UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 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, 2019

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

For the transition period from _____to _____

Commission File No. 001-37406

CORINDUS VASCULAR ROBOTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**30-0687898**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
309 Waverley Oaks Rd., Suite 105, Waltham, MA 02452	**(508) 653-3335**
(Address of principal executive offices)	**(Registrant's Telephone Number)**

N/A
(Former name, former address and former fiscal year, if changed since last report)

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, a 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 ☒

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	CVRS	NYSE American

The number of shares outstanding of the issuer's common stock as of May 1, 2019 was 206,700,168.

CORINDUS VASCULAR ROBOTICS, INC.
UNAUDITED CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
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CORINDUS VASCULAR ROBOTICS, INC.
UNAUDITED CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 37,760	$ 23,849
Accounts receivable	3,861	4,599
Inventories	1,866	2,508
Prepaid expenses and other current assets	1,035	447
Total current assets	44,522	31,403
Property and equipment, net	1,793	1,779
Operating lease right-of-use asset	1,028	—
Deposits and other assets	317	343
Total assets	$ 47,660	$ 33,525
Liabilities, preferred stock and stockholders' equity (deficit)		
Current liabilities:		
Accounts payable	$ 2,627	$ 3,591
Accrued expenses	3,443	3,292
Deferred revenue	734	662
Current portion of long-term debt	1,981	1,011
Current portion of operating lease liability	580	—
Current portion of finance lease liability	58	56
Total current liabilities	9,423	8,612
Long-term liabilities		
Deferred revenue, net of current portion	362	285
Long-term debt, net of current portion	12,194	10,774
Long-term operating lease liability, net of current portion	542	—
Long-term finance lease liability, net of current portion	31	46
Other liabilities	—	62
Total long-term liabilities	13,129	11,167
Total liabilities	22,552	19,779
Commitments and contingencies		
Preferred stock:		
Series A convertible preferred stock, $0.0001 par value; 1,000,000 shares designated, issued and outstanding at March 31, 2019 and December 31, 2018	20,564	20,564
Series A-1 convertible preferred stock, $0.0001 par value; 1,000,000 shares designated and 100,400 shares issued and outstanding at March 31, 2019 and 70,400 shares issued and outstanding at December 31, 2018	3,135	2,388
Total preferred stock	23,699	22,952
Stockholders' equity (deficit):		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized; 2,000,000 shares designated at March 31, 2019 and December 31, 2018	—	—
Common stock, $0.0001 par value; 350,000,000 shares authorized; 206,629,648 and 191,731,152 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	21	19
Additional paid-in capital	226,455	206,165
Accumulated deficit	(225,067)	(215,390)
Total stockholders' equity (deficit)	1,409	(9,206)
Total liabilities, preferred stock and stockholders' equity (deficit)	$ 47,660	$ 33,525

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

CORINDUS VASCULAR ROBOTICS, INC.
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(In thousands, except share and per share amounts)

	Three Months Ended March 31,	
	2019	**2018**
Revenue	$ 3,036	$ 1,485
Cost of revenue	2,414	1,929
Gross profit (loss)	622	(444)
Operating expenses:		
Research and development	2,876	2,135
Selling, general and administrative	7,147	7,455
Total operating expense	10,023	9,590
Operating loss	(9,401)	(10,034)
Other income (expense)		
Warrant revaluation	—	30
Interest, net	(270)	(44)
Other, net	(6)	(2)
Total other income (expense), net	(276)	(16)
Net loss	$ (9,677)	$ (10,050)
Accretion of beneficial conversion feature of Series A preferred stock	—	(5,236)
Dividends on preferred stock	(747)	(125)
Net loss attributable to common stockholders	$ (10,424)	$ (15,411)
Net loss per share attributable to common stockholders--basic and diluted	$ (0.05)	$ (0.08)
Weighted-average common shares used in computing net loss per share attributable to common stockholders--basic and diluted	196,691,907	188,771,216
Comprehensive loss	$ (9,677)	$ (10,050)

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

CORINDUS VASCULAR ROBOTICS, INC.
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)
(In thousands, except share and per share amounts)

	Preferred Stock		Common Stock, $0.0001 Par Value		Additional Paid-in Capital	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount			
Balance at December 31, 2018	1,070,400	$ 22,952	191,731,152	$ 19	$ 206,165	$ (215,390)	$ (9,206)
Stock-based compensation expense	—	—	—	—	963	—	963
Issuance of common stock in connection with private placement, net of issuance costs of $314	—	—	14,384,840	1	19,530	—	19,531
Issuance of warrants in connection with private placement	—	—	—	—	440	—	440
Accrued dividends on Series A preferred stock	—	625	—	—	(625)	—	(625)
Issuance of Series A-1 preferred stock as dividends on Series A preferred stock	30,000	122	—	—	(122)	—	(122)
Issuance costs in connection with at-the-market offering	—	—	—	—	(71)	—	(71)
Issuance of common stock upon vesting of restricted stock units	—	—	83,735		—	—	—
Issuance of common stock upon exercise of stock options	—	—	413,292	1	160	—	161
Issuance of common stock to non-employee directors	—	—	16,629	—	15	—	15
Net loss	—	—	—	—	—	(9,677)	(9,677)
Balance at March 31, 2019	1,100,400	$ 23,699	206,629,648	$ 21	$ 226,455	$ (225,067)	$ 1,409
Balance at December 31, 2017	—	$ —	188,764,851	$ 19	$ 198,337	$ (180,841)	$ 17,515
Cumulative effect of a change in accounting principle	—	—	—	—	—	440	440
Stock-based compensation expense	—	—	—	—	674	—	674
Issuance of Series A preferred stock in connection with private placement, net of issuance costs of $329	1,000,000	20,564	—	—	—	—	—
Issuance of warrants in connection with private placement	—	—	—	—	4,108	—	4,108
Beneficial conversion feature of Series A preferred stock	—	(5,236)	—	—	5,236	—	5,236
Accretion of beneficial conversion feature of Series A preferred stock	—	5,236	—	—	(5,236)	—	(5,236)
Accrued dividends on Series A preferred stock	—	125	—	—	(125)	—	(125)
Issuance of common stock upon vesting of restricted stock units	—	—	17,190	—	—	—	—
Net loss	—	—	—	—	—	(10,050)	(10,050)
Balance at March 31, 2018	1,000,000	$ 20,689	188,782,041	$ 19	$ 202,994	$ (190,451)	$ 12,562

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

CORINDUS VASCULAR ROBOTICS, INC.
UNAUDITED CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Three Months Ended March 31,	
	2019	**2018**
Operating activities		
Net loss	$ (9,677)	$ (10,050)
Adjustments to reconcile net loss to net cash flows used in operating activities:		
Depreciation and amortization	193	163
Stock-based compensation expense	978	674
Accretion of interest expense	98	16
Write down of inventories	—	192
Warrant liability revaluation	—	(30)
Changes in operating assets and liabilities:		
Accounts receivable	738	854
Prepaid expenses and other current assets	(588)	(117)
Inventories	531	(1,325)
Operating lease right-of use asset, deposits and other assets	6	11
Accounts payable, accrued expenses and other liabilities	(1,004)	(309)
Customer deposits	—	2
Deferred revenue	149	10
Net cash used in operating activities	(8,576)	(9,909)
Investing activities		
Purchase of property and equipment	(85)	(41)
Net cash used in investing activities	(85)	(41)
Financing activities		
Proceeds from issuance of common stock, net of issuance costs	19,692	—
Proceeds from issuance of long term debt and warrants, net of deferred financing costs and discounts	2,732	11,645
Proceeds from issuance of Series A preferred stock and warrants, net of issuance costs	—	24,809
Proceeds from exercise of stock options	161	—
Payments on finance lease liability	(13)	(11)
Net cash provided by financing activities	22,572	36,443
Net increase in cash and cash equivalents	13,911	26,493
Cash and cash equivalents at beginning of period	23,849	17,458
Cash and cash equivalents at end of period	$ 37,760	$ 43,951
Supplemental Disclosure of Cash Flow Information:		
Accrued dividends on Series A preferred stock	$ 625	$ 125
Fair value of warrants issued with long-term debt	$ 440	$ 210
Interest paid	$ 303	$ 27
Financing costs included in accounts payable and accrued expenses	$ 232	$ 19
Issuance of Series A-1 preferred stock as dividends on Series A preferred stock	$ 122	$ —
Transfer from inventories to property and equipment in the field	$ 111	$ 196
Fair value of warrants issued with Series A preferred stock	$ —	$ 4,162
Deferred offering costs in accounts payable and accrued expenses	$ —	$ 138

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

Note 1 Nature of Operations

The Company

Corindus Vascular Robotics, Inc. (the "Company"), a Delaware corporation, has its corporate headquarters, manufacturing and research and development facility in Waltham, Massachusetts and the Company is engaged in the design, manufacture and sales of precision vascular robotic-assisted systems ("CorPath System") for use in interventional vascular procedures.

The Company's future capital requirements will depend upon many factors, including progress with developing, manufacturing and marketing its technologies, the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims and other proprietary rights, its ability to establish collaborative arrangements, marketing activities and competing technological and market developments, including regulatory changes affecting medical procedure reimbursement, and overall economic conditions in the Company's target markets.

Liquidity

On February 26, 2019, the Company consummated a private placement offering with a large institutional investor consisting of the sale of 10,872,716 shares of the Company's common stock, at a price of $1.3796 per share (the "Private Placement"). On March 12, 2019, the Company consummated a second closing to the Private Placement with certain existing stockholders entitled to preemptive rights in connection with the initial closing of the Private Placement, consisting of the sale of 3,512,124 shares of the Company's common stock, at the same price and on the same terms as the initial closing of the Private Placement, through the exercise of such preemptive rights and the purchase of certain additional shares. The aggregate gross proceeds from both closings of the Private Placement was $19,845 and the aggregate net proceeds was $19,531.

On March 14, 2019, the Company amended its financing arrangement with its two lenders to add an additional term loan of $2,750, all of which was outstanding principal as of March 31, 2019. The $2,750 term loan is interest only through April 1, 2020 after which the principal will be due in twenty-four consecutive monthly payments. Refer to Note 5 for additional disclosure.

In August 2018, the Company entered into a Sales Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen") with respect to an at-the-market offering program (the "Offering") under which the Company may offer and sell, from time to time at its sole discretion, shares of its common stock having an aggregate offering price of up to $30,000 (the "Placement Shares") through Cowen as its sales agent. The issuance and sale of the Placement Shares by the Company under the Sales Agreement will be made pursuant to its effective "shelf" registration statement on Form S-3 and an accompanying base prospectus contained therein (Registration Statement No. 333-2217344) filed with the Securities and Exchange Commission (the "Commission") on April 17, 2017, and declared effective on May 1, 2017. The Company filed a prospectus supplement (the "Prospectus Supplement"), dated August 31, 2018, with the Commission in connection with the offer and sale of the shares pursuant to the Sales Agreement.

