners Holdings II LLC from the Voting Agreements. As a result, the Voting Agreement Stockholders, together with their respective affiliates, beneficially own approximately 47.7% of the outstanding common stock of Replidyne, and approximately 32.4% of the outstanding common stock of Replidyne is subject to the voting requirements set forth in the Voting Agreements and the Irrevocable Proxies.

Item 4. Purpose of Transaction

Since the date of the Statement, on December 18, 2008, CSI released the Shares owned by HealthCare Investment Partners Holdings II LLC from the Voting Agreements. As a result, the Voting Agreement Stockholders, together with their respective affiliates, beneficially own approximately 47.7% of the outstanding common stock of Replidyne, and approximately 32.4% of the outstanding common stock of Replidyne is subject to the voting requirements set forth in the Voting Agreements and the Irrevocable Proxies.

The names of the Voting Agreement Stockholders and the number of shares of Replidyne's common stock and the percentage ownership that are subject to the Voting Agreements is set forth in Schedule B hereto which is hereby incorporated by reference.

Item 5. Interest in Securities of the Issuer

As a result and subject to the terms of the Voting Agreements and the Irrevocable Proxies granted pursuant thereto, CSI may be deemed to have the power to vote an aggregate of 8,789,801 shares of Replidyne's common stock, in each case for the limited purposes described in Item 4 of the Statement. Such shares constitute approximately 32.4% of the issued and outstanding shares of Replidyne's common stock based on the number of shares outstanding at November 3, 2008. Other than with respect to the voting rights granted to CSI pursuant to the Voting Agreements and the Irrevocable Proxies, CSI does not have the right to vote such shares on any other matters. CSI shares such voting power with the executives of CSI identified in the Irrevocable Proxies. CSI does not have any power to dispose or direct the disposition of any shares of Replidyne's common stock.

Except as described herein, CSI has not effected any transaction in Replidyne's common stock during the past 60 days.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: December 31, 2008

CARDIOVASCULAR SYSTEMS, INC.

By: /s/ James E. Flaherty
James E. Flaherty
Chief Administrative Officer and Secretary

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SCHEDULE B

VOTING AGREEMENT STOCKHOLDERS

Name of Voting Agreement Stockholder	Replidyne Common Stock Subject to Voting Agreement	
	Number of Shares	Percentage Ownership
Kenneth J. Collins	360,520	1.3%
TPG Biotechnology Partners, L.P.; TPG Ventures, L.P.	1,871,982	6.9%
HealthCare Ventures VI, L.P.; HealthCare Ventures VIII, L.P.	2,964,167	10.9%
Sequel Limited Partnership III; Sequel Entrepreneurs' Fund III, L.P.	986,887	3.6%
The Daniel J. Mitchell Trust	11,336	*
Morgenthaler Partners VII, L.P.	1,583,200	5.8%
Perseus-Soros Biopharmaceutical Fund, LP	1,011,709	3.7%

* Less than 1% of the outstanding share