UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____to _____

Commission File Number: 001-38829

Shockwave Medical, Inc.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**27-0494101**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
5403 Betsy Ross Drive Santa Clara, California	**95054**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (510) 279-4262

Securities registered pursuant to Section 12(b) of the Act:

Title of each class of securities	Trading symbol(s)	Name of each national exchange and principal U.S. market for the securities
Shockwave Medical, Inc., common stock, par value $0.001 per share	SWAV	The Nasdaq Stock Market LLC (Nasdaq Global Select Market)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer	☒	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☐
Emerging growth company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of May 1, 2024, the registrant had 37,543,542 shares of common stock, $0.001 par value per share, outstanding.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains statements relating to our expectations, projections, beliefs, and prospects, which are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. In some cases, you can identify these statements by forward-looking words such as "believe," "will," "may," "estimate," "continue," "anticipate," "intend," "should," "might," "plan," "expect," "predict," "could," "potentially" or the negative of these terms or similar expressions. You should read these statements carefully because they may relate to future expectations around growth, strategy, and anticipated trends in our business, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements are only predictions based on our current expectations, estimates, assumptions, and projections about future events and are applicable only as of the dates of such statements. Forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- the expected timing and anticipated closing of our pending acquisition by Johnson & Johnson;
- our ability to design, develop, manufacture and market innovative products to treat patients with challenging medical conditions, particularly in peripheral artery disease, coronary artery disease and refractory angina as well as carotid disease, aortic stenosis and mitral stenosis;
- our ability to successfully execute our commercialization strategy for our approved or cleared products;
- the timing of, and our ability to, obtain regulatory approval for and commercialize our planned products as well as expand approved or cleared products to additional indications;
- our expected future growth, including growth in international operations and sales;
- the size and growth potential of the markets for our products and planned products, and our ability to serve those markets;
- the rate and degree of market acceptance of our products;
- coverage and reimbursement for procedures performed using our products;
- the performance of third parties in connection with the development of our products, including third-party suppliers;
- the impact of government laws and regulatory developments in the United States and foreign countries;
- our ability to obtain and maintain regulatory approval or clearance of our products on expected timelines;
- our ability to scale our organizational culture of cooperative product development and commercial execution;
- our ability to satisfy our payment obligations and remain in compliance with covenants under our debt agreements, including our convertible debt, or to refinance our indebtedness;
- potential dilution from equity awards, convertible indebtedness and potential future convertible debt and stock issuances;
- the expected benefits of our acquisition of Neovasc Inc. ("Neovasc") in April 2023, a corporation existing under the Canada Business Corporations Act;
- the development, regulatory approval, efficacy and commercialization of competing products;
- our ability to develop and maintain our corporate infrastructure, including our internal controls;
- our estimates regarding expenses, future financial performance and capital requirements;

- our expectations regarding our ability to obtain and maintain intellectual property protection for our products, as well as our ability to operate our business without infringing the intellectual property rights of others; and

- the impact of global business, political and macroeconomic conditions, including inflation, rising interest rates, uncertainty with respect to the federal budget, instability in the global banking system, volatile market conditions, supply chain disruptions, cybersecurity events, and global events, including regional conflicts around the world, on our operations, financial results, liquidity and capital resources, sales, expenses, supply chain, manufacturing, research and development activities, clinical trials and employees.

We caution you that the foregoing list may not contain all of the forward-looking statements made in this Quarterly Report on Form 10-Q. We have based these forward-looking statements on our current expectations and projections about future events and trends that we believe may affect our financial condition, results of operations, business strategy, short-term and long-term business operations and objectives, and financial needs. These forward-looking statements are subject to a number of risks, uncertainties, and assumptions and other factors that could cause our actual results, level of activity, performance, or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by the forward-looking statements, including those described in the section titled "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2023, together with any updates in the sections titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors" in this Quarterly Report on Form 10-Q. There may also be additional risks of which we are not presently aware or that we currently believe are immaterial which could have an adverse impact on our business. Although we believe the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, level of activity, performance or achievements. Except to the extent required by law, we undertake no obligation to update any of these forward-looking statements after the date of this Quarterly Report on Form 10-Q to conform our prior statements to actual results or revised expectations.

PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

SHOCKWAVE MEDICAL, INC.
Condensed Consolidated Balance Sheets
(*Unaudited*)
(in thousands)

	March 31, 2024	December 31, 2023
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 281,674	$ 328,422
Short-term investments	747,559	662,132
Accounts receivable, net	124,440	114,552
Inventory	111,215	107,587
Prepaid expenses and other current assets	10,462	12,567
Total current assets	1,275,350	1,225,260
Operating lease right-of-use assets	34,919	29,707
Property and equipment, net	78,693	68,923
Equity method investment	2,356	1,643
Intangible assets, net	91,960	92,857
Goodwill	39,568	39,568
Deferred tax assets	111,900	99,169
Other assets	9,001	9,436
TOTAL ASSETS	$ 1,643,747	$ 1,566,563
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 9,843	$ 8,868
Accrued liabilities	78,838	91,696
Lease liability, current portion	3,653	3,641
Total current liabilities	92,334	104,205
Lease liability, noncurrent portion	40,336	35,103
Convertible debt, noncurrent portion	732,810	731,863
Related party contract liability, noncurrent portion	12,273	12,273
Deferred tax liabilities	3,609	3,609
Long-term income tax liability	2,969	1,526
Other liabilities	7,659	9,307
TOTAL LIABILITIES	891,990	897,886
Commitments and contingencies (Note 8)		
STOCKHOLDERS' EQUITY:		
Preferred stock	—	—
Common stock	38	37
Additional paid-in capital	586,017	557,882
Accumulated other comprehensive (loss) income	(109)	293
Retained earnings	165,811	110,465
TOTAL STOCKHOLDERS' EQUITY	751,757	668,677
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 1,643,747	$ 1,566,563

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

SHOCKWAVE MEDICAL, INC.
Condensed Consolidated Statements of Operations and Comprehensive Income
(Unaudited)
(in thousands, except share and per share data)

	Three Months Ended March 31,	
	2024	**2023**
Revenue:		
Product revenue	$ 218,805	$ 161,066
Cost of revenue:		
Cost of product revenue	28,207	21,066
Gross profit	190,598	140,000
Operating expenses:		
Research and development	44,466	26,971
Sales and marketing	74,492	54,011
General and administrative	29,233	19,204
Total operating expenses	148,191	100,186
Income from operations	42,407	39,814
Income (loss) from equity method investment	713	(823)
Interest income	12,318	1,740
Interest expense	(2,943)	(636)
Other (expense) income, net	(2,496)	642
Net income before taxes	49,999	40,737
Income tax (benefit) provision	(5,347)	1,612
Net income	$ 55,346	$ 39,125
Unrealized (loss) gain on available-for-sale securities, net of tax	(402)	505
Adjustment for net gain realized and included in other income	—	(5)
Total comprehensive income	$ 54,944	$ 39,625
Net income per share		
Basic	$ 1.48	$ 1.07
Diluted	$ 1.44	$ 1.03
Shares used in computing net income per share		
Basic	37,284,946	36,427,263
Diluted	38,472,013	37,979,448

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

SHOCKWAVE MEDICAL, INC.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)
(in thousands, except share data)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings	Total Stockholders' Equity
	Shares	Amount				
Balances — December 31, 2023	36,990,700	$ 37	$ 557,882	$ 293	$ 110,465	$ 668,677
Exercise of stock options	182,290	1	749	—	—	750
Issuance of common stock under employee stock purchase plan	22,576	—	4,269	—	—	4,269
Stock-based compensation	—	—	23,125	—	—	23,125
Issuance of common stock in connection with vesting of restricted stock units and performance share units	312,198	—	—	—	—	—
Taxes withheld on net settled vesting of restricted stock units	(31)	—	(8)	—	—	(8)
Unrealized loss on available-for-sale securities, net of tax	—	—	—	(402)	—	(402)
Net income	—	—	—	—	55,346	55,346
Balances — March 31, 2024	37,507,733	$ 38	$ 586,017	$ (109)	$ 165,811	$ 751,757

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity
	Shares	Amount				
Balances — December 31, 2022	36,235,546	$ 36	$ 548,960	$ (867)	$ (36,813)	$ 511,316
Exercise of stock options	77,230	1	319	—	—	320
Unrealized gain on available-for-sale securities, net of tax	—	—	—	505	—	505
Net gain reclassified from accumulated other comprehensive income	—	—	—	(5)	—	(5)
Issuance of common stock under employee stock purchase plan	19,124	—	3,092	—	—	3,092
Issuance of common stock in connection with vesting of restricted stock units	257,624	—	—	—	—	—
Taxes withheld on net settled vesting of restricted stock units	(19)	—	(3)	—	—	(3)
Stock-based compensation	—	—	16,337	—	—	16,337
Net income	—	—	—	—	39,125	39,125
Balances — March 31, 2023	36,589,505	$ 37	$ 568,705	$ (367)	$ 2,312	$ 570,687

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

SHOCKWAVE MEDICAL, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(in thousands)

	Three Months Ended March 31,	
	2024	**2023**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net income	$ 55,346	$ 39,125
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	3,109	1,708
(Income) loss from equity method investment	(713)	823
Stock-based compensation	22,937	15,967
Non-cash lease expense	887	748
Amortization of premium and discount on available-for-sale securities	(9,897)	(718)
Loss on write down of fixed assets	8	11
Deferred income taxes	(12,557)	(547)
Amortization of debt issuance costs	947	33
Foreign currency remeasurement	2,268	(689)
Change in fair value of contingent consideration	(1,648)	—
Changes in operating assets and liabilities:		
Accounts receivable	(9,014)	(13,004)
Inventory	(3,285)	(7,757)
Prepaid expenses and other current assets	2,144	1,896
Other assets	438	(861)
Accounts payable	416	4,734
Accrued and other current liabilities	(16,135)	(6,661)
Lease liabilities	(854)	(846)
Long-term income tax liability	1,443	—
Net cash provided by operating activities	35,840	33,962
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of available-for-sale securities	(400,599)	(21,130)
Proceeds from maturities of available-for-sale securities	324,535	34,500
Purchase of property and equipment	(8,389)	(7,188)
Net cash (used in) provided by investing activities	(84,453)	6,182
CASH FLOWS FROM FINANCING ACTIVITIES:		
Payments of taxes withheld on net settled vesting of restricted stock units	(8)	(3)
Proceeds from stock option exercises	750	320
Proceeds from issuance of common stock under employee stock purchase plan	4,269	3,092
Proceeds from debt financing	—	80,000
Net cash provided by financing activities	5,011	83,409
Effect of exchange rate changes on cash and cash equivalents	(3,175)	792
Net (decrease) increase in cash, cash equivalents and restricted cash	(46,777)	124,345
Cash, cash equivalents and restricted cash at beginning of period	329,826	158,302
Cash, cash equivalents and restricted cash equivalents at end of period	$ 283,049	$ 282,647
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION:		
Interest paid	$ 3,870	$ 424
Income tax paid	$ 4,593	$ 322
NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Right-of-use asset obtained in exchange for lease liability	$ 6,099	$ —
Property and equipment purchases included in accounts payable and accrued liabilities	$ 7,334	$ 6,162

The accompanying notes are an integral part of these unaudited condensed consolidated financial statements.

1. Organization and Basis of Presentation

Shockwave Medical, Inc. (the "Company") was incorporated on June 17, 2009. The Company is primarily engaged in the development and commercialization of novel technologies that transform the care of patients with cardiovascular disease. The Company is focused on its intravascular lithotripsy ("IVL") technology for the treatment of calcified plaque in patients with peripheral vascular, coronary vascular and heart valve disease. Built on a balloon catheter platform, the IVL technology uses lithotripsy to disrupt both superficial and deep vascular calcium while minimizing soft tissue injury, and an integrated angioplasty balloon to dilate blockages at low pressures, restoring blood flow. Additionally, the Company continues to develop its coronary sinus reducer ("Reducer") technology for the treatment of refractory angina.