Cowen may sell the Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act of 1933, as amended. The Company will pay Cowen a commission equal to 3% of the gross sales proceeds of any Placement Shares sold through Cowen under the Sales Agreement. During the three months ended March 31, 2019, the Company did not sell any shares of common stock pursuant to the Sales Agreement. The Company is not obligated to make any sales of common stock under the Sales Agreement and cannot provide any assurances that it will issue any additional shares pursuant to the Sales Agreement. The offering of Placement Shares pursuant to the Sales Agreement will terminate upon the earlier of (i) the sale of all Placement Shares subject to the Sales Agreement or (ii) termination of the Sales Agreement in accordance with its terms.

The Company has incurred losses since inception and has funded its cash flow deficits primarily through the issuance of capital stock and debt. As of March 31, 2019, the Company had an accumulated deficit of $225,067. As of March 31, 2019, the Company had cash and cash equivalents of $37,760 and working capital of $35,099. The Company has evaluated whether or not its cash and cash equivalents on hand and the cash proceeds from the financing activities described above would be sufficient to sustain projected operating activities through May 8, 2020 as required by Accounting Standards Codification (ASC) 205-40 Disclosure of Uncertainties About an Entity's Ability to Continue as a Going Concern. Based on the Company's current forecast of annual cash flow deficits the Company will not have sufficient resources to meet its cash requirements through May 8, 2020.

Management has considered its plans to alleviate its projected cash deficit at May 8, 2020 and the probability and effectiveness of such plans eliminating its projected cash deficit at May 8, 2020. In the event the Company does not achieve the year to date plan revenue by the third quarter of 2019 or obtain additional financing, the Company will undertake any or all of the following activities to reduce its cash flow deficits:

- Eliminate or defer the 2019 discretionary bonus payouts for all bonus eligible employees, including executive management;
- Reduce spending on prototypes and clinical trials;
- Eliminate planned headcount additions in research and development;
- Defer or limit some or all spending on capital equipment planned; or
- Reduce employee travel and entertainment expenses, external consulting resources and its presence at tradeshows.

It is probable that the above activities can be effectively implemented by management and it is probable that the plans will eliminate the cash deficit at May 8, 2020 such that the Company has the ability to continue as a going concern one year from May 8, 2019. As a result, management believes its plans can be effectively implemented, if required.

As the Company continues to incur losses and cash flow deficits, its transition to profitability is dependent upon achieving a level of revenues adequate to support its cost structure, but the Company will otherwise rely on additional capital funding until such time as that is achieved. The Company may never achieve profitability, and unless and until doing so, the Company intends to fund future operations through additional non-dilutive or dilutive financings. There can be no assurances, however, that additional funding will be available on terms acceptable to the Company, if at all.

Note 2 Significant Accounting Policies

Basis of Presentation

In the opinion of management, the accompanying unaudited condensed consolidated financial statements include all adjustments, consisting of normal recurring adjustments, necessary for a fair presentation of the Company's financial statements for interim periods in accordance with accounting principles generally accepted in the United States ("U.S. GAAP"). The information included in this quarterly report on Form 10-Q should be read in conjunction with the audited consolidated financial statements and the accompanying notes included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 ("2018 Form 10-K"). The Company's accounting policies are described in the " *Notes to Consolidated Financial Statements* " in the 2018 Form 10-K and are updated, as necessary, in this Form 10-Q. The year-end condensed consolidated balance sheet data presented for comparative purposes was derived from the audited financial statements but does not include all disclosures required by U.S. GAAP. The results of operations for the three months ended March 31, 2019 are not necessarily indicative of the operating results for the full year or for any other subsequent interim period.

Principles of Consolidation

The condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries, Corindus, Inc. and Corindus Security Corporation. All intercompany transactions and balances have been eliminated in consolidation. The functional currency of both wholly-owned subsidiaries is the U.S. dollar and, therefore, the Company has not recorded any currency translation adjustments.

In the fourth quarter of 2014, the Company participated in the formation of a not-for-profit, which was established to generate awareness of the health risks linked to the use of fluoroscopy in hospital catheterization. As of March 31, 2019, the Company's Chief Executive Officer and one of its senior executives represented two of the three Company's voting members of the board of directors of the entity. As a result, under the voting model used for the consolidation of related parties, which are controlled by a company, the Company has consolidated the financial statements of the entity, and recognized expenses of $6 and $5 for the three months ended March 31, 2019 and 2018, respectively. The entity had assets and liabilities of $40 and $11, respectively, on the Company's consolidated balance sheet at March 31, 2019 and assets and liabilities of $33 and $1, respectively, on the Company's consolidated balance sheet at December 31, 2018.

Segment Information

The Company operates in one business segment, which is the design, manufacture and sale of precision vascular robotic-assisted systems for use in interventional vascular procedures. Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. To date, the chief operating decision-maker has made such decisions and assessed performance at the Company level, as one segment. The Company's chief operating decision-maker is the Chief Executive Officer.

(In thousands, except share and per share amounts)

Use of Estimates

The process of preparing financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of assets and liabilities at the date of the financial statements. Such management estimates include those relating to revenue recognition, inventory valuation, assumptions used in the valuation of the Company's preferred stock and warrants, valuation of stock-based awards, and valuation allowances against deferred income tax assets. Actual results could differ from those estimates.

Significant Customers

The table below sets forth the Company's customers that accounted for greater than 10% of its revenues for the three-month periods ended March 31, 2019 and 2018, respectively:

	Three months ended March 31,	
Customer	**2019**	**2018**
A	25%	—%
B	17%	—%
C	17%	—%
D	11%	—%
E	10%	—%
F	—%	47%
G	—%	34%

Customers A, B, and E accounted for 22%, 13%, and 11% respectively, of the Company's accounts receivable balance at March 31, 2019. Given the current revenue levels, in a period in which the Company sells a system, that customer is likely to represent a significant customer.

Revenues from domestic customers were $2,611 and $1,431 for the three months ended March 31, 2019 and 2018, respectively. Revenues from international customers were $425 and $54 for the three months ended March 31, 2019 and 2018, respectively.

Off-Balance Sheet Arrangements

The Company has no significant off-balance sheet risk such as foreign exchange contracts, option contracts, or other hedging arrangements.

Fair Value Measurements

In accordance with ASC 820, Fair Value Measurements and Disclosures, the Company generally defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (exit price). The Company uses a three-tier fair value hierarchy, which classifies the inputs used in measuring fair values. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to unobservable inputs (Level 3 measurements). The three levels of the fair value hierarchy are described below:

- ***Level 1*** - inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date.

- ***Level 2*** - inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability.

- ***Level 3*** - inputs are unobservable inputs for the asset or liability in which there is little, if any, market activity for the asset or liability at the measurement date.

The Company had one item, cash equivalents, measured at fair value on a recurring basis totaling $37,001 and $23,849 at March 31, 2019 and December 31, 2018, respectively, which were valued based on Level 1 inputs.

The Company's financial instruments of deposits and other assets are carried at cost and approximate their fair values given the liquid nature of such items. The fair value of the Company's long-term debt and finance lease obligation approximates their carrying values due to their recent negotiation and variable market rate for the long-term debt.

Cash Equivalents

The Company considers highly liquid short-term investments, which consists of money market funds, to be cash equivalents. From time to time, the Company's cash balances may exceed federal deposit insurance limits.

Inventories

Inventories are valued at the lower of cost or net realizable value using the first-in, first-out (FIFO) method. The Company routinely monitors the recoverability of its inventory and reduces the carrying value based on current selling prices and evaluates potential excess and obsolete inventories based on historical and forecasted usage, as required. Scrap and excess manufacturing costs are charged to cost of revenue as incurred and not capitalized as part of inventories. The Company only capitalizes pre-launch inventories when purchased for commercial use and it deems regulatory approval to be probable.

Leases

The Company determines if an arrangement is a lease at inception. Leases with an initial term of 12 months or less are not recorded on the balance sheet. The Company recognizes lease expense for these leases on a straight-line basis over the lease term. The Company has elected not to separate non-lease components from all classes of its existing leases. Non-lease components have been accounted for as part of the single lease component to which they are related. The Company utilizes its incremental borrowing rate as the basis to calculate the present value of future lease payments at lease commencement. The Company's incremental borrowing rate represents the rate the Company would have to pay to borrow funds on a collateralized basis over a similar term and in a similar economic environment.

Revenue Recognition

The Company generates revenues primarily from the sale of the CorPath System, CorPath Cassettes, accessories and service contracts. Revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration which the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements that are within the scope of the revenue recognition accounting standard, the Company performs the following five steps: (i) identifies the contract with a customer; (ii) identifies the performance obligations in the contract; (iii) determines the transaction price; (iv) allocates the transaction price to the performance obligations in the contract; and (v) recognizes revenue when (or as) the entity satisfies a performance obligation. The Company only applies the five-step model to contracts when it is probable that it will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, the Company assesses the goods or services promised within each contract, and determines those that are performance obligations and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products or services to a customer. To the extent the transaction price includes variable consideration, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing the expected value method to which it expects to be entitled. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur. Estimates of variable consideration and determination of whether to include estimated amounts in the transaction price are based largely on an assessment of the Company's anticipated performance and all information (historical, current and forecasted) that is reasonably available. Sales, value add, and other taxes collected on behalf of third parties are excluded from revenue.

When determining the transaction price of a contract, an adjustment is made if payment from a customer occurs either significantly before or significantly after performance, resulting in a significant financing component. The Company does not assess whether a significant financing component exists if the period between when it performs its obligations under the contract and when the customer pays is one year or less. For contracts where the period between performance and payment is greater than one year, the Company assesses whether a significant financing component exists, by applying a discount rate to the expected cash collections. If this difference is significant, the Company will conclude that a significant financing component exists. The Company identified a small number of contracts where the period between performance and payment was greater than one year; however, none of the Company's contracts contained a significant financing component as of March 31, 2019.

Contracts that are modified to account for changes in contract specifications and requirements are assessed to determine if the modification either creates new or changes the existing enforceable rights and obligations. Generally, contract modifications are for products or services that are not distinct from the existing contract due to the inability to use, consume or sell the products or services on their own to generate economic benefits and are accounted for as if they were part of that existing contract. The effect of a contract modification on the transaction price and measure of progress for the performance obligation to which it relates, is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) on a cumulative catch-up basis.

