UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

AngioDynamics, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

11-3146460

(I.R.S. Employer Identification No.)

14 Plaza Drive Latham, New York 12110 (518) 795-1400

(Address and telephone number of principal executive offices)

12804

(Zip Code)

AngioDynamics, Inc. 2004 Stock and Incentive Award Plan AngioDynamics, Inc. Employee Stock Purchase Plan (Full titles of plans)

Copies to:

Stephen A. Trowbridge Vice President, General Counsel and Assistant Secretary AngioDynamics, Inc. 14 Plaza Drive Latham, New York 12110 (518) 795-1400

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definitions of "large accelerated filer", "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o Non-accelerated filer o

Accelerated filer x Smaller reporting company o

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered (1)	Amount to be registered (2)	Proposed maximum offering price per share (3)	Proposed maximum aggregate offering price (3)	Amount of registration fee (3)
Common Stock, par value \$0.01	2,500,000(4)	\$11.75	\$29,375,000	\$4,006.75

- (1) Includes associated rights (the "Rights") to purchase preferred or common stock. Until the occurrence of certain prescribed events, none of which has occurred, the Rights are not exercisable.
- (2) Pursuant to Rule 416(a) under the Securities Act of 1933, as amended (the "Securities Act"), this registration statement shall be deemed to cover an indeterminate number of additional shares that may become issuable as a result of stock splits, stock dividends or similar transactions pursuant to the anti-dilution provisions of the plans.
- (3) Estimated solely for purposes of calculating the registration fee pursuant to Rule 457(c) under the Securities Act, based upon the average of the high and low prices reported on the Nasdaq Global Select Market on August 12, 2013.
- (4) Consists of 2,000,000 shares of common stock available for issuance under the AngioDynamics, Inc. 2004 Stock and Incentive Award Plan, and 500,000 shares issuable under the AngioDynamics, Inc. Employee Stock Purchase Plan.

EXPLANATORY NOTE

On October 28, 2004, we registered 1,000,000 shares of our common stock par value \$0.01 per share issuable under our AngioDynamics, Inc. 2004 Stock and Incentive Award Plan (the "2004 Plan") and 200,000 shares of our common stock issuable under the AngioDynamics, Inc. Employee Stock Purchase Plan (the "Purchase Plan"), pursuant to a Registration Statement on Form S-8 (File No. 333-120057). On November 6, 2006, we filed a Registration Statement on Form S-8 (File No. 333-138456) to register an additional 1,000,000 shares of our common stock under the 2004 Plan. On August 14, 2009 we filed a Registration Statement on Form S-8 (File No. 333-161355) to register an additional 1,000,000 shares of our common stock under the 2004 Plan and an additional 200,000 shares of our common stock under the Purchase Plan. On November 3, 2009, we filed a Registration Statement on Form S-8 (File No. 333-162844) to register an additional 750,000 shares of our common stock under the 2004 Plan. On November 16, 2010, we filed a Registration Statement on Form S-8 (File No. 333-170619) to register an additional 300,000 shares of our common stock under the Purchase Plan. This Registration Statement on Form S-8 is being filed pursuant to General Instruction E to Form S-8 to register an additional 2,000,000 shares of common stock issuable under the Purchase Plan.

INCORPORATION OF DOCUMENTS BY REFERENCE.

Pursuant to General Instruction E to Form S-8, the contents of our Registration Statement on Form S-8 (File No. 333-120057) filed with the Securities and Exchange Commission on October 28, 2004, the contents of our Registration Statement on Form S-8 (File No. 333-138456) filed with the Securities and Exchange Commission on November 6, 2006, the contents of our Registration Statement on Form S-8 (File No. 333-161355) filed with the Securities and Exchange Commission on August 14, 2009, the contents of our Registration Statement on Form S-8 (File No. 333-162844) filed with the Securities and Exchange Commission on November 3, 2009, and the contents of our Registration Statement on Form S-8 (File No. 333-170619) filed with the Securities and Exchange Commission on November 16, 2010 including, with respect to each registration statement, each of the documents filed by us with the Securities and Exchange Commission and incorporated or deemed to be incorporated by reference therein and including each of the documents filed as Exhibits to such registration statement, are incorporated herein by reference.

PART II

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

An opinion concerning the validity of the issuance of shares of the Company's common stock has been rendered for the Company by Stephen A. Trowbridge, the Company's Senior Vice President, General Counsel and Assistant Secretary. Mr. Trowbridge beneficially owns or has the right to acquire under employee benefit plans maintained by the Company an aggregate of less than 1% of the Company's outstanding common stock.

ITEM 8. EXHIBITS.

Exhibit Number	Exhibit Description	
5.1	Opinion of Stephen A. Trowbridge as to the legality of shares being registered.	
23.1	Consent of PricewaterhouseCoopers LLP, an independent registered public accounting firm.	
23.2	Consent of Stephen A. Trowbridge (included in Exhibit 5.1).	
24.1	Power of Attorney (included in the signature page and incorporated herein by reference).	
	(Signatures on following page)	

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, AngioDynamics, Inc. certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Latham, State of New York, on August 15, 2013.