The Company, which is headquartered in Santa Clara, California and operates primarily in the United States, began commercial and manufacturing operations in 2016. The unaudited condensed consolidated financial statements include the accounts of Shockwave Medical, Inc. and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated upon consolidation.

Certain reclassifications were made to prior period amounts in order to conform to the current period presentations. These reclassifications had no impact on the reported net income or cash flows for the three months ended March 31, 2023.

As of March 31, 2024, the Company had cash, cash equivalents and short-term investments of $1,029.2 million, which are available to fund future working capital requirements, investments, acquisitions, or repayments of outstanding indebtedness. The Company believes that its cash, cash equivalents, and short-term investments as of March 31, 2024, will be sufficient for the Company to continue as a going concern for at least 12 months from the date these unaudited condensed consolidated financial statements are filed with the Securities and Exchange Commission ("SEC"). The Company's future capital requirements will depend on many factors, including its growth rate, the timing and extent of its spending to support research and development activities, and the timing and cost of establishing additional sales and marketing capabilities.

Risk and Uncertainties

Uncertainty in the global business, political and macroeconomic environments present significant risks to the Company's business. The Company is subject to continuing risks and uncertainties, including inflation, rising interest rates, uncertainty with respect to the federal budget, instability in the global banking system, volatile market conditions, supply chain disruptions, cybersecurity events, and global events, including regional conflicts around the world. The Company is closely monitoring the impact of these factors on all aspects of its business, including the impacts on its customers, patients, employees, suppliers, vendors, business partners and distribution channels.

In particular, while the Company has not experienced material disruptions in its supply chain to date, the Company has been and continues to be impacted by disruptions in the operations of certain of its third-party suppliers, resulting in increased lead-times, higher component costs and lower allocations for the purchase of some components. In certain cases, the Company has incurred higher logistical expenses. The Company is continuing to work closely with its manufacturing partners and suppliers to source key components and maintain appropriate inventory levels to meet customer demand.

The Company's future results of operations and liquidity could be adversely impacted by a variety of factors, including those discussed in the section titled "Risk Factors" of the Company's Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on February 26, 2024 (the "2023 Annual Report"), together with any updates in the sections titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors" in this Quarterly Report on Form 10-Q. As of the date of issuance of these unaudited condensed consolidated financial statements, the extent to which the current macroeconomic environment may materially impact the Company's financial condition, liquidity, or results of operations remains uncertain.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") and applicable rules and regulations of the SEC regarding interim financial reporting.

The unaudited condensed consolidated financial statements have been prepared on the same basis as the Company's audited consolidated financial statements and related notes included in the 2023 Annual Report and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary to present fairly the Company's consolidated financial position, results of operations and cash flows. The results of operations for the three months ended March 31, 2024 are not necessarily indicative of the results to be expected for the year ending December 31, 2024 or for any other future annual or interim period. The condensed consolidated balance sheet as of December 31, 2023 included herein was derived from the audited financial statements as of that date. The unaudited condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements and related notes included in the 2023 Annual Report.

There have been no material changes in the Company's significant accounting policies for the three months ended March 31, 2024 as compared to the significant accounting policies described in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2023 that has been filed with the SEC.

Supplemental Cash Flow Information

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the condensed consolidated statements of cash flows:

	March 31,	
	2024	2023
	(in thousands)	
Cash and cash equivalents	$ 281,674	$ 280,932
Restricted cash	1,375	1,715
Total cash, cash equivalents, and restricted cash	$ 283,049	$ 282,647

Recently Issued Accounting Pronouncements Not Yet Adopted

In November 2023, the Financial Accounting Standards Board ("FASB") issued ASU 2023-07, Segment Reporting: Improvements to Reportable Segment Disclosures, which requires all public entities, including public entities with a single reportable segment, to provide in interim and annual periods one or more measures of segment profit or loss used by the chief operating decision maker to allocate resources and assess performance. Additionally, the standard requires disclosures of significant segment expenses and other segment items as well as incremental qualitative disclosures. The guidance in this update is effective for fiscal years beginning after December 15, 2023, and interim periods after December 15, 2024. The Company is currently in the process of evaluating the effects of this pronouncement on its related disclosures.

In December 2023, the FASB issued ASU 2023-09, Income Taxes: Improvements to Income Tax Disclosures, which requires enhanced income tax disclosures, including specific categories and disaggregation of information in the effective tax rate reconciliation, disaggregated information related to income taxes paid, income or loss from continuing operations before income tax expense or benefit, and income tax expense or benefit from continuing operations. The requirements of the ASU are effective for annual periods beginning after December 15, 2024, with early adoption permitted. The Company is currently in the process of evaluating the impact of this pronouncement on its related disclosures.

In March 2024, the SEC adopted the final rule under SEC Release No. 33-11275, The Enhancement and Standardization of Climate-Related Disclosures for Investors. The rule will require registrants to disclose certain climate-related information in registration statements and annual reports. The requirements of the rule will apply to the Company's

fiscal year beginning January 1, 2025. The Company is currently evaluating the impact of the final rule to determine its impact on the Company's disclosures.

The Company continues to monitor new accounting pronouncements issued by the FASB and does not believe any accounting pronouncements issued through the date of this report will have a material impact on the Company’s financial statements.

3. Financial Instruments and Fair Value Measurements

The following tables summarize the Company's financial assets and liabilities measured at fair value within the fair value hierarchy:

	March 31, 2024			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 85,007	$ —	$ —	$ 85,007
U.S. treasury securities	49,825	—	—	49,825
Marketable securities:				
U.S. treasury securities	654,632	—	—	654,632
Commercial paper	—	37,518	—	37,518
Corporate bonds	—	34,555	—	34,555
U.S. agency securities	—	14,947	—	14,947
Asset-backed securities	—	5,907	—	5,907
Total assets	$ 789,464	$ 92,927	$ —	$ 882,391
Liabilities:				
Contingent consideration liability	$ —	$ —	$ 7,659	$ 7,659
Convertible debt	—	963,008	—	963,008
Total liabilities	$ —	$ 963,008	$ 7,659	$ 970,667

	December 31, 2023			
	Level 1	Level 2	Level 3	Total
	(in thousands)			
Assets:				
Cash equivalents:				
Money market funds	$ 43,277	$ —	$ —	$ 43,277
U.S. treasury securities	109,310	—	—	109,310
Marketable securities:				
U.S. treasury securities	575,203	—	—	575,203
Commercial paper	—	46,054	—	46,054
Corporate bonds	—	20,073	—	20,073
U.S. agency securities	—	14,946	—	14,946
Asset-backed securities	$ —	$ 5,856	$ —	$ 5,856
Total assets	$ 727,790	$ 86,929	$ —	$ 814,719
Liabilities:				
Contingent consideration liability	$ —	$ —	$ 9,307	$ 9,307
Convertible debt	—	730,455	—	730,455
Total liabilities	$ —	$ 730,455	$ 9,307	$ 739,762

During the three months ended March 31, 2024 and 2023, there were no transfers between Level 1, Level 2 and Level 3.

Contingent Consideration Liabilities Related to Business Combination

In connection with the Company's acquisition of Neovasc Inc. ("Neovasc"), a preliminary fair value of $9.3 million was recorded for the Neovasc contingent consideration, which consisted of estimated amounts in relation to the CVR (as defined below in Note 5), on April 11, 2023, the date on which the closing conditions for the acquisition were met and the transaction was consummated. Assets acquired and liabilities assumed are recorded based on valuations derived from estimated fair value assessments and Level 3 inputs and assumptions used by the Company. Adjustment to the fair value of the contingent consideration liability at the end of each reporting period is recognized in general and administrative expenses in the condensed consolidated statement of the operations. The following table presents a reconciliation of the contingent consideration liability classified as a Level 3 financial instrument for the three months ended March 31, 2024. See Note 5 "Business Combination" for information regarding existing contingent consideration liabilities as of March 31, 2024.

	Three Months Ended March 31, 2024
	(in thousands)
Balance, beginning of the period	$ 9,307
Decrease in fair value	(1,648)
Balance, end of the period	$ 7,659

Convertible Debt

As of March 31, 2024, the fair value of the Company's convertible debt, measured on a non-recurring basis for disclosure purposes, was $963.0 million. The fair value was determined based on the quoted price of the convertible debt in an over-the-counter market on the last trading day of the reporting period and has been classified as Level 2 in the fair value hierarchy. See Note 10 "Convertible Debt" for information regarding the Company's convertible debt as of March 31, 2024.

4. Cash Equivalents and Short-Term Investments

The following is a summary of the Company's cash equivalents and short-term investments:

	March 31, 2024			
	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 85,007	$ —	$ —	$ 85,007
U.S. Treasury securities	49,826	—	(1)	49,825
Marketable securities:				
U.S. Treasury securities	654,768	16	(152)	654,632
Commercial paper	37,506	18	(6)	37,518
Corporate bonds	34,600	7	(52)	34,555
U.S. agency securities	14,962	5	(20)	14,947
Asset-backed securities	5,865	43	(1)	5,907
Total	$ 882,534	$ 89	$ (232)	$ 882,391
Reported as:				
Cash equivalents				$ 134,832
Short-term investments				747,559
Total				$ 882,391

	December 31, 2023			
	Amortized Cost Basis	Unrealized Gains	Unrealized Losses	Fair Value
	(in thousands)			
Cash equivalents:				
Money market funds	$ 43,277	$ —	$ —	$ 43,277
U.S. Treasury securities	109,292	18	—	109,310
Marketable securities:				
U.S. Treasury securities	575,008	233	(38)	575,203
Commercial paper	46,015	52	(13)	46,054
Corporate bonds	19,995	86	(8)	20,073
U.S. agency securities	14,949	16	(19)	14,946
Asset-backed securities	5,792	64	—	5,856
Total	$ 814,328	$ 469	$ (78)	$ 814,719
Reported as:				
Cash equivalents				$ 152,587
Short-term investments				662,132
Total				$ 814,719

There were $564.1 million and $45.9 million of investments in unrealized loss positions of $0.2 million and $0.1 million as of March 31, 2024 and December 31, 2023, respectively. During the three months ended March 31, 2024 and 2023, the Company did not record any impairment charges on its available-for-sale securities. Based on the Company's procedures under the expected credit loss model, including an assessment of unrealized losses on the portfolio, the Company concluded that the unrealized losses for its marketable securities were not attributable to credit, and therefore, an allowance for credit losses for these securities has not been recorded as of March 31, 2024 and December 31, 2023. Also,

based on the scheduled maturities of the investments, the Company was more likely than not to hold these investments for a period of time sufficient for a recovery of the Company's cost basis.

The remaining contractual maturities of the Company's cash equivalents and short-term investments were as follows:

	March 31, 2024
	Fair Value
	(in thousands)
Money market funds	$ 85,006
One year or less	736,694
Greater than one year and less than two years	60,691
Total	$ 882,391

5. Business Combination

Neovasc Inc.

On January 16, 2023, the Company entered into a definitive agreement to acquire Neovasc, a company focused on the minimally invasive treatment of refractory angina. On April 11, 2023, the closing conditions were met and the transaction was consummated. Upon the closing of the transaction, the Company acquired all of Neovasc's issued and outstanding common stock equity for a cash payment of $27.25 per share. Subsequent to the closing of the acquisition of Neovasc, the Company incurred $6.9 million of buyer related transaction costs in the year ended December 31, 2023, which were recorded as general and administrative expenses.

The purchase price consideration for the acquisition totaled $121.4 million, which was comprised of cash paid of $112.1 million to the selling shareholders, and the estimated fair value of the contingent consideration liability in the amount of $9.3 million.