Revenue is generally recognized when the customer obtains control of the Company's product, which occurs at a point in time, and may be upon shipment or upon delivery based on the contractual shipping terms of a contract, or upon installation when the combined performance obligation is not distinct within the context of the contract. Service revenue is generally recognized over time as the services are delivered to the customer based on the extent of progress towards completion of the performance obligation. The selection of the method to measure progress towards completion requires judgment and is based on the nature of the products or services to be provided. Services are expected to be delivered to the customer throughout the term of the contract and the Company believes recognizing revenue ratably over the term of the contract best depicts the transfer of value to the customer.

If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. The Company enters into certain contracts that have multiple performance obligations, one or more of which may be delivered subsequent to the delivery of other performance obligations. These performance obligations may include installation, training, maintenance and support services, cassettes, and accessories. The Company allocates the transaction price based on the estimated relative standalone selling prices of the promised products or services underlying each performance obligation. The Company determines standalone selling prices based on the price at which the performance obligation is sold separately. If the standalone selling price is not observable through past transactions, the Company estimates the standalone selling price considering available information such as market conditions and internally approved pricing guidelines related to the performance obligations. Revenue is then allocated to the performance obligations using the relative selling prices of each of the performance obligations in the contract.

Deferred Revenue

The Company records deferred revenues when cash payments are received or due in advance of performance. Amounts received prior to satisfying the related performance obligations are recorded as deferred revenue in the accompanying balance sheets.

The Company's contract liabilities consist of advance payments and billings in excess of revenue recognized (deferred revenues and customer deposits). The Company's contract assets and liabilities are reported in a net position on a contract-by-contract basis at the end of each reporting period. The Company classifies deferred revenue as current or noncurrent based on the timing of when it expects to recognize revenue. In order to determine revenue recognized in the period from contract liabilities, the Company first allocates revenue to the individual contract liability balance outstanding at the beginning of the period until the revenue exceeds that balance. If additional advances are received on those contracts in subsequent periods, the Company assumes all revenue recognized in the reporting period first applies to the beginning contract liability as opposed to a portion applying to the new advances for the period.

Contract Assets

Contract assets include unbilled amounts primarily for maintenance and support service and future cassette purchases where revenue recognized exceeds the amount billed to the customer, and the Company's right to bill is not until the maintenance and support service period commence or the cassettes are delivered. Amounts may not exceed their net realizable value. Short-term contract assets are included in prepaid expenses and other current assets on the Company's consolidated balance sheets. Long-term contract assets are included in deposits and other assets on the Company's consolidated balance sheets.

(In thousands, except share and per share amounts)

Deferred Contract Costs

The Company's incremental direct costs of obtaining a contract, which consist of sales commissions, are deferred and amortized over the period of contract performance. Capitalized commissions are amortized based on the transfer of the products or services to which the assets relate. Applying the practical expedient, the Company recognizes sales commission expense when incurred if the amortization period of the assets that it otherwise would have recognized is one year or less. These costs are included in selling, general, and administrative expenses. Short-term deferred contract costs are included in prepaid expenses and other current assets on the Company's consolidated balance sheets. Long-term deferred contract costs are included in deposits and other assets on the Company's consolidated balance sheets. The Company accounts for shipping and handling activities related to contracts with customers as costs to fulfill the promise to transfer the associated products.

Warrants to Purchase Common Stock

The Company classifies warrants within stockholders' equity (deficit) on the condensed consolidated balance sheets if the warrants are considered to be indexed to the Company's own capital stock, and otherwise would be recorded in stockholders' equity (deficit). Warrants to purchase common stock issued in connection with the Company's amended financing arrangement met these criteria and therefore were equity classified.

The table below is a summary of the Company's warrant activity during the three months ended March 31, 2019:

	Number of Warrants	Weighted Average Exercise Price
Outstanding at December 31, 2018	9,246,315	$ 1.40
Granted	300,000	$ 1.38
Exercised	—	$ —
Expired	—	$ —
Outstanding at March 31, 2019	9,546,315	$ 1.40

Stock-Based Compensation

The Company adopted Accounting Standards Update ("ASU") 2018-07, Stock-based Compensation: Improvements to Nonemployee Share-based Payment Accounting, effective July 1, 2018. Subsequent to the adoption of ASU 2018-07, the Company recognizes compensation costs resulting from the issuance of "service-based" awards to employees, non-employees and directors as an expense in the consolidated statements of operations over the requisite service period based on a measurement of fair value for each stock award. The awards issued to date have primarily been stock options with service-based vesting periods over two or four years, restricted stock units with service-based vesting periods of one year, and shares of common stock. Prior to the adoption of ASU 2018-07, the Company recognized compensation costs resulting from the issuance of stock-based awards to non-employees as an expense in the consolidated statements of operations over the service period based on a measurement of fair value for each stock award at each performance date and period end.

Upon vesting of the restricted stock units, the Company issues shares of its common stock which have a required holding period of 36 months from the date of grant of the restricted stock unit. As a result, the Company values the restricted stock units based on the closing price of the Company's common stock on the date of grant less a discount for lack of marketability during the holding period.

During 2018, the Company issued certain stock-based awards that contain both market and service-based vesting conditions. Each of these stock-based awards is contingent on the recipient still providing services to the Company or its affiliates on the date of such achievement. Portions of the awards vest upon the Company's stock price achieving certain targets for a period of at least twenty consecutive trading days at any time before May 31, 2021. The Company estimated the fair value of these market condition stock-based awards using a Monte Carlo simulation model, which involves a series of random scenarios that may take different future price paths over the award's contractual life. The grant date fair value was determined by taking the average of the grant date fair values under each of many Monte Carlo simulations. The determination of the fair value is affected by the Company's stock price, as well as assumptions regarding a number of complex and subjective variables including its expected stock price volatility over the expected term of the awards, and risk-free interest rate. The total number of shares of common stock that are subject to issuance under these market condition stock-based awards is 5,183,322 shares. The Company records expense on these stock-based awards ratably over the expected term of the award.

Research and Development

Costs for research and development are expensed as incurred. Research and development expense consists primarily of salaries, salary-related expenses and costs of contractors and materials. Cash receipts from collaboration agreements accounted for under ASC 808, Collaborative Arrangements, are netted against the related research and development expenses in the period received and totaled $0 and $145 for the three months ended March 31, 2019 and 2018, respectively.

Income Taxes

The Company accounts for income taxes using the liability method, whereby deferred tax asset and liability account balances are determined based on differences between financial reporting and tax basis of assets and liabilities and are measured using the enacted tax rates that will be in effect when the differences are expected to reverse. The Company provides a valuation allowance to reduce deferred tax assets to amounts that are realizable. Consistent with all prior periods, the Company did not record any income tax benefit for its operating losses for the three months ended March 31, 2019 and 2018 due to the uncertainty regarding future taxable income.

Net Loss per Share

Basic net loss per share is computed using the weighted-average number of common shares outstanding during the period. Diluted net loss per share is computed using the sum of the weighted-average number of common shares outstanding during the period and, if dilutive, the weighted-average number of potential common shares, including the assumed exercise of share options.

The Company applies the two-class method to calculate its basic and diluted net loss per share attributable to common stockholders, as its Series A and Series A-1 preferred shares are participating securities. The two-class method is an earnings allocation formula that treats a participating security as having rights to earnings that otherwise would have been available to common stockholders. However, for the periods presented, the two-class method does not impact the net loss per common share as the Company was in a net loss position for each of the periods presented and holders of Series A and Series A-1 preferred shares do not participate in losses.

The Company's Series A and Series A-1 preferred shares contractually entitle the holders of such shares to participate in dividends but do not contractually require the holders of such shares to participate in losses of the Company. Accordingly, for periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders, since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive.

Recently Adopted Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (the "FASB") issued ASU 2016-02, Leases (ASC 842), which was amended by ASU 2018-11, Leases (ASC 842): Targeted Improvements. The new guidance requires lessee recognition on the balance sheet of a right-of-use (ROU) asset and a lease liability, initially measured at the present value of the lease payments. It further requires recognition in the income statement of a single lease cost, calculated so that the cost of the lease is allocated over the lease term generally on a straight-line basis. Finally, it requires classification of all cash payments within operating activities in the statement of cash flows. The standard is effective for public companies for fiscal years beginning after December 15, 2018 and early adoption is permitted. The Company adopted this standard on January 1, 2019 using the prospective adoption approach as described under ASC 842. Results for reporting periods beginning January 1, 2019 are presented under ASC 842 while prior periods were not adjusted and continue to be reported in accordance with the Company's historic accounting under ASC 840, Leases.

As allowed by ASC 842, the Company has elected the hindsight practical expedient to determine the lease term for existing leases. This practical expedient enables an entity to use hindsight in determining the lease term when considering options to extend and terminate leases as well as purchase the underlying assets. The Company also elected the package of practical expedients that provide no need to reassess whether any expired or existing contracts contain a lease, the related lease classification for such expired or expiring leases, and the initial direct costs for existing leases.

(In thousands, except share and per share amounts)

Adoption of this standard resulted in the recording of right-of-use asset and lease liabilities of approximately $1,177 and $1,280, respectively, as of January 1, 2019. The difference between the right-of-use asset and the operating lease liability represents the amount of deferred rent previously recorded in accrued expenses and other liabilities for $41 and $62, respectively, at December 31, 2018 which was removed from the condensed consolidated financial statements upon adoption of this standard. The adoption of the standard did not materially impact the Company's consolidated results of operations and had no impact on cash flows.

Note 3 Inventories

Inventories are valued at the lower of cost or net realizable value using the FIFO method and consist of the following:

	March 31, 2019	December 31, 2018
Raw material	$ 834	$ 1,036
Work in progress	615	348
Finished goods	417	1,124
Total	$ 1,866	$ 2,508

The Company had no inventory write downs during the three months ended March 31, 2019, and for the three months ended March 31, 2018, the Company wrote down $192 to properly state amounts at the lower of cost or net realizable value.

Note 4 Leases

The Company has an operating lease for approximately 26,402 square feet at its corporate headquarters and manufacturing plant in Waltham, Massachusetts, which expires in January 2021. The lease terms include escalating rent payments over the life of the lease and rent expense is recognized over the life of the lease on a straight-line basis. The lease contains certain variable lease payments. Variable payments based on the change in an index or rate, or payments based on a change in the Company's portion of the operating expenses, including real estate taxes, are recorded as a period expense when incurred.

In connection with the lease, the Company is required to maintain a security deposit with its landlord. The security deposit is approximately $134 at both March 31, 2019 and December 31, 2018 and is included in deposits and other assets in the accompanying condensed consolidated balance sheets. The lease contains an option to extend the term for an additional five years. The exercise of the lease renewal options is at the sole discretion of the Company. The amounts disclosed in the condensed consolidated balance sheet pertaining to right-of-use assets and lease liabilities are measured based on management's current expectations regarding the renewal option. Amounts included on the Company's condensed consolidated balance sheet as operating lease right-of-use assets and operating lease liabilities relate to this lease.