ANGIODYNAMICS, INC.

By: /s/ Joseph M. DeVivo

Name: Joseph M. DeVivo

Title: Chief Executive Officer and President

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below authorizes Joseph M. DeVivo and Mark T. Frost, and each or any of them, as his attorney in fact and agent, with full power of substitution and resubstitution, to execute, in his name and on his behalf, in any and all capacities, this Registration Statement on Form S-8 and any amendments thereto (and any additional registration statement related thereto permitted by Rule 462(b) promulgated under the Securities Act of 1933 (and all further amendments including post-effective amendments thereto)) necessary or advisable to enable AngioDynamics, Inc. (the "Registrant") to comply with the Securities Act, and any rules, regulations and requirements of the Securities and Exchange Commission, in respect thereof, in connection with the registration of the securities which are the subject of such Registration Statement, which amendments may make such changes in such Registration Statement as such attorney may deem appropriate, and with full power and authority to perform and do any and all acts and things whatsoever which any such attorney or substitute may deem necessary or advisable to be performed or done in connection with any or all of the above-described matters, as fully as each of the undersigned could do if personally present and acting, hereby ratifying and approving all acts of any such attorney or substitute.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons on behalf of the Registrant in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Vincent A. Bucci Vincent A. Bucci	Chaiman of the Board, Director	August 15, 2013
/s/ Joseph M. DeVivo Joseph M. DeVivo	President, Director and Chief Executive Officer (Principal Executive Officer)	August 15, 2013
/s/ Mark T. Frost Mark T. Frost	Executive Vice President – Chief Financial Officer, Treasurer (Principal Financial and Chief Accounting Officer)	August 15, 2013

/s/ David Burgstahler David Burgstahler	Director	August 15, 2013
/s/ Howard W. Donnelly Howard W. Donnelly	Director	August 15, 2013
/s/ Kevin J. Gould Kevin J. Gould	Director	August 15, 2013
/s/ Jeffrey G. Gold Jeffrey G. Gold	Director	August 15, 2013
/s/ Wesley E. Johnson, Jr. Wesley E. Johnson, Jr.	Director	August 15, 2013
/s/ Steve LaPorte Steve LaPorte	Director	August 15, 2013
/s/ Dennis S. Meteny Dennis S. Meteny	Director	August 15, 2013
/s/ Sriram Venkatarama Sriram Venkatarama	Director	August 15, 2013

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August 15, 2013

AngioDynamics, Inc. 14 Plaza Drive Latham, New York 12110

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

I have acted as counsel to AngioDynamics, Inc., a Delaware corporation (the "<u>Company</u>"), in connection with the Company's registration statement on Form S-8 (the "<u>Registration Statement</u>"), under the Securities Act of 1933, as amended (the "<u>Securities Act</u>"), for the registration of 2,500,000 shares of the Company's common stock, par value \$0.01 per share (the "<u>Shares</u>"), to be issued by the Company pursuant to the AngioDynamics, Inc. 2004 Stock and Incentive Award Plan and the AngioDynamics, Inc. Employee Stock Purchase Plan (the "<u>Plans</u>").

In rendering the opinions set forth below, I have examined and relied upon the originals, copies or specimens, certified or otherwise identified to my satisfaction, of the Registration Statement, the Plans and such certificates, corporate and public records, agreements and instruments and other documents as I have deemed appropriate as a basis for the opinions expressed below. In making my examination, I have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to me as originals and the conformity to the originals of all documents submitted to me as photostatic or conformed copies.

Based upon the foregoing and subject to the limitations, qualifications and assumptions set forth herein, I am of the opinion that the Shares have been duly authorized and, when issued in accordance with the terms of the Plans, will be validly issued, fully paid and nonassessable.

I express no opinion as to any matter which may be, or which purports to be, governed by the laws of any jurisdiction other than the General Corporation Law of the State of Delaware and the federal laws of the United States of America, in each case as in effect on the date of this letter.

I hereby consent to the filing of this letter as an exhibit to the Registration Statement. In giving this consent, I do not hereby admit that I am in the category of persons whose consent is required under Section 7 of the Securities Act. This opinion is expressed as of the date of effectiveness of the Registration Statement unless otherwise expressly stated, and I disclaim any undertaking to advise you of any subsequent changes in the facts stated or assumed herein or of any subsequent changes in applicable laws after that date.

Very truly yours,

/s/ Stephen A. Trowbridge

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-8 of our reports dated August 14, 2013 relating to the financial statements, financial statement schedule and the effectiveness of internal control over financial reporting, which appear in AngioDynamics, Inc's Annual Report on Form 10-K for the year ended May 31, 2013.

/s/ PricewaterhouseCoopers LLP

Albany, NY August 15, 2013