The contingent consideration liability consisted of estimated amounts in relation to a contingent value right (a "CVR") entitling the holders of Neovasc common stock and eligible equity awards to receive an additional cash payment of up to $12.00 per share or per share underlying an eligible equity award (equivalent to a maximum cash payment of $47.0 million) contingent on the attainment of a milestone. The milestone is defined as the final approval by the United States Food and Drug Administration ("FDA") of the premarket approval application for the Reducer product for the treatment of angina. The milestone achievement timeline and respective payment per share ranges from $12.00 per CVR if the milestone is achieved on or prior to June 30, 2026, $8.00 per CVR if the milestone is achieved between July 1, 2026 and December 31, 2026 and $4.00 per CVR if the milestone is achieved between January 1, 2027 and December 31, 2027. The Company estimated the fair value of the contingent consideration liability using the probability-weighted discounted cash flow method based on the probability of achieving the milestone on each specified milestone date and consequently calculated the fair value of the CVR in the amount of $9.3 million as of the acquisition date.

The material factors that may impact the fair value of the contingent consideration are (i) the number of diluted shares outstanding as of the acquisition date that are eligible for the CVR, (ii) the probabilities and timing of achievement of the milestone, and (iii) discount rates, all of which are unobservable Level 3 inputs not supported by market activity. Significant changes in any of these inputs may result in a significant change in fair value, which is estimated at each reporting date with changes reflected as general and administrative expense.

The following table summarizes the purchase price consideration for Neovasc:

Purchase Price	(in thousands)
Cash transferred	$ 112,129
Contingent consideration liability	9,307
Total	$ 121,436

Assets acquired and liabilities assumed are recorded based on valuations derived from estimated fair value assessments and Level 3 inputs and assumptions used by the Company. While the Company believes that its estimates and assumptions underlying the valuations are reasonable, different estimates and assumptions could result in different valuations assigned to the individual assets acquired and liabilities assumed, and the residual amount of goodwill. The following table summarizes the preliminary fair values of assets acquired and liabilities assumed through the Company's Neovasc acquisition at the acquisition date based on management's best estimates and assumptions as of the reporting date:

Purchase Price	**(in thousands)**
Cash and cash equivalents	$ 17,273
Accounts receivable, net	1,345
Inventory	918
Prepaid expenses and other current assets	841
Operating lease right-of-use assets	310
Property and equipment	156
Intangible assets	95,500
Other assets	502
Total identifiable assets acquired	116,845
Accounts payable	3,334
Accrued liabilities	4,082
Lease liability, current portion	253
Lease liability, noncurrent portion	64
Deferred tax liabilities	10,964
Other liabilities	16,280
Total liabilities assumed	34,977
Net identifiable assets acquired	81,868
Goodwill	39,568
Total purchase price	$ 121,436

The purchase price allocation for the acquisition is preliminary and subject to revision as additional information about fair value of assets acquired and liabilities assumed becomes available, primarily related to the Company's deferred tax liability and the related impact to goodwill. In the fourth quarter of 2023, the Company recorded adjustments to the amounts recorded as of the second quarter of 2023 that represented immaterial adjustments to the liabilities assumed. As of March 31, 2024, there were no additional changes to the preliminary allocation of the purchase consideration.

The Company measured the identifiable assets and liabilities assumed at their acquisition date fair values separately from goodwill. The intangible assets acquired are the developed technology related to Neovasc's Reducer, in-process research and development for its Reducer technology, and Neovasc's customer relationships in place at the time of acquisition. The fair value of the intangible assets acquired as of the acquisition date and, the method used to value these assets as well as the estimated economic lives for amortizable intangible assets were as follows (in thousands, except estimated useful life which is in years):

	Fair value	**Estimated useful life**	**Valuation method**
Customer relationships	$ 2,900	5.0 years	Avoided cost / lost profit
Developed technology	61,200	20.0 years	Multi-period excess earnings
In-process research and development	31,400	N/A	Multi-period excess earnings
Total	$ 95,500		

Goodwill represents the excess of the purchase price over the fair value of the net assets acquired. The acquisition of Neovasc resulted in the recognition of $39.6 million of goodwill which the Company believes relates primarily to the anticipated benefits of synergies created through the acquisition and assembled workforce.

The intangible assets and goodwill created as a result of the acquisition of Neovasc are not deductible for tax purposes. As such, the Company recorded deferred tax liabilities of $11.0 million related to the intangible assets in connection with the Company's acquisition of Neovasc.

6. Goodwill and intangible assets

Goodwill

The Company performs annual impairment reviews of goodwill during the fourth fiscal quarter or more frequently if required. The Company did not incur any goodwill impairment losses during the three months ended March 31, 2024.

Intangible assets

The following table presents details of the acquired intangible assets as of March 31, 2024 (in thousands, except useful life and estimated remaining useful life which are in years):

	Gross Carrying Amount	Accumulated Amortization	Impairment	Intangible Assets, Net	Useful Life	Estimated Remaining Useful Life
Customer relationships	$ 2,900	$ 564	$ —	$ 2,336	5.0 years	4.0 years
Developed technology	61,200	2,976	—	58,224	20.0 years	19.0 years
In-process research and development	31,400	—	—	31,400	N/A	N/A
Total	$ 95,500	$ 3,540	$ —	$ 91,960	19.3 years	18.3 years

Acquisition-related intangible assets included in the above table are finite-lived, other than in-process research and development which has an indefinite life and are carried at cost less accumulated amortization. Customer relationships and developed technology are amortized on a straight-line basis over their estimated lives, which approximates the pattern in which the economic benefits of the intangible assets are expected to be realized. Amortization expense was $0.9 million for the three months ended March 31, 2024, and was recorded to sales and marketing for customer relationships and to cost of revenue for developed technology.

The following table summarizes the estimated future amortization expense of intangible assets with finite lives as of March 31, 2024:

Years ending December 31,	(in thousands)
2024 (remainder)	$ 2,743
2025	3,640
2026	3,640
2027	3,640
2028	3,219
Thereafter	43,678
Total estimated future amortization expense	$ 60,560

Actual amortization expense to be reported in future periods could differ from these estimates as a result of asset impairments, acquisitions, or other facts and circumstances. The Company performs annual impairment reviews of its intangible assets during the fourth fiscal quarter or more frequently if business factors indicate. The Company did not have any indicators or incur any impairment losses related to its intangible assets during the three months ended March 31, 2024.

7. Balance Sheet Components

Inventory

Inventory consists of the following:

	March 31, 2024	December 31, 2023
	(in thousands)	
Raw materials	$ 28,715	$ 25,670
Work in progress	22,604	16,499
Finished goods	59,896	65,418
Total inventory	$ 111,215	$ 107,587

Accrued Liabilities

Accrued liabilities consist of the following:

	March 31, 2024	December 31, 2023
	(in thousands)	
Employee compensation	$ 34,076	$ 49,706
Professional services	10,972	6,269
Excise, sales, income and other taxes	9,532	9,507
Asset purchases	9,054	7,788
Research and development costs	7,477	8,122
Sales and marketing	3,334	3,495
Other	4,393	6,809
Total accrued liabilities	$ 78,838	$ 91,696

8. Commitments and Contingencies

Operating Leases

The Company's operating leases consist of leased facilities for the Company's headquarter offices, leased facilities for Neovasc and leased facilities for laboratory and manufacturing space. Also included in operating leases are leases for vehicles, for use by certain employees of the Company, which were not material for the periods presented. The operating leases for leased facilities expire at various dates through December 2031, of which some contain renewal options for up to two additional five-year terms at the then fair market rate. As of March 31, 2024, the Company is not reasonably certain it will exercise these options.

Short-term leases are leases having a term of 12 months or less. The Company recognizes short-term leases on a straight-line basis and does not record a related lease asset or liability for such leases. As of March 31, 2024, the Company has no material finance leases.

The Company recognizes rent expense for these operating leases on a straight-line basis over the lease period. The components of lease costs, which the Company includes in operating expenses in the condensed consolidated statements of operations and comprehensive income, were as follows:

	Three Months Ended March 31,	
	2024	2023
	(in thousands)	
Operating lease cost	$ 1,444	$ 1,211
Variable lease cost	267	300
Total lease cost	$ 1,711	$ 1,511

During the three months ended March 31, 2024 and 2023, the Company paid $1.4 million and $1.3 million of operating lease payments, respectively, related to the lease liabilities. The Company includes operating lease payments in net cash used in operating activities in the condensed consolidated statements of cash flows.

As of March 31, 2024, the weighted average remaining lease term and discount rate used to measure the Company's operating lease liabilities were 7.7 years and 5.3%, respectively. The Company estimated the discount rate using the incremental borrowing rate as the rate implicit in the lease was not readily determinable.

As of March 31, 2024, the maturities of the payments due under the Company's operating lease liabilities were as follows:

Years ending December 31,	(in thousands)
2024 (remainder)	$ 4,619
2025	6,700
2026	6,897
2027	7,076
2028	7,242
Thereafter	23,074
Total minimum lease payments	$ 55,608
Less: imputed interest	(10,320)
Less: Lease incentive	(1,299)
Total lease liability	$ 43,989
Less: current portion	(3,653)
Lease liability, noncurrent portion	$ 40,336

Contingent Consideration Liabilities Related to Business Combination

See Note 5 "Business Combination" for information regarding existing contingent consideration liabilities as of March 31, 2024.

9. Debt

On October 19, 2022, the Company entered into a Credit Agreement (the "Credit Agreement") with Wells Fargo Bank, National Association, as administrative agent, Wells Fargo Bank, National Association, as swingline lender and an issuing lender, Wells Fargo Securities, LLC and Silicon Valley Bank, as joint lead arrangers and joint bookrunners, Silicon Valley Bank, as syndication agent, and the several lenders party thereto. The Credit Agreement provides for a revolving credit facility in an aggregate principal amount of $175.0 million with the right to request increases to the revolving commitments

(subject to certain conditions) of up to the greater of (x) $100.0 million or (y) the Company's consolidated EBITDA for the four fiscal quarter period most recently ended prior to the date of such increase.

Concurrent with entering into the Credit Agreement, the Company drew down $25.0 million thereunder. The Company repaid the $25.0 million drawn under the Credit Agreement on August 29, 2023.

On March 16, 2023, the Company drew down an additional $80.0 million under the Credit Agreement. The Company repaid the $80.0 million drawn under the Credit Agreement on April 26, 2023.

The revolving credit facility accrues for interest, at the election of the Company, at (A) the Base Rate (as defined below) plus a margin ranging from 0% to 1% depending on the Company's Consolidated Total Net Leverage Ratio (as defined in the Credit Agreement) (which rate is currently 0%) or (B) the applicable secured overnight financing rate ("SOFR") plus a margin from 1% to 2%, depending on the Company's Consolidated Total Net Leverage Ratio (which rate is currently 1.8%). Base Rate means, at any time, the highest of (a) the Wells Fargo Bank, National Association's announced prime rate, (b) the federal funds rate plus 0.5% and (c) Term SOFR for a one-month tenor in effect on such day plus 1%. The Credit Agreement matures on October 19, 2027. The interest rate was 7.3% as of August 29, 2023.

The Company was not in violation of any covenants under the Credit Agreement as of March 31, 2024.

The Company recorded interest expense of $0.1 million and $0.6 million for the three months ended March 31, 2024 and 2023, respectively. The interest expense recognized for the three months ended March 31, 2024 consists of an access fee to the credit facility during the three months ended March 31, 2024. The Company did not draw from the credit facility during the three months ended March 31, 2024.