The Company also has a finance lease covering office furniture and carpeting, which expires in November 2020. Finance lease assets are included in property and equipment while the related finance lease liabilities are separately presented on the condensed consolidated balance sheets.

The components of lease cost for operating and finance leases for the three months ended March 31, 2019 are as follows:

Operating lease:	
Lease cost	$ 156
Variable lease cost	1
Operating lease expense	157
Finance lease:	
Amortization of right-of-use assets	13
Interest on lease liability	3
	16
Total lease cost	$ 173

(In thousands, except share and per share amounts)

Other lease data is as follows:

	March 31, 2019
Weighted-average remaining lease term (years)	
Operating lease	1.8
Finance lease	1.7
Weighted-average discount rate	
Operating lease	10.6%
Finance lease	13.6%

Supplemental cash flow information related to the Company's leases are as follows:

	Three months ended March 31, 2019
Operating lease payments classified as cash used in operating activities, excluding variable lease costs	$ 165
Financing lease payments classified as cash used in financing activities	13
Financing lease payments classifieds as cash used in operating activities	3

Future minimum lease payments under non-cancellable leases as of March 31, 2019 are as follows:

	Operating Leases	Finance Leases	Total
2019	$ 498	$ 50	$ 548
2020	680	49	729
2021	57	—	57
Total lease payments	$ 1,235	$ 99	$ 1,334
Less: Interest	(113)	(10)	(123)
Present value of lease liabilities	$ 1,122	$ 89	$ 1,211

Note 5 Long-Term Debt

On March 16, 2018 (the "Initial Effective Date"), the Company completed a financing arrangement (the "Loan Agreement") with Silicon Valley Bank and Solar Capital Ltd. (the "Lenders") which provided for borrowings of up to $26,000 in the form of up to $23,000 in term loans and up to a $3,000 revolving line-of-credit through March 2022. The Company received $12,000 in proceeds under the term loan facility during 2018 and no proceeds under the revolving loan facility during 2018 or 2019. As of December 31, 2018, the Company had not achieved the gross profit or equity financing milestones required to draw on the additional $11,000 that had been available under the term loan. Therefore, these term loans are no longer available. The revolving line-of-credit also has various covenants which restrict its availability and for which the Company currently does not meet such restrictions.

On March 14, 2019, the Company entered into the first amendment (the "Amendment") to the Loan Agreement by and among the Lenders, dated March 16, 2018 (the "Amendment Effective Date"). The Amendment provides the Company with an additional term loan of $2,750, all of which was outstanding principal as of March 31, 2019.

In connection with the Amendment, the Company issued the lenders warrants (the "Warrants") to purchase an aggregate of 300,000 shares of the Company's common stock, at an exercise price of $1.3796, subject to adjustment for stock splits, stock dividends, combinations or similar events. The Warrants may be exercised for cash or on a cashless basis. The Company estimated the fair value of the warrants at issuance using the Black-Scholes Model based on the estimated market value of the underlying common stock at the valuation measurement date, the remaining contractual term of the warrants, risk-free interest rates, expected dividends and expected volatility of the price of the underlying common stock. The fair value of these warrants was determined based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

(In thousands, except share and per share amounts)

The Company used the following assumptions for the valuation of these warrants at the issuance date.

Risk-free interest rate	2.6%
Dividend yield	0.0%
Expected volatility	79.4%
Expected term (years)	10.0

Term Loans .

As of March 31, 2019, the Company had $14,750 in principal outstanding under the term loan facilities and $0 in principal outstanding under the revolving loan facility. The initial term loan was made on March 16, 2018 in the amount of $12,000 ("Initial Term Loan") and the Amendment provides the Company with an additional term loan of $2,750 (the "2019 Term Loan"). The Initial Term Loan is repayable in equal monthly installments of principal and interest over 30 months beginning on October 1, 2019, and prior to October 1, 2019, the Company is required to make interest only payments. The 2019 Term Loan is repayable in equal monthly installments of principal and interest over 24 months beginning on April 1, 2020, and prior to April 1, 2020, the Company is required to make interest only payments. All unpaid principal and accrued and unpaid interest with respect to both term loans are due and payable in full during March of 2022.

Both the Initial Term Loan and the 2019 Term Loan (collectively, the "Term Loans") bear interest at a rate equal to the greater of (a) the ICE Benchmark LIBOR Rate plus 7.25% or (b) 8.83%. The interest rate in effect on the Term Loans was 9.74% at March 31, 2019.

All of the facilities are secured by substantially all of the Company's personal property other than the Company's intellectual property. Both loan facilities include customary affirmative and negative covenants. At the Company's option, the Company may prepay the outstanding principal balance of Term Loans in whole but not in part, subject to a prepayment fee of 2.5% of any amount prepaid if the prepayment occurs through and including the first anniversary of the Term Loan's respective issuance date, 1.5% of the amount prepaid if the prepayment occurs after the first anniversary of the Term Loan's respective issuance date being issued through and including the second anniversary of the term loan being issued, or 1.0% of the amount prepaid if the prepayment occurs after the second anniversary of the Term Loans effective date through and including the third anniversary of the Term Loan's respective issuance date.

For the Initial Term Loan and the 2019 Term Loan, the Company is also required to make final payments of $720 and $165, respectively, to the lenders equal to 6.0% of the original principal amount of Term Loans funded. The Company recognizes the final payment using the effective interest method over the term of each term loan. The final payments are included within long term debt on the consolidated balance sheet. As of March 31, 2019, $236 of the discount on the final payment has been accreted.

Revolving Loan Facility.

The Company also has a revolving line of credit with the lenders, pursuant to which the lenders agreed to make a revolving line of credit available to the Company in an aggregate amount of up to the lesser of (i) $3,000 or (ii) a borrowing base equal to 80% of the Company's eligible accounts receivable. The revolving line-of-credit also has various clauses which restrict its availability and, as such, the Company is not currently eligible to draw down on the revolving line-of-credit. Proceeds from the revolving line of credit may be used for working capital and general business purposes.

The principal amount outstanding under the revolving line bears interest at a floating rate per annum equal to the greater of (i) 5.0% and (ii) the sum of (a) the "prime rate," as reported in The Wall Street Journal, plus (b) 0.5%, which interest is payable monthly. Principal amounts borrowed under the revolving line of credit may be repaid and, prior to the maturity date, re-borrowed, subject to the terms and conditions set forth in the Revolving Loan Facility. The revolving line terminates, and all unpaid principal and accrued and unpaid interest with respect thereto is due and payable in full, on March 1, 2022. The Company is also required to pay an annual facility fee on the revolving line of $15 on each anniversary of the Initial Effective Date, a termination fee of $22 if the revolving line is terminated prior to the maturity date for any reason, and an unused revolving line facility fee in an amount equal to 0.5% per annum of the average unused portion of the revolving line payable monthly.

(In thousands, except share and per share amounts)

All of the loan facilities also include other events of default, the occurrence and continuation of which could cause interest to be charged at the rate that is otherwise applicable plus 5.0% and would provide the collateral agent under the term loan facility or the lender under the revolving loan facility, as applicable, with the right to exercise remedies against the Company and the collateral securing the loan facilities. These events of default include, among other things, any failure by the Company to pay principal or interest due under the loan facilities, a breach of certain covenants under the loan facilities, the Company's insolvency, a material adverse change, the occurrence of any default under certain other indebtedness in an amount greater than $250, one or more judgments against the Company in an amount greater than $250 individually or in the aggregate, and any default under the other loan facility. The Company was not in default on any conditions of the loan facilities at March 31, 2019.

In connection with Term A Loan, the Company issued the lenders warrants to purchase 141,287 shares of the Company's common stock at an exercise price of $1.27 per share. The fair value of the warrants issued was determined to be $210 at the date of issuance and the balance was remeasured at December 31, 2018, and were reclassified to equity in the accompanying consolidated balance sheets.

Future principal payments under the term loan facilities as of March 31, 2019 are as follows:

Year Ending December 31,	Amount
2019	$ 1,200
2020	5,831
2021	6,175
2022	1,544
	$ 14,750

Note 6 Stockholders' Equity (Deficit)

Common Stock

On February 26, 2019, the Company consummated a private placement offering with a large institutional investor consisting of the sale of 10,872,716 shares of the Company's common stock, at a price of $1.3796 per share (the "Private Placement"). On March 12, 2019, the Company consummated a second closing to the Private Placement with certain existing stockholders entitled to preemptive rights in connection with the initial closing of the Private Placement, consisting of the sale of 3,512,124 shares of the Company's common stock, at the same price and on the same terms as the initial closing of the Private Placement, through the exercise of such preemptive rights and the purchase of certain additional shares. The aggregate gross proceeds from both closings of the Private Placement was $19,845 and the aggregate net proceeds was $19,531. The investors included HEC Master Fund LP, an affiliate of Douglas L. Braunstein and BioStar Ventures III-XF, L.P., an affiliate of Louis A. Cannon M.D., both of whom are directors of the Company. The shares sold in the private placement are subject to a contractual six-month lock-up.

In connection with the Private Placement, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with the investors participating in the financing, requiring the Company to register the resale of the shares sold in the private placement. Under the Registration Rights Agreement, the Company was required to file a registration statement with the Securities and Exchange Commission ("SEC") within 90 days of the closing of the Private Placement. These shares were registered in a registration statement filed on March 27, 2019.

On August 31, 2018, the Company entered into a Sales Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen") with respect to an at-the-market offering program (the "Offering") under which the Company may offer and sell, from time to time at its sole discretion, shares of its common stock having an aggregate offering price of up to $30,000 (the "Placement Shares") through Cowen as its sales agent.

Cowen may sell the Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act of 1933, as amended. The Company will pay Cowen a commission equal to 3% of the gross sales proceeds of any Placement Shares sold through Cowen under the Sales Agreement. There has been no activity under the at-the-market offering program during the three months ended March 31, 2019. During 2018, the Company sold 2,569,159 shares of common stock at a weighted average per share price of $1.19 at the market pursuant to the Sales Agreement for $2,688 in net proceeds. The Company is not obligated to make any sales of common stock under the Sales Agreement and cannot provide any assurances that it will issue any additional shares pursuant to the Sales Agreement. The offering of Placement Shares pursuant to the Sales Agreement will terminate upon the earlier of (i) the sale of all Placement Shares subject to the Sales Agreement or (ii) termination of the Sales Agreement in accordance with its terms.

(In thousands, except share and per share amounts)

Preferred Stock

The Company is authorized to issue 10,000,000 shares, $0.0001 par value per share, preferred stock. Of these shares, 1,000,000 shares of preferred stock have been designated as Series A Preferred Stock and 1,000,000 shares have been designated as Series A-1 Preferred Stock (Series A Preferred Stock and the Series A-1 Preferred Stock are collectively referred to as "Preferred Stock").