10. Convertible Debt

On August 15, 2023, the Company issued $750.0 million in aggregate principal amount of 1.0% convertible senior notes due 2028 (the "Notes"). The issuance included the full exercise of an option granted by the Company to the initial purchasers of the Notes to purchase an additional $100.0 million in aggregate principal amount of Notes. The Notes were issued pursuant to and subject to the terms of an indenture, dated August 15, 2023, between the Company and U.S. Bank Trust Company, National Association, as trustee (the "Indenture"). The Indenture includes customary covenants and sets forth certain events of default, including certain types of bankruptcy and insolvency events, after which the Notes may be declared immediately due and payable. The Notes were offered and sold in a private offering to qualified institutional buyers pursuant to Rule 144A under the Securities Act of 1933, as amended.

The Notes are senior, unsecured obligations of the Company. The Notes will mature on August 15, 2028, unless earlier converted, redeemed, or repurchased in accordance with their terms. The Notes bear interest at a rate of 1.0% per year, payable semiannually in arrears on February 15 and August 15 of each year, beginning on February 15, 2024. The Notes are convertible, in multiples of $1,000 principal amount and at the option of the noteholder, on or after May 15, 2028. Prior to May 15, 2028, holders of the Notes may convert all or a portion of their Notes, in multiples of $1,000 principal amount, only under the following circumstances: (1) during any calendar quarter commencing after December 31, 2023 (and only during such calendar quarter) if the closing price of the Company's common stock for at least 20 trading days (whether or not consecutive) in a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the then applicable conversion price for the Notes on each applicable trading day; (2) during the five business days immediately after any five consecutive trading day period in which the trading price (as defined in the Indenture) per $1,000 principal amount of Notes for each day of that period was less than 98% of the product of the closing price of the Company's common stock and the then applicable conversion rate; (3) if the Company calls such Notes for redemption, at any time prior to the close of business on the scheduled trading day immediately preceding the redemption date, but only with respect to the Notes called (or deemed called) for redemption; or (4) upon the occurrence of specific corporate events as specified in the Indenture. The Company will settle any conversions of Notes by paying or delivering, as applicable, cash up to the aggregate principal amount of the Notes to be converted and by paying or delivering, as the case may be, cash, shares of common stock or a combination of cash and shares of common stock, at the election of the Company, in respect of the remainder, if any, of the Company's conversion obligation in excess of the aggregate principal amount of the Notes being converted.

The conversion rate for the Notes was initially 3.4595 shares of common stock per $1,000 principal amount of Notes, which is equivalent to an initial conversion price of approximately $289.06 per share of common stock. The initial

conversion price of the Notes represents a premium of approximately 30% over the $222.35 per share last reported sale price of common stock on August 10, 2023. The conversion rate is subject to adjustment under certain circumstances in accordance with the terms of the Indenture, with a maximum conversion rate of 4.4974 shares of common stock per $1,000 principal amount of Notes. During the three months ended March 31, 2024, the conditions allowing holders of the Notes to convert were not met.

The Company may not redeem the Notes prior to August 20, 2026. The Company may redeem, for cash equal to 100% of the principal amount of the Notes being redeemed plus accrued and unpaid interest, all or any portion of the Notes, at its option, on or after August 20, 2026, if the last reported sales price of its common stock has been at least 130% of the conversion price then in effect for at least 20 trading days (whether or not consecutive) during any 30 consecutive trading day period ending on, and including, the trading day immediately preceding the date on which the Company provides notice of the redemption. No sinking fund is provided for the Notes and therefore the Company is not required to redeem or retire the Notes periodically. During the three months ended March 31, 2024, the conditions allowing the Company to redeem for cash all or any portion of the Notes were not met.

If the Company undergoes a fundamental change, as defined in the Indenture, then subject to certain conditions, holders may require the Company to repurchase for cash all or any portion of their Notes at a price equal to 100% of the principal amount of the Notes to be repurchased plus any accrued and unpaid interest to, but excluding, the repurchase date. In addition, under certain circumstances, holders of the Notes are entitled to an increase in the conversion rate. The conditions allowing holders of the Notes to convert were not met this quarter.

As of March 31, 2024, the Notes were classified as a long-term liability, net of issuance costs of $19.6 million, on the condensed consolidated balance sheets. As of March 31, 2024, the net carrying amount of the Notes was $732.8 million. Interest expense recognized related to the Notes for the three months ended March 31, 2024 was $2.8 million. The Notes were issued at par and costs associated with the issuance of the Notes are amortized to interest expense over the contractual term of the Notes. As of March 31, 2024, the effective interest rate of the Notes was 1.5%.

Capped Call Transactions

On August 10, 2023, in connection with the pricing of the Notes and the initial purchasers' exercise of their option to purchase additional Notes, the Company entered into privately negotiated capped call transactions ("Capped Call Transactions"). The Capped Call Transactions initially covered, subject to customary anti-dilution adjustments, the number of shares of common stock that underlie the Notes. The cap price of the Capped Call Transactions was initially $444.70 per share, which represents a premium of 100% over the last reported sale price of the Company's common stock of $222.35 per share on August 10, 2023, and is subject to certain adjustments under the terms of the Capped Call Transactions. The Company used approximately $96.4 million of the proceeds from the offering of Notes to pay the cost of the Capped Call Transactions.

The Company evaluated the Capped Call Transactions and determined that they should be accounted for separately from the Notes. The cost of $96.4 million to purchase the Capped Call Transactions was recorded as a reduction to additional paid-in capital in the condensed consolidated balance sheet as of March 31, 2024 as the Capped Call Transactions are indexed to the Company's own stock and met the criteria to be classified in stockholders' equity.

11. Stock-Based Compensation

Total stock-based compensation was as follows:

	Three Months Ended March 31,	
	2024	2023
	(in thousands)	
Cost of product revenue	$ 1,372	$ 954
Research and development	6,027	3,795
Sales and marketing	8,811	6,466
General and administrative	6,727	4,752
Total stock-based compensation	$ 22,937	$ 15,967

Stock-based compensation of $0.2 million and $0.4 million was capitalized into inventory for the three months ended March 31, 2024 and 2023, respectively. Stock-based compensation capitalized into inventory is recognized as cost of product revenue when the related product is sold.

2009 Equity Incentive Plan and 2019 Equity Incentive Plan

On June 17, 2009, the Company adopted the 2009 Equity Incentive Plan (the "2009 Plan") under which the Company's board of directors (the "Board") may issue stock options to employees, directors and consultants.

In February 2019, the Company adopted the 2019 Equity Incentive Plan (the "2019 Plan"), which became effective in connection with the Company's initial public offering. As a result, effective as of March 6, 2019, the Company may not grant any additional awards under the 2009 Plan. The 2009 Plan will continue to govern outstanding equity awards granted thereunder. The Company initially reserved 2,000,430 shares of common stock for the issuance of a variety of awards under the 2019 Plan, including stock options, stock appreciation rights, awards of restricted stock and awards of restricted stock units ("RSUs"). In addition, the number of shares of common stock reserved for issuance under the 2019 Plan will automatically increase on the first day of January for a period of up to ten years, which commenced on January 1, 2020, in an amount equal to 3% of the total number of shares of the Company's common stock outstanding on the last day of the preceding year, or a lesser number of shares determined by the Board. As of March 31, 2024, there were 4,220,428 shares of common stock available for issuance under the 2019 Plan.

Stock Options

Option activity under the 2009 Plan and 2019 Plan is set forth below:

	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Term	Aggregate Intrinsic Value
			(in years)	(in thousands)
Balance, December 31, 2023	880,809	$ 5.90	3.60	$ 162,653
Options exercised	(182,290)	4.11		
Balance, March 31, 2024	698,519	$ 6.36	3.70	$ 167,047
Vested and exercisable, March 31, 2024	698,519	$ 6.36	3.70	$ 167,047

Restricted Stock Units

RSUs are share awards that entitle the holder to receive freely tradable shares of the Company's common stock upon vesting. RSUs cannot be transferred, and the awards are subject to forfeiture if the holder's employment terminates prior to the release of the vesting restrictions. RSUs generally vest over a four-year period with straight-line quarterly vesting with a one-year cliff or straight-line annual vesting, provided the employee remains continuously employed with the Company. The fair value of RSUs is equal to the closing price of the Company's common stock on the grant date.

The Company granted performance-based restricted stock units ("PRSUs") to certain key executives. The vesting of these PRSUs is dependent on the achievement of certain performance targets related to the Company's compound annual growth rate of revenue over a two- or three-year performance period, provided the executives remain employed with the Company at the time of vesting. The number of PRSUs that vest will vary from 0% to 200% of the target which will be determined based on the level of performance attained for each performance period. The fair value of these PRSUs is equal to the closing price of the Company's common stock on the grant date. Compensation cost for PRSUs is recognized over the requisite service period based on the expected achievement of performance targets.

RSU and PRSU activity under the 2019 Plan is set forth below. Grant activity for all PRSUs is disclosed at target (100%):

	Restricted Stock Units		Performance-Based Restricted Stock Units	
	Number of Shares	Weighted-Average Grant Date Fair Value Per Share	Number of Shares	Weighted-Average Grant Date Fair Value Per Share
Balance, December 31, 2023	1,167,022	$ 171.55	67,008	$ 175.09
RSUs and PRSUs granted	415,796	234.82	42,827	200.33
RSUs and PRSUs forfeited	(51,828)	199.57	(752)	267.56
RSUs and PRSUs vested	(276,920)	110.76	(35,278)	155.58
Balance, March 31, 2024	1,254,070	204.79	73,805	198.11

Employee Stock Purchase Plan (ESPP)

In February 2019, the Company adopted the Employee Stock Purchase Plan ("ESPP"), which became effective as of March 6, 2019. The Company initially reserved 300,650 shares of the Company's common stock for purchase under the ESPP. In addition, the number of shares of the Company's common stock reserved for issuance under the ESPP

automatically increases on the first day of January for a period of up to ten years, which commenced on January 1, 2020, in an amount equal to 1% of the total number of shares of the Company's common stock outstanding on the last day of the preceding year, or a lesser number of shares determined by the Board.

Each offering to the employees to purchase stock under the ESPP begins on each September 1 and March 1 and ends on the following February 28 or 29 and August 31, respectively. On each purchase date, which falls on the last date of each offering period, ESPP participants will purchase shares of common stock at a price per share equal to 85% of the lesser of (1) the fair market value per share of the common stock on the offering date or (2) the fair market value of the common stock on the purchase date. The occurrence and duration of offering periods under the ESPP are subject to the determinations of the Compensation Committee of the Board, in its sole discretion.

The fair value of the ESPP shares is estimated using the Black-Scholes option pricing model. The Company recorded $0.7 million and $1.3 million of stock-based compensation expense related to the ESPP for the three months ended March 31, 2024 and 2023, respectively. At March 31, 2024, a total of 1,868,352 shares of common stock were available for issuance under the ESPP.

12. Net Income Per Share

Basic net income per share is calculated by dividing net income by the weighted-average number of shares of common stock outstanding for the period, without consideration of potential dilutive shares of common stock. Diluted net income per share attributable to the Company's stockholders is calculated based on the weighted-average number of shares of its common stock and other dilutive securities outstanding.

Potentially dilutive common shares from employee equity incentive plans are determined by applying the treasury stock method to the assumed exercise of outstanding stock options and the assumed vesting of outstanding RSUs. Prior to conversion of the Company's convertible debt, the Company will include, in the diluted net income per common share calculation, the effect of the additional shares that may be issued when the Company's common stock price exceeds the conversion price using the if-converted method. The Company's convertible debt has no impact on diluted net income per

common share unless the average price of the Company's common stock exceeds the conversion price because the Company is required to settle the principal amount of the convertible debt in cash upon conversion.

The components of basic and diluted net income per share were as follows (in thousands, except share and per share amounts):

	Three Months Ended March 31,	
	2024	2023
Numerator:		
Net income	$ 55,346	$ 39,125
Denominator:		
Basic:		
Weighted average number of common shares outstanding - basic	37,284,946	36,427,263
Diluted:		
Weighted average number of common shares outstanding - basic	37,284,946	36,427,263
Dilutive effect of outstanding common stock options	753,786	1,039,985
Dilutive effect of restricted stock units	429,869	510,340
Dilutive effect of common stock pursuant to employee stock purchase plan	3,412	1,860
Weighted average number of common shares outstanding - diluted	38,472,013	37,979,448
Net income per share:		
Basic	$ 1.48	$ 1.07
Diluted	$ 1.44	$ 1.03

All restricted shares, purchase rights under the ESPP, and capped call options for the three months ended March 31, 2024 and 2023 have been excluded from the calculation of the diluted net income per share, because all such securities are anti-dilutive for all periods presented. The total number of potential shares excluded from the calculation of diluted net income per share are as follows:

	Three Months Ended March 31,	
	2024	2023
Restricted stock units	66,380	100,755
Employee stock purchase plan	5,770	—
Capped call options	333,409	—
Total	405,559	100,755

13. Revenue

The following table represents the Company's product revenue based on product line:

	Three Months Ended March 31,	
	2024	2023
	(in thousands)	
Coronary	$ 164,526	$ 113,875
Peripheral	51,843	46,130
Reducer	1,837	—
Other	599	1,061
Product revenue	$ 218,805	$ 161,066

Coronary product revenue encompasses sales of the Company's C^2 catheter and C^{2+} catheter. Peripheral product revenue encompasses sales of the Company's M^5 catheter, M^{5+} catheter, S^4 catheter, and L^6 catheter. Reducer revenue encompasses sales of the Company's Reducer product. Other product revenue encompasses sales of the Company's generators and related accessories.

The following table represents the Company's product revenue based on the location to which the product is shipped:

	Three Months Ended March 31,	
	2024	2023
	(in thousands)	
United States	$ 175,532	$ 131,623
Europe	26,262	16,234
All other countries	17,011	13,209
Product revenue	$ 218,805	$ 161,066

14. Equity Method Investments

Genesis Shockwave Private Limited

On March 19, 2021, the Company entered into the Joint Venture Deed (or "JV Agreement") with Genesis MedTech International Private Limited ("Genesis") to establish a long-term strategic partnership to develop, manufacture and commercialize certain of the Company's interventional products in the People's Republic of China, excluding the Special Administrative Regions of Hong Kong and Macau (the "PRC"). Under the JV Agreement, Genesis Shockwave Private Ltd. (the "JV") was formed under the laws of Singapore to serve as a joint venture of Genesis and the Company.

On the same date, Genesis and the Company entered into a Share Subscription Agreement pursuant to which, among other things, the JV issued (i) 54,900 ordinary shares, which represents 55% of the total equity of the JV, to Genesis in exchange for a cash contribution of $15.0 million, and (ii) 45,000 ordinary shares, which represents 45% of the total equity of the JV, to the Company as consideration for the Shockwave License Agreement (the "License Agreement"). Under the License Agreement, the Company has agreed to contribute to the JV an exclusive license under certain of the Company's intellectual property rights to develop, manufacture, distribute and commercialize certain products in the PRC and is entitled to receive royalties on the sales of the licensed products in the PRC. Further, the Company entered into a Distribution Agreement, pursuant to which the Company has agreed to sell certain Company-manufactured products to the JV or a PRC subsidiary of the JV for commercialization and distribution in the PRC.

As of March 31, 2024, the carrying value of the Company's investment in the JV was $2.4 million and the Company owned a 45% interest in the entity.

The Company's product revenue for products sold to the JV during the three months ended March 31, 2024 and related accounts receivable from the JV as of March 31, 2024 were immaterial. Intra-entity profit, which was recorded as a reduction to equity method investment as of and for the three months ended March 31, 2024 was also immaterial.

For the three months ended March 31, 2024 and 2023, the Company recorded income from the equity method investment of $0.7 million and a loss from the equity method investment of $0.8 million, respectively.

As of March 31, 2024, the associated manufacturing technology transfer to the JV has not yet been completed. The Company maintains a related party contract liability, noncurrent, of $12.3 million for the outstanding performance obligation. The Company will satisfy the outstanding performance obligation upon the completion of training provided by the Company to the JV, and successful regulatory approval for the JV manufactured product from the China National Medical Products Administration.

15. Income Taxes

On a quarterly basis, the Company provides for income taxes based upon an estimated annual effective income tax rate, adjusted for discrete items. The Company recognized income tax benefit of $5.3 million and tax expense of $1.6 million for the three months ended March 31, 2024 and 2023, respectively, representing an effective tax rate of (10.69)% and 3.96%, respectively.

For the three months ended March 31, 2024, the effective tax rate differed from the U.S. federal statutory rate primarily due to stock-based compensation for tax purposes. For the three months ended March 31, 2023, the effective tax rate differed from the U.S. federal statutory rate primarily due to the stock-based compensation for tax purposes and research credits.

The Company's effective tax rate may be subject to fluctuation due to several factors, including the Company's ability to accurately predict the pre-tax earnings in the various jurisdictions, valuation allowances against deferred tax assets, the recognition or de-recognition of tax benefits related to uncertain tax positions and the effects of tax law changes.

16. Subsequent Event

On April 4, 2024, the Company entered into an Agreement and Plan of Merger (the "Merger Agreement") with Johnson & Johnson, a New Jersey corporation, and Sweep Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Johnson & Johnson (the "Merger Sub"), providing for the merger of Merger Sub with and into the Company (the "Merger"), with the Company surviving the Merger as a wholly owned subsidiary of Johnson & Johnson.

At the effective time of the Merger (the "Effective Time"):

- Each share of the Company's common stock outstanding immediately prior to the Effective Time (other than certain shares owned by Johnson & Johnson, Merger Sub or the Company to be excluded pursuant to the Merger Agreement and shares with respect to which appraisal rights have been exercised) will automatically be converted into the right to receive cash in an amount equal to $335.00 per share (the "Merger Consideration"), without interest thereon and less any applicable withholdings.

- Each Company stock option ("Company Option") that is outstanding and unexercised as of immediately prior to the Effective Time, whether vested or unvested, and which has a per share exercise price that is less than the Merger Consideration, will be cancelled and converted into the right to receive an amount in cash (without interest), less any applicable withholdings, equal to the product of (i) the aggregate number of shares underlying such Company Option immediately prior to the Effective Time, and (ii) the excess of (A) the Merger Consideration over (B) the per share exercise price of such Company Option. Each Company Option with a per share exercise price that equals or exceeds the amount of the Merger Consideration will be cancelled for no consideration.

- Each restricted stock unit ("RSU Award") that is outstanding as of immediately prior to the Effective Time, whether vested or unvested, will be canceled and converted into the right to receive an amount in cash (without interest), less any applicable withholdings, equal to the product of (i) the aggregate number of shares underlying such RSU Award immediately prior to the Effective Time and (ii) the Merger Consideration.

- Each performance stock unit for which the performance period has not been completed as of the date of the Merger Agreement ("PSU Award") that is outstanding as of immediately prior to the Effective Time, whether vested or unvested, will be canceled and converted into the right to receive an amount in cash (without interest), less any applicable withholdings, equal to the product of (i) the aggregate number of shares underlying such PSU Award immediately prior to the Effective Time (assuming attainment of (A) the actual level of performance for performance metrics for which the relevant performance period has been completed as of the Effective Time and (B) the maximum level of performance as determined under the terms of the applicable award agreement as in effect on the date of the Merger Agreement for performance metrics for which the relevant performance period has not been completed as of the Effective Time) and (ii) the Merger Consideration.

The Merger Agreement contains customary representations and warranties by Johnson & Johnson, Merger Sub and the Company. The Merger Agreement also contains customary covenants and agreements, including with respect to the operations of the business of the Company between signing and closing.

The Merger is expected to close by mid-year 2024, subject to approval by the Company's stockholders, as well as the receipt of applicable regulatory approvals and other customary closing conditions.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of our financial condition and results of operations together with our condensed financial statements and related notes included in this Quarterly Report on Form 10-Q and our audited consolidated financial statements and related notes thereto contained in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on February 26, 2024 (the "2023 Annual Report"). Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many important factors, including those set forth under "Special Note Regarding Forward-Looking Statements," in the "Risk Factors" section of this Quarterly Report on Form 10-Q and in the "Risk Factors" section of our 2023 Annual Report, our actual results could differ materially from the results described in, or implied, by those forward-looking statements.

Overview

We are a medical device company focused on developing and commercializing novel technologies that transform the care of patients with cardiovascular disease. We aim to establish a new standard of care for the treatment of calcified cardiovascular disease through our differentiated and proprietary local delivery of sonic pressure waves, which we refer to as intravascular lithotripsy ("IVL"). Our IVL system (our "IVL System"), which leverages our IVL technology (our "IVL Technology"), is a minimally invasive, easy-to-use, and safe way to improve outcomes for patients with calcified cardiovascular disease. Additionally, we aim to transform the standard of care for patients suffering from refractory angina with our coronary sinus reducer (the "Reducer") technology, an innovative technology that creates a permanent, controlled narrowing of the coronary sinus.

Our differentiated range of IVL catheters enables delivery of IVL therapy to diseased vasculature throughout the body for calcium modification. Our currently approved IVL catheters that treat peripheral artery disease and coronary artery disease resemble a standard balloon angioplasty catheter, the device most commonly used by interventional cardiologists. This familiarity makes our IVL System easy for healthcare providers to learn, adopt and use on a day-to-day basis. The Reducer is also a catheter-based device and is implanted in the coronary sinus, which is a major coronary vein located on the left side of the heart. It was developed to deliver this coronary sinus reduction therapy in a safe, simple and effective manner via a minimally invasive catheter that is consistent with contemporary medical practice. The Reducer is implanted using conventional catheter-based interventional techniques and reduces the diameter of the coronary sinus, which redistributes blood into the ischemic myocardium to help reduce angina symptoms. The implant procedure requires minimal training for experienced interventionalists.

On April 4, 2024, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with Johnson & Johnson, a New Jersey corporation, and Sweep Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of Johnson & Johnson ("Merger Sub"), pursuant to which Johnson & Johnson has agreed to acquire us for $335.00 per share in cash (the "Merger"), corresponding to an enterprise value of approximately $13.1 billion including cash acquired. The transaction is expected to close by mid-year 2024, subject to customary closing conditions, including approval by our stockholders and regulatory approvals. See Note 16, "Subsequent Events" for more information.

Our markets

We market our products to hospitals whose interventional cardiologists, vascular surgeons and interventional radiologists treat patients with PAD, CAD and refractory angina. We have dedicated meaningful resources to establish direct sales capability in the United States, Germany, Austria, Switzerland, France, Ireland, Japan, the United Kingdom, Spain, Portugal, Canada and Italy, which we have complemented with distributors actively selling our products in over 55 countries in North and South America, Europe, the Middle East, Asia, Africa, and Australia/New Zealand. We are continuing to add new U.S. sales territories and are actively expanding our international field presence through new distributors, as well as additional sales and clinical personnel and expanded direct sales territories.

Financial overview

For the three months ended March 31, 2024 and 2023, we generated revenue of $218.8 million and $161.1 million, respectively, and had operating income of $42.4 million and $39.8 million, respectively. For the three months ended March 31, 2024 and 2023, 20% and 18%, respectively, of our product revenue was generated from customers located outside of the United States. Our sales outside of the United States are denominated principally in Euros. As a result, we

have foreign exchange exposure. We have not entered into any material foreign currency hedging contracts, although we may do so in the future.