On March 16, 2018, the Company issued 1,000,000 shares of Series A Preferred Stock along with warrants to purchase up to 8,750,000 shares of the Company's common stock at an exercise price per share of $1.40 for proceeds of $24,671, net of issuance costs of $329. The Preferred Stock is classified outside of stockholders' equity (deficit) because the shares contain certain redemption features which require redemption upon a change in control of the Company. The warrants were determined to be equity classified and are recorded in additional paid-in capital. The Company recorded the Series A Preferred Stock and the warrants at their relative fair values which were $20,838 and $4,162, respectively. The conversion option was determined to have a beneficial conversion feature which was valued at $5,236 and was recorded to additional paid-in capital and as a discount to the Series A Preferred Stock. This resulting discount was immediately amortized as the Series A Preferred Stock has no set redemption date but is currently convertible.

The Company estimated the fair value of the warrants at issuance using the Black-Scholes Model based on the estimated market value of the underlying common stock at the valuation measurement date, the remaining contractual term of the warrants, risk-free interest rates, expected dividends and expected volatility of the price of the underlying common stock. The fair value of these warrants was determined based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

The Company used the following assumptions for the valuation of these warrants at the issuance date.

Risk-free interest rate	2.9%
Dividend yield	0.0%
Expected volatility	61.6%
Expected term (years)	10.0

The Company estimated the fair value of the Series A Preferred Stock using a Monte Carlo simulation to determine the applicable dividend rate for each respective period based on the financial performance milestone and market condition milestone, as well as to determine the ultimate settlement method of the Series A Preferred Stock. The fair value of the Series A Preferred Stock was determined based on significant inputs not observable in the market, which represents a Level 3 measurement within the fair value hierarchy.

The Company used the following assumptions utilized in the valuation of the Series A Preferred Stock at the issuance date:

Expected volatility of future equity	45.9%
Estimated timing of Series A Preferred Stock liquidity event (years)	3.8%

Dividends . Shares of the Series A Preferred Stock will be entitled to receive non-compounding dividends in additional shares of preferred stock, at the rate of 12% per annum, subject to reduction in the event certain milestones are achieved, whether or not declared by the Board of Directors of the Company. Dividends on the Series A Preferred Stock are payable in shares of the Company's Series A-1 Convertible Preferred Stock, par value $0.0001 per share, equal to the quotient of (x) the dividend amount divided by (y) the applicable conversion price. The dividend rate may be reduced to (i) 8.00% in the event the Company achieves at least $50.0 million of revenue, other than any one-time license or similar fees, for any period of twelve consecutive months, or (ii) 6.00% if the Common Stock trading price exceeds $3.00 per share (as equitably adjusted for stock splits, stock dividends, combinations, recapitalizations and the like after the date hereof) for a period of 90 consecutive trading days (a "Trading Price Dividend Rate Adjustment"); provided that in the event the dividend rate is reduced to 8.00% pursuant to clause (i) before the occurrence of a Trading Price Dividend Rate Adjustment, the dividend rate shall be permanently fixed at 8.00% and clause (ii) shall cease to be applicable notwithstanding any future achievement of a Common Stock trading price in excess of $3.00 per share (as equitably adjusted for stock splits, stock dividends, combinations, recapitalizations and the like after the date hereof) for a period of 90 consecutive trading days.

Voting Rights . For so long as HEC Master Fund LP beneficially owns at least a majority of the outstanding Preferred Stock, the preferred stockholders will be entitled to vote with the shares of Common Stock and not as a separate class, at any annual or special meeting of shareholders of the Company upon the following basis: each holder shall be entitled to a number of votes in respect of the shares of Preferred Stock owned of record by it equal to the number of shares of Common Stock determined by dividing (x) the number of shares of Preferred Stock held by such holder by (y) $1.29, the closing price per share of the Common Stock on the NYSE American on March 15, 2018, as of the record date for the determination of stockholders entitled to vote on such matters or, if no such record date is established, as of the date such vote is taken or any written consent of stockholders is solicited. For so long as at least 10% of the shares of Preferred Stock purchased under the purchase agreement remains outstanding the Company may not directly or indirectly (i) amend, alter, repeal or otherwise modify any provision of the Certificate of Incorporation, the Certificate of Designation or the Bylaws in a manner that would alter or change the terms or the powers, preferences, rights or privileges of the Preferred Stock as to affect them adversely, (ii) create (by reclassification or otherwise) or authorize any senior securities or any parity securities, or (iii) issue, or authorize for issuance, any new shares of Preferred Stock without the prior affirmative vote or written consent of the holders of at least a majority of the then-issued and outstanding shares of Preferred Stock. For so long as HEC Master Fund LP holds at least a majority of the outstanding shares of Preferred Stock, the Company may not directly or indirectly (a) incur or guarantee, assume or suffer to exist any indebtedness (other than permitted indebtedness), (b) sell, lease, license, assign, transfer, spin-off, split-off, close, convey, encumber, pledge or otherwise dispose of any intellectual property owned whether in a single transaction or a series of related transactions to any person(s), other than pursuant to permitted indebtedness; (c) engage in any material line of business substantially different from those lines of business conducted by or publicly contemplated to be conducted by the Company on the initial issuance date unless such engagement in the line of business has received the prior approval of the Board; (d) modify its corporate structure, unless such modification has received the prior approval of the Board; or (e) enter into any agreement with respect to the foregoing without the affirmative vote or written consent of the holders representing at least a majority of the then-issued and outstanding shares of Preferred Stock. In the election of directors to the Company, for so long as the holders of Preferred Stock hold at least 25% of the shares of Preferred Stock purchased under the purchase agreement, the holders of the Preferred Stock, voting as a separate class, shall be entitled to elect by majority vote one individual to the Company's Board.

Rank . Each share of preferred stock shall rank equally in all respects. With respect to distributions upon Liquidation (as defined below), the preferred stock rank senior to the Common Stock and to each other class of the Company's capital stock existing now or hereafter created that are not specifically designated as ranking senior to the preferred stock.

Liquidation Preference . In the event of any voluntary or involuntary liquidation, dissolution or winding-up of the Company or such subsidiaries the assets of which constitute all or substantially all of the assets of the business of the Company and its subsidiaries, taken as a whole ("Liquidation"), each holder of preferred stock shall be entitled to receive liquidating distributions out of the assets of the Company legally available for distribution to its stockholders, before any payment or distribution of any assets of the Company shall be made or set apart for holders of any junior securities, including the Common Stock, for such holder's shares of preferred stock in an amount equal to the greater of (i) the sum of (A) the aggregate Liquidation Preference ($25.00 per share of Series A Preferred Stock) and (B) the aggregate Accrued Dividends of such shares as of the date of the Liquidation (as such terms are defined in the Certificate of Designation) and (ii) the amount such holder would have received had such shares of preferred stock, immediately prior to such Liquidation, been converted into shares of Common Stock.

Conversion . Each Holder of shares of preferred stock shall have the right (the "Conversion Right"), at any time and from time to time, at such holder's option, to convert all or any portion of such holder's shares of preferred stock into fully paid and non-assessable shares of Common Stock. Upon a holder's election to exercise its Conversion Right, each share of preferred stock for which the Conversion Right is exercised shall be converted into such number of shares of Common Stock equal to the quotient of (A) the sum of (1) the Liquidation Preference and (2) the Accrued Dividends on such share as of the conversion date, divided by (B) the Conversion Price of such share in effect at the time of conversion.

Forced Conversion . If (a) at any time after the original issuance date, the Common Stock trading price exceeds $4.00 per share (as equitably adjusted for stock splits, stock dividends, combinations, recapitalizations and the like after the date hereof) for a 30 consecutive trading day period and (b) the Company, at its option, delivers a written notice to the holders of the preferred stock within 10 business days of the conclusion of such period, then each share of preferred stock outstanding shall be converted into such number of fully paid and nonassessable shares of Common Stock equal to the quotient of (A) the sum of (1) the Liquidation Preference and (2) the Accrued Dividends on such share, divided by (B) the conversion price of such share in effect as of the business day immediately prior to the date of the Company's notice to the holder.

(In thousands, except share and per share amounts)

As of March 31, 2019, the redemption value and Liquidation Preference of the Preferred Stock was $27,510 and it was convertible into 22,008,000 shares of the Company's Common Stock.

The Company issued the following shares of Series A-1 Preferred Stock to the holders of Series A Preferred Stock to fulfill the dividend payment obligation:

Series A dividend payment dates	Number of shares
4/16/2018	10,400
7/16/2018	30,000
10/15/2018	30,000
1/15/2019	30,000
4/15/2019	30,000

Note 7 Revenue

Disaggregation of Revenue

The following table summarizes revenue by revenue source for the three-month periods ended March 31, 2019 and 2018.

	Three Months Ended March 31	
Major Products/ Services Lines	**2019**	**2018**
Revenue:		
Systems	$ 2,494	$ 970
Capital upgrades	—	176
Cassettes and accessories	291	235
Service revenue	251	104
Total	$ 3,036	$ 1,485

Timing of Revenue Recognition	**2019**	**2018**
Product transferred at a point in time	$ 2,785	$ 1,381
Service transferred over time	189	104
Service transferred at a point in time	62	—
Total	$ 3,036	$ 1,485

Transaction Price Allocated to Future Performance Obligations

The following table includes estimated revenues expected to be recognized in the future related to performance obligations that are unsatisfied (or partially satisfied) as of March 31, 2019:

	Less than 1 year	Greater than 1 year	Total
Product revenue	$ 336	$ 547	$ 883
Service and other revenue	733	679	1,412
Total	$ 1,069	$ 1,226	$ 2,295

(In thousands, except share and per share amounts)

Contract Balances from Contracts with Customers

Contract assets consist of unbilled amounts at the reporting date and are transferred to accounts receivable when the rights become unconditional. Contract liabilities consist of deferred revenue. The following table presents changes in contract assets and contract liabilities during the three months ended March 31, 2019:

	Balance at December 31, 2018	Additions	Subtractions	Balance at March 31, 2019
Contract assets	$ 205	$ 21	$ (37)	$ 189
Contract acquisitions and fulfillment costs:				
Deferred contract costs	$ 64	$ 2	$ (11)	$ 55
Contract liabilities:				
Deferred revenue	$ 947	$ 351	$ (202)	$ 1,096

During the three months ended March 31, 2019, the Company recognized the following revenues as a result of changes in the contract asset and the contract liability balances in the respective periods:

	Three Months Ended March 31, 2019
Revenue recognized in the period from:	
Amounts included in the contract liability at the beginning of the period	$ 202
Performance obligations satisfied in previous periods	$ —

Note 8 Stock-based Compensation

Stock-based compensation expense was allocated based on the employees' or non-employees' function as follows:

	Three months ended March 31,	
	2019	2018
Cost of revenue	$ 49	$ 28
Research and development	113	61
Selling, general and administrative	816	585
Total	$ 978	$ 674

The Company granted options to purchase 2,397,000 shares of common stock at an exercise price of $1.20 per share during the three months ended March 31, 2019. The weighted-average fair value of the stock options granted was $1.20 per share for the three months ended March 31, 2019. The Company granted options to purchase 1,921,000 shares of common stock at an exercise price of $1.05 per share during the three months ended March 31, 2018. The weighed-average fair value of the stock options granted was 1.05 per share for the three months ended March 31, 2018.