Although we had net income for the year ended December 31, 2023 and the three months ended March 31, 2024, we may incur net losses in the future, which may vary significantly from period to period. We expect to continue to incur significant expenses as we (i) expand our marketing efforts to increase adoption of our products, (ii) expand existing relationships with our customers, (iii) obtain regulatory clearances or approvals for our planned or future products, (iv) conduct clinical trials on our existing and planned or future products, and (v) develop new products or add new features to our existing products. We will need to continue to generate significant revenue in order to sustain profitability as we continue to grow our business. Even if we achieve profitability for any period, we cannot be sure that we will remain profitable for any substantial period of time.

To date, our principal sources of liquidity have been the net proceeds we received through cash provided by our operating activities, sales of our equity securities, and proceeds from our debt financings. For the three months ended March 31, 2024, we generated positive cash flows from operations of $35.8 million. As of March 31, 2024, we had $1,029.2 million in cash, cash equivalents and short-term investments and retained earnings of $165.8 million.

Convertible Debt

In August 2023, we issued $750.0 million aggregate principal amount of 1.0% convertible senior notes due 2028, (the "Notes"). In connection with the issuance of the Notes, we paid $96.4 million, including expenses, to enter into privately negotiated capped call transactions with certain initial purchasers of the Notes or their respective affiliates and certain other financial institutions (the "Capped Call Transactions"). The Capped Call Transactions are expected generally to reduce the potential dilution upon conversion of the Notes in the event that the market price per share of our common stock, as measured under the terms of the Capped Call Transactions, is greater than the strike price of the Capped Call Transactions, which initially corresponds to the conversion price of the Notes, and is subject to anti-dilution adjustments generally similar to those applicable to the conversion rate of the Notes. For additional information regarding the Notes and the Capped Call Transactions, see the section titled "Liquidity and Capital Resources."

Impact of current global business, political and macroeconomic conditions

Uncertainty in the global business, political and macroeconomic environments presents significant risks to our business. We are subject to continuing risks and uncertainties, including inflation, rising interest rates, uncertainty with respect to the federal budget, instability in the global banking system, volatile market conditions, supply chain disruptions, cybersecurity events, and global events, including regional conflicts around the world. We are closely monitoring the impact of these factors on all aspects of our business, including the impacts on our customers, patients, employees, suppliers, vendors, business partners and distribution channels.

In particular, while we have not experienced material disruptions in our supply chain to date, we have been and continue to be impacted by disruptions in the operations of certain of our third-party suppliers, resulting in increased lead-times, higher component costs and lower allocations for our purchase of some components. In certain cases, we have incurred higher logistical expenses. We are continuing to work closely with our manufacturing partners and suppliers to source key components and maintain appropriate inventory levels to meet customer demand.

The ultimate extent of the impact of global economic conditions on our business remains highly uncertain and will depend on future developments and factors that continue to evolve. Most of these developments and factors are outside of our control and could exist for an extended period of time. As a result, we are subject to continuing risks and uncertainties and continue to closely monitor the impact of the current conditions on our business. For more information regarding these risks and uncertainties, see the section titled "Risk Factors" in our 2023 Annual Report, together with any updates in the section titled "Risk Factors" in this Quarterly Report on Form 10-Q.

Components of Our Results of Operations

Product revenue

Product revenue is primarily from the sale of our IVL catheters.

We sell our products to hospitals, primarily through direct sales, as well as through distributors in selected international markets. For products sold through direct sales and distributors, control is transferred based on the contractual or standard shipping terms.

Cost of product revenue

Cost of product revenue consists primarily of the costs of the components for use in our products, the materials and labor that are used to produce our products, the manufacturing overhead that directly supports production and the expense relating to the equipment used in our IVL System to the extent that we loan generators to our hospital customers, without charge to facilitate the use of our IVL catheters in their procedures. We expect costs of product revenue to increase in absolute terms as our revenue grows.

Our gross margin has been and will continue to be affected by a variety of factors, primarily production volumes, the cost of direct materials, product mix, geographic mix, discounting practices, manufacturing costs, product yields, headcount, amortization of acquired developed technology, and cost-reduction strategies. We expect our gross margin percentage to marginally increase over the long term to the extent we are successful in increasing our sales volume and are therefore able to leverage our fixed costs. We intend to use our design, engineering and manufacturing capabilities to further advance and improve the efficiency of our manufacturing processes, which, if successful, we believe will reduce costs and enable us to increase our gross margin percentage. While we expect gross margin percentage to increase over the long term, it will likely fluctuate from quarter to quarter as we continue to introduce new products and adopt new manufacturing processes and technologies.

Research and development expenses

Research and development expenses consist of applicable personnel, consulting, materials, and clinical trial expenses. Research and development expenses include, but are not limited to:

- certain personnel-related expenses, including salaries, benefits, bonus, travel, and stock-based compensation;
- cost of clinical studies to support new products and product enhancements, including expenses for clinical research organizations, and site payments;
- materials and supplies used for internal research and development and clinical activities;
- allocated overhead including facilities and information technology expenses; and
- cost of outside consultants who assist with technology development, regulatory affairs, clinical affairs and quality assurance.

Research and development costs are expensed as incurred. In the future, we expect research and development expenses to increase in absolute dollars as we continue to develop new products, enhance existing products and technologies, and perform activities related to obtaining additional regulatory approvals.

Sales and marketing expenses

Sales and marketing expenses consist of personnel-related expenses, including salaries, benefits, sales commissions, travel, and stock-based compensation. Other sales and marketing expenses consist of marketing and promotional activities, including trade shows and market research. We expect to continue to grow our sales force and increase marketing efforts as we continue commercializing products based on our IVL Technology. As a result, we expect sales and marketing expenses to increase in absolute dollars over the long term.

General and administrative expenses

General and administrative expenses consist of personnel-related expenses, including salaries, benefits, bonus, travel, and stock-based compensation. Other general and administrative expenses consist of professional services fees, including legal, audit and tax fees, insurance costs, outside consultant fees and employee recruiting and training costs. Moreover, we

incur expenses associated with operating as a public company, including legal, accounting, insurance, exchange listing and Securities and Exchange Commission ("SEC") compliance and investor relations.

Income (loss) from equity method investment

Income (loss) from equity method investment represents our proportionate share of the underlying income or loss incurred in connection with our joint venture, Genesis Shockwave Private Ltd. (the "JV"), with Genesis MedTech International Private Limited. Also included in income (loss) from equity method investment is the portion of intra-entity profit which is eliminated to the extent the goods have not yet either been consumed by the JV for use in clinical trials or sold through by the JV to an end customer at the end of the reporting period.

Interest income

Interest income consists of the interest earned on our cash equivalents and short-term investments.

Interest expense

Interest expense consists of the interest and amortization expense related to our Credit Agreement (as defined below) and the Notes, as well as the loss on debt extinguishment related to the repayment of the amount drawn under our Credit Agreement.

Other (expense) income, net

Other (expense) income, net consists of net impact of foreign exchange gains and losses.

Income tax (benefit) provision

Income tax (benefit) provision consists of income taxes from the U.S. and foreign jurisdictions.

Results of Operations

Comparison of the Three Months Ended March 31, 2024 and 2023

The following table shows our results of operations for the three months ended March 31, 2024 and 2023:

	Three Months Ended March 31,		Change $	Change %
	2024	2023		
	(in thousands, except percentages)			
Revenue:				
Product revenue	$ 218,805	$ 161,066	$ 57,739	36%
Cost of revenue:				
Cost of product revenue	28,207	21,066	7,141	34%
Gross profit	190,598	140,000	50,598	36%
Operating expenses:				
Research and development	44,466	26,971	17,495	65%
Sales and marketing	74,492	54,011	20,481	38%
General and administrative	29,233	19,204	10,029	52%
Total operating expenses	148,191	100,186	48,005	48%
Income from operations	42,407	39,814	2,593	7%
Income (loss) from equity method investment	713	(823)	1,536	(187)%
Interest income	12,318	1,740	10,578	608%
Interest expense	(2,943)	(636)	(2,307)	363%
Other (expense) income, net	(2,496)	642	(3,138)	(489)%
Net income before taxes	49,999	40,737	9,262	23%
Income tax (benefit) provision	(5,347)	1,612	(6,959)	(432)%
Net income	$ 55,346	$ 39,125	$ 16,221	41%

Product revenue

Product revenue increased by $57.7 million, or 36%, from $161.1 million during the three months ended March 31, 2023 to $218.8 million during the three months ended March 31, 2024. The change was driven primarily by coronary catheter revenues, and secondarily by peripheral catheter revenues, as further described below.

The following table represents our product revenue based on product line:

	Three Months Ended March 31,		Change $	Change %
	2024	2023		
	(in thousands, except percentages)			
Coronary	$ 164,526	$ 113,875	$ 50,651	44%
Peripheral	51,843	46,130	5,713	12%
Reducer	1,837	—	1,837	100%
Other	599	1,061	(462)	(44)%
Product revenue	$ 218,805	$ 161,066	$ 57,739	36%

Coronary product revenue increased by $50.7 million, or 44%, from $113.9 million for the three months ended March 31, 2023 to $164.5 million for the three months ended March 31, 2024. The increase in coronary product revenue was due to an increase in the purchase volume of our C^2 catheters and C^{2+} catheters in the United States and increased adoption of our products internationally.

Peripheral product revenue increased by $5.7 million, or 12%, from $46.1 million for the three months ended March 31, 2023 to $51.8 million for the three months ended March 31, 2024. The change was due to an increase in the purchase volume of our M^{5+} catheter, S^4 catheter, and L^6 catheter within the United States and internationally driven by increased adoption of our products.

Revenue from our Reducer product, which was acquired through the acquisition of Neovasc Inc. ("Neovasc") in April 2023, was $1.8 million for the three months ended March 31, 2024.

Other product revenue decreased by $0.5 million, or 44%, from $1.1 million for the three months ended March 31, 2023 to $0.6 million for the three months ended March 31, 2024. The change was due to a decrease in the purchase volume of our IVL generators and other accessories internationally.

Product revenue, classified by the major geographic areas into which our products are shipped, was $175.5 million, or 80%, within the United States and $43.3 million, or 20%, for all other countries in the three months ended March 31, 2024, compared to $131.6 million, or 82%, within the United States and $29.4 million, or 18%, for all other countries in the three months ended March 31, 2023.

Cost of product revenue, gross profit and gross margin percentage

Cost of product revenue increased by $7.1 million, or 34%, from $21.1 million during the three months ended March 31, 2023 to $28.2 million during the three months ended March 31, 2024. The increase was driven by higher product sales volume compared to the prior year.

Gross margin percentage was consistent at 87% for the three months ended March 31, 2024, compared to 87% for the three months ended March 31, 2023.

Research and development expenses

Research and development expenses increased by $17.5 million, or 65%, from $27.0 million during the three months ended March 31, 2023 to $44.5 million during the three months ended March 31, 2024. The increase was primarily due to a $9.3 million increase in compensation and personnel-related costs due to an increase in headcount, an increase in clinical-related costs of $4.9 million, a $1.6 million increase in information technology, rent and building expenditures, a $0.7 million increase in outside consultants, a $0.6 million increase in materials and supplies, and a $0.5 million increase in other research and development costs. Included in other research and development costs are $0.2 million in software license expenses related to research and development.

Sales and marketing expenses

Sales and marketing expenses increased by $20.5 million, or 38%, from $54.0 million during the three months ended March 31, 2023 to $74.5 million during the three months ended March 31, 2024. The change was primarily due to a $14.0 million increase in compensation and personnel-related costs, resulting from increased headcount and commissions driven by increased sales of our products. There was also a $4.0 million increase due to travel related costs, a $1.6 million increase in information technology, rent and building expenditures, a $0.7 million increase in marketing and promotional costs to support the continued commercialization of our products, a $0.2 million increase in general corporate costs, and a $0.1 million increase in recruiting and training fees, offset by a $0.1 million decrease in materials and supplies.