The following assumptions were used to estimate the fair value of stock options granted using the Black-Scholes option-pricing model:

	Three months ended March 31,	
	2019	2018
Risk-free interest rate	2.56%	2.69-2.84%
Expected term in years	6.25	6.25-10.00
Expected volatility	81%	67-71%
Expected dividend yield	—%	—%

(In thousands, except share and per share amounts)

The following table summarizes the activities for the Company's unvested restricted stock units for the three months ended March 31, 2019:

	Unvested Restricted Stock Units	
	Number of Shares	Weighted-average Grant Date Fair Value
Unvested as of December 31, 2018	163,736	$ 0.63
Granted	—	—
Vested	(83,735)	0.65
Forfeited/Cancelled	—	—
Unvested as of March 31, 2019	80,001	$ 0.62

Note 9 Net Loss per Share

The following common stock equivalents were excluded from the calculation of diluted net loss per share for the periods indicated because including them would have had an anti-dilutive effect:

	Three months ended March 31,	
	2019	2018
Options to purchase common stock	26,859,984	19,534,224
Warrants to purchase common stock	9,546,315	9,246,315
Restricted stock units	80,001	24,179
Series A preferred stock	20,000,000	20,000,000
Series A-1 preferred stock	2,008,000	—

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

General

The following discussion and analysis provides information which our management believes to be relevant to an assessment and understanding of the results of operations and financial condition of Corindus Vascular Robotics, Inc. ("we" or the "Company"). This discussion should be read together with our condensed consolidated financial statements and the notes included therein, which are included in this Quarterly Report on Form 10-Q (the "Report"). This information should also be read in conjunction with the information contained in our Annual Report on Form 10-K filed with the Securities and Exchange Commission (the "SEC") on March 18, 2019, including the audited consolidated financial statements and notes included therein as of and for the year ended December 31, 2018. This discussion contains forward-looking statements that involve risks and uncertainties. For a description of factors that may cause our actual results to differ materially from those anticipated in these forward-looking statements, please refer to the below section of this Quarterly Report on Form 10-Q titled "Forward-Looking Statements." The reported results will not necessarily reflect future results of operations or financial condition. Unless otherwise defined herein, all capitalized terms herein shall be as defined in our Annual Report on Form 10-K.

Overview

We design, manufacture and sell precision vascular robotic-assisted systems for use in interventional vascular procedures (the "CorPath ® System"). The CorPath System is the first medical device cleared by the U.S. Food and Drug Administration ("FDA") to bring robotic-assisted precision to coronary and peripheral interventional procedures. During these procedures, the interventional physician sits at a radiation-shielded Interventional Cockpit to advance interventional devices with millimeter-by-millimeter precision. The Interventional Cockpit allows the physician greater control and the freedom from wearing heavy lead protective equipment that can cause musculoskeletal injuries. The CorPath System brings robotic precision to radial and complex interventional procedures to help optimize clinical outcomes and minimize the costs associated with complications of improper stent placement with manual procedures. In October 2016, we received 510(k) clearance from the FDA for our CorPath GRX System, the second generation of the CorPath System. We began commercial shipment of the CorPath GRX System in 2017. In February 2018, we received 510(k) clearance from the FDA for our CorPath GRX System in peripheral vascular interventions. CorPath GRX builds upon the CorPath 200 platform, adding a significant number of key upgrades that increase precision, improve workflow, and extend the capabilities and range of the procedures that can be performed robotically. These features include active guide management which enables control of the guide catheter along with robotic control of the guidewire and balloon or stent catheter, and Rotate on Retract, the first automated movement for CorPath, for which we received 510(k) clearance from the FDA in March 2018, which has the potential to reduce wiring time by automating wire rotation during navigation. This precise positioning enables physicians to adjust guide catheter position during procedures and may expand the use of the CorPath System to more complex cases. While the CorPath GRX System has been cleared for and we are targeting percutaneous coronary intervention procedures and peripheral vascular interventions, we believe our technology platform has the capability to be developed in the future for other segments of the vascular intervention market, including neurointerventional procedures and other more complex cardiac interventions such as structural heart procedures. In March 2019, we received a European Conformity Certificate ("CE mark") for our neurovascular indication which allows us to sell neurovascular robots in 33 countries that accept CE mark. We also submitted our dossier for 510(k) review for our neuro indication with the FDA in February 2019. In April 2019, the FDA made an initial request that we provide additional data, and we are in ongoing discussions with the FDA to determine the type and extent of the additional data that will be required. We plan to provide an update after our discussions with the FDA. We are also working on a remote telerobotic interventional platform that we believe will be able to deliver highly specialized and timely care to underserved patient populations with geographic barriers to treatment. As of March 31, 2019, we have installed 61 CorPath GRX Systems. Additionally, as of March 31, 2019, we shipped 14 CorPath GRX Systems that were accepted by distributors. During the three months ended March 31, 2019, the majority of our consumable revenues relate to the sale of CorPath GRX System cassettes and accessories.

On February 26, 2019, we consummated a private placement offering with a large institutional investor consisting of the sale of 10,872,716 shares of our common stock, at a price of $1.3796 per share (the "Private Placement"). On March 12, 2019, we consummated a second closing to the Private Placement with certain existing stockholders entitled to preemptive rights in connection with the initial closing of the Private Placement, consisting of the sale of 3,512,124 shares of our common stock, at the same price and on the same terms as the initial closing of the Private Placement, through the exercise of such preemptive rights and the purchase of certain additional shares. The aggregate gross proceeds from both closings of the Private Placement was $19.8 million and the aggregate net proceeds was $19.5 million.

On March 14, 2019, we amended our financing arrangement with our two lenders to add an additional term loan of $2.75 million, all of which was outstanding principal as of March 31, 2019. The $2.75 million term loan is interest only through April 1, 2020 after which the principal will be due in twenty-four consecutive monthly payments. Refer to Note 5 in the accompanying condensed consolidated financial statements for additional information regarding our amended financing arrangement.

Results of Operations

In the following discussion, all dollar amounts are reported in thousands:

Three months ended March 31, 2019 compared to three months ended March 31, 2018

	Three months ended March 31,		
	2019	2018	Change
	(in thousands)		
Revenue:			
Systems	$ 2,494	$ 970	$ 1,524
Capital upgrades	—	176	(176)
Cassettes and accessories	291	235	56
Services	251	104	147
Total revenue	3,036	1,485	1,551
Cost of revenue	2,414	1,929	485
Gross profit (loss)	622	(444)	1,066
Operating expense:			
Research and development	2,876	2,135	741
Selling, general and administrative	7,147	7,455	(308)
Total operating expense	10,023	9,590	433
Operating loss	(9,401)	(10,034)	633
Other income (expense), net	(276)	(16)	(260)
Net loss	$ (9,677)	$ (10,050)	$ 373

Revenue

Revenue increased to $3,036 for the three months ended March 31, 2019 from $1,485 for the three months ended March 31, 2018. This revenue increase was due primarily to the increases in the number of CorPath System installations.

Our revenue associated with CorPath Systems increased to $2,494 for the three months ended March 31, 2019 from $970 for the three months ended March 31, 2018. We installed nine and two new CorPath Systems during the three-month periods ended March 31, 2019 and 2018, respectively. We have experienced, and we expect to continue to experience, some unevenness in the number and trend of CorPath Systems sold and the average selling price of CorPath Systems sold on a quarterly basis given the early stage of commercialization of our product and market acceptance along with the continued development of a dedicated and consistent sales force.

We launched our second generation CorPath GRX System in January 2017 and revenue in 2018 included upgrade revenues for existing customers of CorPath 200 Systems who purchased capital upgrades to the CorPath GRX System. Revenues associated with capital upgrades were $0 for the three months ended March 31, 2019 and $176 for the three months ended March 31, 2018 since there were no capital upgrades completed during the three months ended March 31, 2019 while there was one capital upgrade in the three months ended March 31, 2018.

Our revenue for CorPath Cassettes and accessories, which represents our sale of consumables, increased to $291 for the three months ended March 31, 2019 as compared to $235 for the three months ended March 31, 2018. The volume and average price of our CorPath Cassettes and accessories increased by 249 units and decreased by 23.1%, respectively, for the three months ended March 31, 2019 compared to the three months ended March 31, 2018. We expect variability in the sales of our consumables until our product receives wider market acceptance.

Our revenue associated with services performed increased to $251 for the three months ended March 31, 2019 as compared to $104 for the three months ended March 31, 2018. We have experienced, and expect to experience, fluctuations in our service revenues based upon whether customers elect to purchase service contracts with their CorPath Systems.

Given the relatively small number of customers due to the early stage of the commercialization and the higher price of the CorPath System relative to consumables, customers that purchase a CorPath System in a specific period tend to make up a significant percentage of revenue in that period.

Cost of Revenue

Cost of revenue increased to $2,414 for the three months ended March 31, 2019 from $1,929 for the three months ended March 31, 2018. Cost of revenue for both the three months ended March 31, 2019 and 2018 included the effect of under-utilization of our production facilities. Cost of revenue for the three months ended March 31, 2019 was less impacted due to increases in volume compared to the three months ended March 31, 2018.

Cost of revenue represents the cost of materials for the CorPath System and CorPath Cassettes, as well as labor and overhead at our production facility. At current volumes, our cost to manufacture the CorPath GRX System and CorPath Cassettes is approximately $200 and $2, respectively. We expect these costs to decrease as we obtain economies of scale with respect to purchasing and production and continue to incorporate design enhancements.

Gross Profit (Loss)

Our gross profit increased to $622 for the three months ended March 31, 2019 from a gross loss of $444 for the three months ended March 31, 2018, based on the changes in revenue and cost of revenues as discussed above. For the three months ended March 31, 2019, we generated enough sales volume of CorPath Systems and CorPath Cassettes to offset our manufacturing costs, including the effect of the under-utilization of our production facility, a portion of which represents excess manufacturing capacity, and we have therefore generated a gross profit.