General and administrative expenses

General and administrative expenses increased by $10.0 million, or 52%, from $19.2 million during the three months ended March 31, 2023 to $29.2 million during the three months ended March 31, 2024. The change was primarily due to a $5.5 million increase in consulting and professional services, a $4.7 million increase in compensation and personnel-related costs due to an increase in headcount, $0.6 million in recruiting and training fees, and a $0.3 million increase in general corporate costs, partially offset by a $0.9 million decrease in information technology, rent and building expenditures, and a $0.2 million decrease in travel related costs.

Income (loss) from equity method investment

Income (loss) from equity method investment changed by $1.5 million, or 187%, from loss of $0.8 million during the three months ended March 31, 2023 to income of $0.7 million during the three months ended March 31, 2024. The change was primarily due to a decrease in the elimination of intra-entity profit for goods sold by us to the JV that have not yet been sold through by the JV to an end customer at the end of the reporting period.

Interest income

Interest income increased by $10.6 million, or 608%, from $1.7 million during the three months ended March 31, 2023 to $12.3 million during the three months ended March 31, 2024. The increase in interest income was related to an increase in interest income from our cash equivalents and short-term investments.

Interest expense

Interest expense increased by $2.3 million, or 363%, from $0.6 million during the three months ended March 31, 2023 to $2.9 million during the three months ended March 31, 2024. The increase in interest expense was related to the convertible debt from the private offering in August 2023.

Other (expense) income, net

Other (expense) income, net changed by $3.1 million, or 489%, from $0.6 million in other income during the three months ended March 31, 2023 to $2.5 million in other expense, net during the three months ended March 31, 2024. The change is mainly attributable to an increase in foreign exchange losses.

Income tax (benefit) provision

Income tax benefit of $5.3 million for the three months ended March 31, 2024 primarily consisted of U.S. (federal and state) and foreign income taxes. Income tax provision of $1.6 million for the three months ended March 31, 2023 primarily consisted of U.S. (federal and state) income taxes.

Liquidity and Capital Resources

To date, our principal sources of liquidity have been the cash provided by our operating activities, $750.0 million that we received through the issuance of our Notes, $280.0 million that we received through the sale of our common stock in our public offerings, $10.0 a million from a private placement of our equity securities, and access to funds under our Credit Agreement (as defined below).

On October 19, 2022, we entered into the Credit Agreement with Wells Fargo Bank, National Association, as administrative agent, Wells Fargo Bank, National Association, as swingline lender and an issuing lender, Wells Fargo Securities, LLC and Silicon Valley Bank, as joint lead arrangers and joint bookrunners, Silicon Valley Bank, as syndication agent, and the several lenders party thereto (the "Credit Agreement"). The Credit Agreement provides for a revolving credit facility in an aggregate principal amount of $175.0 million with the right to request increases to the revolving commitments (subject to certain conditions) of up to the greater of (x) $100.0 million or (y) our consolidated EBITDA for the four fiscal quarter period most recently ended prior to the date of such increase.

On March 16, 2023, we drew $80.0 million under the Credit Agreement. We repaid the $80.0 million drawn under the Credit Agreement on April 26, 2023.

On August 15, 2023, we issued $750.0 million aggregate principal amount of Notes. The Notes mature on August 15, 2028 unless repurchased, redeemed, or converted in accordance with their terms prior to such date. The Notes were not convertible as of March 31, 2024. On August 10, 2023, in connection with the pricing of the Notes and the initial purchasers' exercise of their option to purchase additional Notes, we entered into privately negotiated Capped Call Transactions for a cost of $96.4 million.

We have a number of ongoing clinical trials and expect to continue to make substantial investments in these trials as well as additional clinical trials designed to provide clinical evidence of the safety and efficacy of our existing products. We intend to continue to make significant investments in our sales and marketing organization by increasing the number of

U.S. sales representatives and expanding our international marketing programs to help facilitate further adoption among existing hospital accounts and physicians as well as broaden awareness of our products to new hospitals. We also expect to continue to make investments in research and development, regulatory affairs, and clinical studies to develop future generations of products based on our products, support regulatory submissions, and demonstrate the clinical efficacy of our products. Moreover, we expect to continue to incur expenses associated with operating as a public company, including legal, accounting, insurance, exchange listing and SEC compliance, investor relations and other expenses. Because of these and other factors, although we had net income and generated cash flows from operations for the three months ended March 31, 2024 and for the year ended December 31, 2023, we may incur net losses and have negative cash flows from operations in the future.

As of March 31, 2024, we have $1,029.2 million in cash, cash equivalents and short-term investments and retained earnings of $165.8 million.

In the short term, we believe that our cash, cash equivalents and short-term investments will be sufficient for at least the next 12 months to meet our requirements and plans for cash, including supporting working capital, capital expenditure requirements, investments, acquisitions and repayments of indebtedness. In the long term, our ability to support our working capital and capital expenditure requirements will depend on many factors, including:

- the cost, timing and results of our clinical trials and regulatory reviews;
- the cost of our research and development activities for new and modified products;
- the cost and timing of establishing sales, marketing and distribution capabilities;
- the terms and timing of any other collaborative, licensing and other arrangements that we may establish including any contract manufacturing arrangements;
- the timing, receipt and amount of sales from our current and potential products;
- the degree of success we experience in commercializing our products;
- the emergence of competing or complementary technologies;
- the impact of global business, political and macroeconomic conditions, including inflation, rising interest rates, uncertainty with respect to the federal budget, instability in the global banking system, volatile market conditions, supply chain disruptions, cybersecurity events, and global events, including regional conflicts around the world;
- the cost of preparing, filing, prosecuting, maintaining, defending and enforcing any patent claims and other intellectual property rights; and
- the extent to which we acquire or invest in businesses, products or technologies, although we currently have no commitments or agreements relating to any of these types of transactions.

To the extent that current and anticipated future sources of liquidity are insufficient to fund our future business activities and cash and other requirements, we may be required to seek additional equity or debt financing. The sale of additional equity would result in additional dilution to our stockholders. The incurrence of additional debt financing would result in debt service obligations and the instruments governing such debt could provide for operating and financing covenants that would restrict our operations. In the event that additional financing is required from outside sources, there is a possibility we may not be able to raise it on terms acceptable to us or at all. Further, the current macroeconomic environment may make it difficult for us to raise capital on terms favorable to us or at all. If we are unable to raise additional capital when desired, our business, operating results, and financial condition could be adversely affected.

Our material cash requirements include the following contractual and other obligations:

Debt, Principal, and Interest

As of March 31, 2024, our debt, principal and interest commitments consist of our debt obligations under the Credit Agreement and the Notes.

As discussed above in Note 9, on October 19, 2022, we entered into the Credit Agreement, which provides for a revolving credit facility in an aggregate principal amount of $175.0 million with the right to request increases to the revolving commitments (subject to certain conditions) of up to the greater of (x) $100.0 million or (y) our consolidated EBITDA for the four fiscal quarter period most recently ended prior to the date of such increase.

The Credit Agreement is secured by substantially all of our assets, including intellectual property. The Credit Agreement is subject to customary affirmative and restrictive covenants, including with respect to our ability to enter into fundamental transactions, incur additional indebtedness, grant liens, and pay any dividend or make any distributions to stockholders.

As of March 31, 2024, there were no outstanding borrowings under the Credit Agreement.

As discussed above, on August 15, 2023, we issued $750.0 million aggregate principal amount of the Notes and on August 10, 2023 we entered into the Capped Call Transactions for a cost of $96.4 million. The net proceeds from the issuance of the Notes and the Capped Call Transactions are discussed further in Note 10 “Convertible Debt”. The Notes mature on August 15, 2028 unless repurchased, redeemed, or converted in accordance with their terms prior to such date. The Notes were not convertible as of March 31, 2024.

Manufacturing Purchase Obligations

We have engaged certain contract manufacturers to produce and supply us with certain products. We have fixed commitments of approximately $6.6 million within the next four years.

Operating Leases

Our operating lease commitments mostly consist of our lease obligations for our Santa Clara headquarter office spaces, leased facilities for Neovasc, and leased facilities for laboratory and manufacturing space. Our total operating lease commitments as of March 31, 2024 are approximately $55.6 million, of which $6.8 million is expected to be paid within the next twelve months.

Contingent Consideration Liabilities Related to Business Combination

Acquisition related contingent consideration liabilities consist of estimated amounts in relation to a contingent value right entitling certain holders of Neovasc common stock and eligible equity awards to receive an additional cash payment of up to $12.00 per share or per share underlying an eligible equity award contingent on the attainment of a milestone. The milestone is defined as the grant by the FDA’s final approval of the Reducer premarket approval application regarding its treatment of angina. As of March 31, 2024, the total fair value of the contingent consideration liabilities was $7.7 million.

There were no other material changes during the three months ended March 31, 2024 to our contractual obligations as compared to those disclosed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” included in our 2023 Annual Report.

We did not have during the periods presented, and we do not currently have, any commitments or obligations, including contingent obligations, arising from arrangements with unconsolidated entities or persons that have or are reasonably likely to have a material current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, cash requirements or capital resources.

Cash Flows

The following table summarizes our cash flows for the periods indicated:

	Three Months Ended March 31,	
	2024	2023
Net cash provided by (used in):	(in thousands)	
Operating activities	$ 35,840	$ 33,962
Investing activities	(84,453)	6,182
Financing activities	5,011	83,409
Effect of exchange rate changes on cash and cash equivalents	(3,175)	792
Net increase in cash, cash equivalents and restricted cash	$ (46,777)	$ 124,345

Operating activities

During the three months ended March 31, 2024, cash provided by operating activities was $35.8 million, attributable to a net income of $55.3 million and non-cash charges of $5.3 million, partially offset by a net change in our net operating assets and liabilities of $24.8 million. Non-cash charges of $5.3 million primarily consisted of $22.9 million in stock-based compensation, $3.1 million in depreciation and amortization, $0.9 million in non-cash lease expense, $2.3 million in foreign currency remeasurement, $0.9 million in amortization of debt issuance costs, partially offset by $9.9 million in accretion of discount on available-for-sale securities, $1.6 million in change in fair value of contingent consideration, $0.8 million in net income of equity method investment, $12.6 million in deferred income taxes.

The change in our net operating assets and liabilities of $24.8 million was primarily due to a $9.0 million increase in accounts receivable due to an increase in sales, and a $3.3 million increase in inventory driven by an increase in raw materials, work in progress, and finished goods inventory, and a $16.1 million decrease in accrued and other current liabilities, a $0.9 million decrease in lease liabilities, and partially offset by a $2.1 million decrease in prepaid expenses, a $1.4 million increase in long-term income tax liability, a $0.4 million decrease in other current assets, and a $0.4 million increase in accounts payable.

During the three months ended March 31, 2023, cash provided by operating activities was $34.0 million, attributable to a net income of $39.1 million and non-cash charges of $17.4 million, partially offset by a net change in our net operating assets and liabilities of $22.5 million. Non-cash charges of $17.4 million primarily consisted of $16.0 million in stock-based compensation, $1.7 million in depreciation and amortization, and $0.7 million in non-cash lease expense. The change in our net operating assets and liabilities of $22.5 million was primarily due to a $13.0 million increase in accounts receivable due to an increase in sales, a $7.8 million increase in inventory driven by an increase in raw materials and finished goods inventory, and a $6.7 million decrease in accrued and other current liabilities from payment of accrued bonuses and other compensation in the current quarter.

Investing activities

During the three months ended March 31, 2024, cash used in investing activities was $84.5 million, attributable to purchases of available-for-sale investments of $400.6 million, and purchases of property and equipment of $8.4 million, partially offset by proceeds from maturities of available-for-sale investments of $324.5 million.