Research and Development

Research and development expenses increased to $2,876 for the three months ended March 31, 2019 from $2,135 for the three months ended March 31, 2018 primarily due to increased compensation expense of $333 related to employees hired subsequent to March 31, 2018, decreased research grant reimbursement of $145, increased clinical trial expenses of $106, increased prototype expenses of $76, and additional stock-based compensation expense of $52.

Selling, General and Administrative

Selling, general and administrative expenses decreased to $7,147 for the three months ended March 31, 2019 from $7,455 for the three months ended March 31, 2018. This decrease is primarily due to decreased compensation expense of $305, decreased travel-related expenses of $143 and decreased consulting expenses of $83, partly offset by increased stock-based compensation expense of $231.

Other Income (Expense), net

Other expense increased to $276 for the three months ended March 31, 2019 from other expense of $16 for the three months ended March 31, 2018, primarily due to higher interest expense as a result of a long-term debt arrangement completed on March 16, 2018, which was amended on March 14, 2019 to add an additional term loan of $2,750.

Income Taxes

We have not recorded any income tax benefit related to operating losses due to the uncertainty regarding future taxable income.

Liquidity and Capital Resources

We began our medical device business in 2002 and began selling FDA-cleared robotic medical devices in 2012. Since inception, we have financed our operations primarily through private sales of capital stock, a public offering of common stock in May 2015 and borrowing arrangements, as well as limited revenues from the sale of our products.

On February 26, 2019, we consummated a private placement offering with a large institutional investor consisting of the sale of 10,872,716 shares of our common stock, at a price of $1.3796 per share (the “Private Placement”). On March 12, 2019, we consummated a second closing to the Private Placement with certain existing stockholders entitled to preemptive rights in connection with the initial closing of the Private Placement, consisting of the sale of 3,512,124 shares of our common stock, at the same price and on the same terms as the initial closing of the Private Placement, through the exercise of such preemptive rights and the purchase of certain additional shares. The aggregate gross proceeds from both closings of the Private Placement was $19.8 million and the aggregate net proceeds was 19.5 million.

On March 14, 2019, we amended our financing arrangement with our two lenders to add an additional term loan of $2.75 million, all of which was outstanding principal as of March 31, 2019. The $2.75 million term loan is interest only through April 1, 2020 after which the principal will be due in twenty-four consecutive monthly payments. Refer to Note 5 in the accompanying condensed consolidated financial statements for additional information regarding our amended financing arrangement.

In August 2018, we entered into a Sale Agreement (the "Sales Agreement") with Cowen and Company, LLC ("Cowen") with respect to an at-the-market offering program (the "Offering") under which we may offer and sell, from time to time at our sole discretion, shares of our common stock having an aggregate offering price of up to $30 million (the "Placement Shares") through Cowen as our sales agent. The issuance and sale of the Placement Shares by us under the Sales Agreement will be made pursuant to our effective "shelf" registration statement on Form S-3 and an accompanying base prospectus contained therein (Registration Statement No. 333-2217344) filed with the Securities and Exchange Commission (the "Commission") on April 17, 2017, and declared effective on May 1, 2017. We filed a prospectus supplement (the "Prospectus Supplement"), dated August 31, 2018, with the Commission in connection with the offer and sale of the shares pursuant to the Sales Agreement.

Cowen may sell the Placement Shares by any method permitted by law deemed to be an "at the market" offering as defined in Rule 415 of the Securities Act of 1933, as amended. We will pay Cowen a commission equal to 3% of the gross sales proceeds of any Placement Shares sold through Cowen under the Sales Agreement. During the three months ended March 31, 2019, we did not sell any shares of common stock pursuant to the Sales Agreement. We are not obligated to make any sales of common stock under the Sales Agreement and cannot provide any assurances that we will issue any additional shares pursuant to the Sales Agreement. The offering of Placement Shares pursuant to the Sales Agreement will terminate upon the earlier of (i) the sale of all Placement Shares subject to the Sales Agreement or (ii) termination of the Sales Agreement in accordance with its terms.

We have incurred losses since inception and have funded our cash flow deficits primarily through the issuance of capital stock and debt. As of March 31, 2019, we had an accumulated deficit of $225.1 million. As of March 31, 2019, we had cash and cash equivalents of $37.8 million and working capital of $35.1 million.

We have evaluated whether or not our cash and cash equivalents on hand and the cash proceeds from the financing activities described above would be sufficient to sustain projected operating activities through May 8, 2020 as required by Accounting Standards Codification (ASC) 205-40 Disclosure of Uncertainties About an Entity's Ability to Continue as a Going Concern. Based on our current forecast of annual cash flow deficits we will not have sufficient resources to meet our cash requirements through May 8, 2020.

We have considered our plans to alleviate our projected cash deficit at May 8, 2020 and the probability and effectiveness of such plans eliminating our projected cash deficit at May 8, 2020. In the event we do not achieve our year to date plan revenue by the third quarter of 2019 or obtain additional financing, we will undertake any and all of the following activities to reduce our cash flow deficits:

- Eliminate or defer the 2019 discretionary bonus payouts for all bonus eligible employees, including executive management;
- Reduce spending on prototypes and clinical trials;
- Eliminate planned headcount additions in research and development;
- Defer or limit some or all spending on capital equipment planned; or
- Reduce employee travel and entertainment expenses, external consulting resources and our presence at tradeshows.

It is probable that the above activities can be effectively implemented by us and it is probable that the plans will eliminate the cash deficit at May 8, 2020 such that we have the ability to continue as a going concern one year from May 8, 2019. As a result, we believe our plans can be effectively implemented, if required.

As we continue to incur losses and cash flow deficits, our transition to profitability is dependent upon achieving a level of revenues adequate to support our cost structure, but we will otherwise rely on additional capital funding until such time as that is achieved. We may never achieve profitability, and unless and until doing so, we intend to fund future operations through additional non-dilutive or dilutive financings. There can be no assurances, however, that additional funding will be available on terms acceptable to us, if at all.

In summary, our cash flows were as follows:

	Three Months Ended March 31,	
	2019	2018
	(in thousands)	
Net cash used in operating activities	$ (8,576)	$ (9,909)
Net cash used in investing activities	$ (85)	$ (41)
Net cash provided by financing activities	$ 22,572	$ 36,443

Operating Activities

Cash used operating activities was $8.6 million for the three months ended March 31, 2019 compared to $9.9 million for the three months ended March 31, 2018. The $1.3 million decrease in cash used for operating activities was due primarily to net loss and changes in working capital.

Cash used in operating activities was primarily comprised of research, development and selling activities related to the CorPath GRX in addition to the general and administrative costs required to operate the Company offset by gross profit.

Investing Activities

Cash used in investing activities was $85 thousand for the three months ended March 31, 2019 compared to cash used in investing activities of $41 thousand for the three months ended March 31, 2018. The $44 thousand increase was due to an increase in purchases of property and equipment during the three months ended March 31, 2019.

Financing Activities

Cash provided by financing activities for the three months ended March 31, 2019 totaled $22.6 million and was primarily due to proceeds received from the Private Placement of $19.7 million and $2.7 million related to the amendment of the financing arrangement, net of transaction costs. Cash provided by financing activities for the three months ended March 31, 2018 totaled $36.4 million and was due to proceeds received from the issuance of Series A preferred stock of $25.0 million and long-term debt of $12.0 million, partially offset by related transaction costs and payments on capital lease obligations.

Off-Balance Sheet Arrangements

We have no off-balance sheet arrangements (as that term is defined in Item 303(a)(4)(ii) of Regulation S-K) as of March 31, 2019 that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Critical Accounting Policies and Estimates

Management's discussion and analysis of financial condition and results of operations is based upon our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP). The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses, as well as related disclosures. We base our estimates and judgments on historical experience and other assumptions that we believe to be reasonable at the time and under the circumstances, and we evaluate these estimates and judgments on an ongoing basis. Information concerning our critical accounting policies with respect to these items is available in Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," in our Annual Report on Form 10-K for the fiscal year ended December 31, 2018 filed with the SEC on March 18, 2019.

Recently Issued Accounting Standards

In February 2016, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2016-02, Leases (Accounting Standards Codification ("ASC") 842), which was amended by ASU 2018-11, Leases (ASC 842): Targeted Improvements. The new guidance requires lessee recognition on the balance sheet of a right-of-use (ROU) asset and a lease liability, initially measured at the present value of the lease payments. It further requires recognition in the income statement of a single lease cost, calculated so that the cost of the lease is allocated over the lease term generally on a straight-line basis. Finally, it requires classification of all cash payments within operating activities in the statement of cash flows. The standard is effective for public companies for fiscal years beginning after December 15, 2018 and early adoption is permitted. We adopted this standard on January 1, 2019 using the prospective adoption approach as described under ASC 842. Refer to Note 2 in the accompanying condensed consolidated financial statements for a full discussion of the impact of the ASU.

Forward Looking Statements

This Quarterly Report on Form 10-Q incorporates a number of forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act that relate to future events or to our future operations or financial performance. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statement. Forward-looking statements include statements, other than statements of historical fact, about, among other things:

- our estimates regarding anticipated operating losses, future revenue, expenses, capital requirements, uses and sources of cash and liquidity, including our anticipated revenue growth and cost savings;
- our ability to market, improve, grow, commercialize and achieve market acceptance of any of our products or any product candidates that we are developing or may develop in the future;
- our beliefs about the features, strengths and benefits of our products and product platform and our intention to provide unmatched service to the physician community;
- the potential of our technology to improve processes and outcomes;
- our ability to successfully achieve and maintain regulatory clearance or approval for our products in applicable jurisdictions and in a timely manner and maintain compliance with the quality requirements of the FDA and similar regulatory authorities outside of the United States;
- our estimates of market sizes and anticipated uses of our products, including the market size of the vascular market and our ability to successfully penetrate such markets;
- our ability to expand our technology platform for use in other segments of the vascular intervention market, including neurointerventional and other more complex cardiac interventions;
- our business strategy and our underlying assumptions about market data, demographic trends, reimbursement trends, pricing trends;
- our ability to achieve profitability and the potential need to raise additional funding;
- our ability to maintain an adequate sales network for our products and enhance our U.S. and international sales networks and product penetration;
- our ability to increase the use and promotion of our products by training and educating physicians;
- our ability to meet the financial reporting obligations under our loan agreements;
- our ability to meet or exceed the industry standard in clinical and legal compliance and corporate governance programs; and
- our beliefs with respect to our critical accounting policies and the reasonableness of our estimates and assumptions.