During the three months ended March 31, 2023, cash provided by investing activities was $6.2 million, attributable to proceeds from maturities of available-for-sale investments of $34.5 million, partially offset by purchases of available-for-sale investments of $21.1 million and purchases of property and equipment of $7.2 million.

Financing activities

During the three months ended March 31, 2024, cash provided by financing activities was $5.0 million, attributable to proceeds of $4.3 million from the issuance of shares under our employee stock purchase plan and proceeds of $0.8 million from stock option exercises.

During the three months ended March 31, 2023, cash provided by financing activities was $83.4 million, attributable to proceeds of $80.0 million from debt financing, net of issuance costs, $3.1 million from the issuance of shares under our employee stock purchase plan, and proceeds of $0.3 million from stock option exercises.

Critical Accounting Policies and Estimates

Management's discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions for the reported amounts of assets, liabilities, revenue, expenses and related disclosures. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions and any such differences may be material.

There have been no significant changes in our critical accounting policies and assumptions associated with the greatest potential impact on our consolidated financial statements as disclosed in our 2023 Annual Report in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations."

Recent Accounting Pronouncements

See Note 2 "Summary of Significant Accounting Policies" of the Notes to Condensed Consolidated Financial Statements in Item 1 "Financial Statements and Supplementary Data" for additional information regarding recent accounting pronouncements, including the respective expected dates of adoption and estimated effects, if any, on our Condensed Consolidated Financial Statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

There have been no material changes to our quantitative and qualitative disclosures about market risk as compared to the quantitative and qualitative disclosures about market risk described in our 2023 Annual Report.

Item 4. Controls and Procedures.

Evaluation of disclosure controls and procedures

Our management, with the participation and supervision of our Chief Executive Officer and our Chief Financial Officer, have evaluated our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this Quarterly Report on Form 10-Q. Our disclosure controls and procedures are designed to provide reasonable assurance that the information we are required to file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure.

Based on that evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of the period covered by this Quarterly Report on Form 10-Q, our disclosure controls and procedures were not effective because of the material weakness in our internal control over financial reporting, previously reported in Item 9A of the 2023 Annual Report, which has not yet been remediated. The material weakness did not result in any material misstatements in our previously issued financial statements, in the financial statements included in the 2023 Annual Report, nor the financial statements in this Form 10-Q. Our management is committed to maintaining a strong internal control environment and, as previously described in Item 9A of the 2023 Annual Report, remediating this material weakness.

Notwithstanding the material weakness, management, including our Chief Executive Officer and Chief Financial Officer, believes the condensed consolidated financial statements included in this Quarterly Report on Form 10-Q fairly represent in all material respects our financial condition, results of operations and cash flows at and for the periods presented in accordance with U.S. GAAP.

Changes in internal control over financial reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Inherent limitation on the effectiveness of internal control

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our disclosure controls and procedures or our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

A petition for inter partes review ("IPR") of U.S. Pat. No. 8,956,371 (the "'371 patent"), which is one of our issued U.S. patents that relates to our current IVL technology, was filed on December 7, 2018 at the U.S. Patent and Trademark Office's (the "USPTO") Patent Trial and Appeal Board (the "PTAB") by Cardiovascular Systems, Inc. ("CSI"), which was acquired by Abbott Laboratories in April 2023. The PTAB instituted IPR proceedings for this patent and held oral hearings on April 15, 2020. On July 8, 2020, the PTAB ruled that one claim ("Claim 5") in the '371 patent is valid and ruled that all other claims in the '371 patent are invalid. We have filed an appeal of the PTAB rulings to the United States Court of Appeals for the Federal Circuit, and CSI has filed a cross-appeal to challenge the decision that Claim 5 of the '371 patent is valid. Accordingly, Claim 5 and all other claims remain valid and enforceable until all appeals have been exhausted. Upon the conclusion of such appeals, if we are unsuccessful in whole or in part, the '371 patent proceedings could result in the loss or narrowing in scope of the '371 patent, which could further limit our ability to stop others from using or commercializing products and technology similar or identical to ours.

For more information regarding the risks presented by such proceedings, please see the section of our 2023 Annual Report, titled "Risk Factors—Risks Related to Our Intellectual Property."

From time to time, we may become involved in various legal proceedings that arise in the ordinary course of our business. We have received, and may from time to time receive, letters from third parties alleging patent infringement, violation of employment practices or trademark infringement, and we may in the future participate in litigation to defend ourselves. We cannot predict the results of any such disputes, and despite the potential outcomes, the existence thereof may have an adverse material impact on us due to diversion of management time and attention as well as the financial costs related to resolving such disputes.

Item 1A. Risk Factors.

The following risk factors supplement and, to the extent inconsistent, supersede, the risk factors disclosed in Part I, Item 1A. "Risk Factors" of our 2023 Annual Report on Form 10-K for the year ended December 31, 2023 (the "2023 Annual Report"), filed with the Securities and Exchange Commission (the "SEC") on February 26, 2024. The risk factors included herein as well as the risk factors described in our 2023 Annual Report, and other information set forth in this Quarterly Report on Form 10-Q, could materially adversely affect our business, financial condition, results of operations and prospects, and should be carefully considered. The risks and uncertainties that we face, however, are not limited to those described herein or in the 2023 Annual Report. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business and the trading price of our securities.

RISKS RELATED TO BUSINESS

The announcement and pendency of our agreement to be acquired by Johnson & Johnson could have an adverse effect on our business.

On April 4, 2024, we entered into the Merger Agreement with Johnson & Johnson and Merger Sub, pursuant to which Johnson & Johnson has agreed to acquire us for $335.00 per share in cash. Uncertainty about the effect of the Merger on our customers, patients, employees, suppliers, vendors, business partners and distribution channels may have an adverse effect on our business and operations that may be material to our company. For example, our employees may experience uncertainty about their roles following the Merger. There can be no assurance we will be able to attract and retain key talent, including senior leaders, to the same extent that we have previously been able to attract and retain employees. Any loss or distraction of such employees could have a material adverse effect on our business and operations. In addition, we have diverted, and will continue to divert, significant management attention and resources towards the completion of the Merger, which could materially adversely affect our business and operations.

Moreover, our customers and patients may experience uncertainty associated with the Merger, including with respect to possible changes to our products, technology or policies. Similarly, our suppliers, vendors, business partners and distribution channels may experience uncertainty associated with the Merger, including with respect to current or future business relationships with us. Uncertainty may cause customers to refrain from purchasing our products and to instead purchase our competitors' products, and suppliers, vendors and business partners may seek to change existing business

relationships, which could result in an adverse effect on our business, operations and financial condition in a way that may be material to our company.

Pursuant to the terms of the Merger Agreement, until the Merger becomes effective or the Merger Agreement is terminated, we are subject to certain contractual restrictions on the conduct of our business, including in certain cases restrictions on our ability to enter into certain material contracts, acquire or dispose of assets outside of the ordinary course of business, incur indebtedness or make unbudgeted capital expenditures. These restrictions may prevent us from taking actions with respect to our business that we may consider advantageous, and result in our inability to respond effectively to competitive pressures and industry developments and may otherwise harm our business and operations.

The failure to complete the Merger could adversely affect our business.

Completion of the Merger is subject to conditions beyond our control that may prevent, delay or otherwise adversely affect its completion in a material way, including the approval of our stockholders and the expiration or termination of applicable waiting periods and the receipt of certain clearances under antitrust and competition laws. If the Merger or a similar transaction is not completed, the share price of our common stock may drop to the extent that the current market price of our common stock reflects an assumption that a transaction will be completed. In addition, under circumstances defined in the Merger Agreement, we may be required to pay Johnson & Johnson a termination fee of $448.0 million in event the Merger is not completed. Further, a failure to complete the Merger may result in negative publicity and a negative impression of us in the investment community. Any disruption to our business resulting from the announcement and pendency of the Merger and from intensifying competition from our competitors, including any adverse changes in our relationships with our customers, patients, suppliers, vendors and business partners could continue or accelerate in the event of a failure to complete the Merger. There can be no assurance that our business, these relationships or our financial condition will not be adversely affected, as compared to the condition prior to the announcement of the Merger, if the Merger is not consummated.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

On March 8, 2024, Trinh Phung, the Company's Senior Vice President of Finance, entered into a modification letter of pre-arranged written stock sale plan dated September 7, 2023, in accordance with Rule 10b5-1 (the "Phung 10b5-1 Modification") under the Exchange Act, for the sale of shares of the Company's common stock. The Phung 10b5-1 Modification was entered into during an open trading window in accordance with the Company's policies regarding transactions in the Company's securities and is intended to satisfy the affirmative defense of Rule 10b5-1(c) under the Exchange Act. The Phung 10b5-1 Modification provides for the potential sale of up to 15,318 shares of the Company's common stock, including upon the exercise of vested stock options for shares of the Company's common stock, less the number of shares sold to satisfy tax withholding obligations pursuant to the Company's "sell to cover" requirement, so long as the market price of the Company's common stock is higher than certain minimum threshold prices specified in the Phung 10b5-1 Modification, between June 7, 2024 and December 15, 2024. The number of shares to be sold to satisfy the Company's tax withholding obligations under the "sell-to-cover" arrangement is dependent on future events which cannot be known at this time, including the future trading price of the Company's common stock.

On March 13, 2024, Doug Godshall, the Company's Chief Executive Officer, terminated his pre-arranged written stock sale plan dated May 25, 2023, in accordance with Rule 10b5-1 under the Exchange Act, for the sale of shares of the Company's common stock.

Item 6. Exhibits.

Furnish the exhibits required by Item 601 of Regulation S-K (§ 229.601 of this chapter).

Exhibit Number	Description	Form	File No.	Exhibit(s)	Filing Date
2.1	Agreement and Plan of Merger, dated April 4, 2024, by and among Johnson & Johnson, Sweep Merger Sub, Inc. and Shockwave Medical, Inc.	8-K	001-38829	2.1	April 5, 2024
10.1†	Consulting Agreement with Dan Puckett.	10-K	001-38829	10.16	`` February 26, 2024
10.2†	Offer Letter with Renee Gaeta.	10-K	001-38829	10.17	`` February 26, 2024
10.3†	Retention Agreement with Isaac Zacharias.	8-K	001-38829	10.1	April 9, 2024
10.4†	Amended and Restated Non-Employee Director Compensation Policy.	10-K/A	001-38829	10.21	April 26, 2024
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1*#	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2*#	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS*	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				
101.SCH*	Inline XBRL Taxonomy Extension Schema Document				
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document				
101.PRE*	Inline Taxonomy Extension Presentation Linkbase Document				
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2024 has been formatted in Inline XBRL and contained in Exhibit 101				

† Indicates a management contract or compensatory plan or arrangement.
* Filed herewith.

This certification is deemed not filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Shockwave Medical, Inc.

Date: May 6, 2024 By: /s/ Douglas Godshall

Douglas Godshall
President, Chief Executive Officer & Director
(Principal Executive Officer)

Date: May 6, 2024 By: /s/ Trinh Phung

Trinh Phung
Senior Vice President of Finance
(Principal Accounting Officer)

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Douglas Godshall, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Shockwave Medical, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2024

By: /s/ Douglas Godshall

Douglas Godshall

President, Chief Executive Officer & Director
(*Principal Executive Officer*)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Renee Gaeta, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Shockwave Medical, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 6, 2024

By: /s/ Renee Gaeta

Renee Gaeta

Chief Financial Officer
(*Principal Financial Officer*)

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Shockwave Medical, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 6, 2024

By: /s/ Douglas Godshall

Douglas Godshall

President, Chief Executive Officer & Director
(*Principal Executive Officer*)

Exhibit 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Shockwave Medical, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2024 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 6, 2024

By: /s/ Renee Gaeta

Renee Gaeta

Chief Financial Officer
(*Principal Financial Officer*)