The words “believe,” “anticipate,” “plan,” “expect,” “estimate,” “may,” “potential,” “should,” “intend,” “continue,” “project,” “likely,” “will,” “would,” “could” and similar expressions or phrases, or the negative of those expressions or phrases, may identify forward-looking statements, although not all forward-looking statements contain these identifying words. The forward-looking statements contained in this Quarterly Report are based on our current expectations and beliefs concerning future developments and their potential effects on us. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. Actual results, performance, experience or achievements may differ materially from those expressed or implied by any forward-looking statement as a result of various important factors, including our critical accounting policies and risks and uncertainties relating, among other things, to:

- our ability to expand our technology platform for use in other segments of the vascular intervention market, including neurointerventional and other more complex cardiac interventions and achieve the advances necessary for telestenting and remote procedures, including in humans;
- obtaining the necessary regulatory approvals for the use on humans and marketing of our products in the United States and in other countries;
- the rate of adoption of our CorPath System and the rate of use of our cassettes and other risks associated with market acceptance, including pricing and reimbursement;
- the effect of any existing or future federal, state or international regulations on our ability to effectively conduct our business;
- our ability to protect our intellectual property and to not infringe upon the intellectual property of third parties;

- our ability to obtain additional funds to support our operations;
- our ability to manage expenses and cash flow;
- the effect of credit, financial and economic conditions on capital spending by our potential customers
- factors relating to engineering, regulatory, manufacturing, sales and customer service challenges;
- potential safety and regulatory issues that could slow or suspend our sales;
- potential or incurred liability and any limitations on our business related to any litigation or litigation settlements;
- our ability to attract and retain a qualified management team, as well as other qualified personnel and advisors;
- the effects of the escalating cost of medical products and services and the effects of market demand, government regulation, third-party reimbursement policies and societal pressures on the worldwide healthcare industry and our business;
- our ability to comply with regulatory requirements relating to our business, and the costs of compliance with those requirements, including those on data privacy and security;
- the effect of credit, financial and economic conditions on capital spending by our potential customers, competition from other similar businesses, market; and
- general economic factors.

These and other risks and uncertainties are described in greater detail under the caption "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018, in this Quarterly Report, and in other filings that we make with the Securities and Exchange Commission. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary from those projected in these forward-looking statements. We caution you not to place undue reliance on any forward-looking statement. We anticipate that subsequent events and developments may cause our views to change. We undertake no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

We are a smaller reporting company as defined in Item 10(f)(1) of Regulation S-K and are not required to provide information under this item.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

As required by Rules 13a-15(e) and 15d-15(e) under the Exchange Act, we carried out an evaluation under the supervision and with the participation of our senior management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of March 31, 2019. Based upon their evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures are effective to ensure that material information relating to the Company required to be disclosed by the Company in reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and to ensure that such information is accumulated and communicated to senior management, including our Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, our management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurances of achieving the desired control objectives, and management necessarily was required to apply its judgment in designing and evaluating the controls and procedures.

We continue to review our disclosure controls and procedures, and our internal control over financial reporting, and may from time to time make changes aimed at enhancing their effectiveness and to ensure that our systems evolve with our business.

Changes in Internal Controls Over Financial Reporting

During the three months ended March 31, 2019, there were no changes in our internal control over financial reporting that occurred that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings.

From time to time, we may become involved in various lawsuits and legal proceedings that arise in the ordinary course of business. Litigation is subject to inherent uncertainties and an adverse result in these or other matters may arise from time to time that may harm our business. We are currently not aware of any such legal proceedings or claims that we believe will have a material adverse effect on our business, financial condition or operating results.

Item 1A. Risk Factors.

Our products are subject to a lengthy and uncertain domestic regulatory review process. If we do not obtain and maintain the necessary domestic regulatory authorizations, we will not be able to provide our products in the United States. Recent initiatives by the FDA to enhance and modernize various regulatory pathways for device products and its overall approach to safety and innovation in the medical technology industry creates additional uncertainty and the possibility of changing product development costs, requirements, and other factors.

Our products and operations are subject to extensive regulation in the United States by the FDA. The FDA regulates the development, bench and clinical testing, manufacturing, labeling, storage, record-keeping, promotion, marketing, sales, distribution and post-market support and reporting of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. In order for us to market our Class II products for use in the United States, we must first obtain clearance from the FDA pursuant to Section 510(k) of the Federal Food, Drug, and Cosmetic Act ("FFDCA"). In October 2015, we received 510(k) clearance from the FDA for our robotic-assisted CorPath System to be used during PCI procedures performed via radial access, and on March 29, 2016, we received 510(k) clearance from the FDA for our robotic-assisted CorPath System for use in peripheral vascular interventions. In October 2016, we received 510(k) clearance from the FDA for the CorPath GRX, the second generation of the CorPath System and in February 2018, we received 510(k) clearance from the FDA for CorPath GRX to be used during peripheral vascular interventions. In March 2018, we received 510(k) clearance from the FDA for the first automated robotic movement designed for the CorPath GRX platform.

Clearance under Section 510(k) requires demonstration that a new device is substantially equivalent to another device with 510(k) clearance or grandfathered ("pre-amendment") status or to a device that was reclassified from Class III to Class II or Class I (those are referred to as predicate devices). If we significantly modify our products after they receive FDA clearance, or seek to market them for additional indications for use, the FDA may require us to submit a separate 510(k) or premarket approval application ("PMA"), or potentially a De Novo request, for the modified product before we are permitted to market the products in the U.S. In addition, if we develop products in the future that are not considered to be substantially equivalent to a predicate device, we will be required to obtain FDA approval by submitting a PMA. The FDA may not act favorably or quickly in its review of our 510(k) or PMA submissions or we may encounter significant difficulties and costs in our efforts to obtain FDA clearance or approval, any of which could delay or preclude our sale of new products in the United States. Furthermore, the FDA may request additional data or require us to conduct further testing, or compile more data, including clinical data and clinical studies, in support of a 510(k) submission. For example, we submitted our dossier for 510(k) review for our neuro indication with the FDA in February 2019. In April 2019, the FDA made an initial request that we provide additional data, and we are in ongoing discussions with the FDA to determine the type and extent of the additional data that will be required. There is no guarantee that the FDA will grant Corindus 510(k) clearance for its neurovascular indication, and failure to obtain the necessary clearances for its products could adversely affect Corindus' ability to grow its business. Delays in receipt or failure to receive the necessary clearances, or any delays due to the type or extent of additional data that may be required could increase the costs associated with developing and commercializing the neurovascular indication and could delay the timing of U.S. regulatory authorization. Corindus and its business, financial condition and operating results could be materially and adversely affected as a result of any such costs, delays or uncertainty.

Regulatory policy affecting our products can change at any time. The changes and their impact on our business cannot be accurately predicted. For example FDA and other government agencies, have been focusing on the cybersecurity risks associated with certain medical devices and encouraging device manufacturers to take a more proactive approach to assessing the cybersecurity risks of their devices both during development and on a periodic basis after the devices are in commercial distribution. These regulatory efforts could lead to new FDA requirements in the future or additional product liability or other litigation risks if one of our products is considered to be susceptible to third-party tampering. In August 2016, the FDA released its proposals for reforming long-standing procedures and requirements related to modifications to medical devices already on the market, and those proposals were finalized in October 2017. In December 2016, Congress passed the 21st Century Cures Act, which makes multiple changes to the FDA's rules for medical devices as well as for clinical trials, and Congress passed another large piece of legislation related to medical devices in August 2017, the Medical Device User Fee reauthorization package, that could have certain impacts on our business. In recent months beginning in early 2018, FDA has also announced a series of efforts to modernize and streamline the 510(k) notification and regulatory review process and monitoring of post-market safety, as well as issued a Proposed Rule to formalize the De Novo classification process to provide clarity to innovative device developers. Changes in the FDA 510(k) process could make clearance more difficult to obtain, increase delay, add uncertainty and have other significant adverse effects on our ability to obtain and maintain clearance for our products.

It is unclear at this time whether and how various activities recently initiated or announced by the FDA to modernize the United States medical device regulatory system could affect our business, given the timing and the undeveloped nature of some of the FDA's new medical device safety and innovation initiatives. One of the recent initiatives was announced in April 2018, when the FDA Commissioner issued a statement with the release of a Medical Device Safety Action Plan. Among other key areas of the Medical Device Safety Action Plan, the Commissioner stated that the FDA is "exploring what further actions we can take to spur innovation towards technologies that can make devices and their use safer." An update to the Safety Action Plan was communicated by FDA leadership in November 2018 with a particular focus on post-market surveillance and how to respond when new safety concerns emerge once a product in on the market. Similarly, the FDA Commissioner announced various agency goals under a Medical Innovation Access Plan in 2017. These initiatives create the possibility of unanticipated regulatory and other potential changes to our products and our overall business that could adversely affect our business and results of operations.

The FDA may also, instead of accepting a 510(k) submission, require us to submit a PMA, which is typically a much more complex, lengthy and burdensome application than a 510(k) submission. To support a PMA, the FDA would likely require that we conduct one or more clinical studies to demonstrate that the device is safe and effective. In some cases such studies may be requested for a 510(k) as well. We may not be able to meet the requirements to obtain 510(k) clearance or PMA approval (or a De Novo classification request), in which case the FDA may not grant any necessary clearances or approvals. In addition, the FDA may place significant limitations upon the intended uses of our products as a condition to a 510(k) clearance or PMA approval. Product applications can also be denied or withdrawn due to failure to comply with regulatory requirements or the occurrence of unforeseen problems following clearance or approval. Any delays or failure to obtain FDA clearance or approval of new products we develop, any limitations imposed by the FDA on new product use or the costs of obtaining FDA clearance or approvals could have a material adverse effect on our business, financial condition and results of operations.

In order to conduct a clinical investigation involving human subjects for the purpose of demonstrating the safety and effectiveness of a medical device, a company must, among other things, apply for and obtain Institutional Review Board ('IRB") approval of the proposed investigation. In addition, if the clinical study involves a "significant risk" (as defined by the FDA) to human health, the sponsor of the investigation must also submit and obtain FDA approval of an Investigational Device Exemption ("IDE") application. Our system product is considered a significant risk device requiring IDE approval prior to investigational use. We may not be able to obtain FDA and/or IRB approval to undertake clinical trials in the United States for any new devices we intend to market in the United States in the future. If we do obtain such approvals, we may not be able to conduct studies which comply with the IDE and other regulations governing clinical investigations or the data from any such trials may not support clearance or approval of the investigational device. Failure to obtain such approvals or to comply with such regulations could have a material adverse effect on our business, financial condition and results of operations. Certainty that clinical trials will meet desired endpoints, produce meaningful or useful data and be free of unexpected adverse effects, or that the FDA will accept the validity of foreign clinical study data cannot be assured, and such uncertainty could preclude or delay market clearance or authorizations resulting in significant financial costs and reduced revenue.

Please see our other risk factors found in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 18, 2019.

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

We have not sold any unregistered equity securities other than those disclosed in our Current Report on Form 8-K filed with the SEC on March 15, 2019.

Item 3. Defaults upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

Item 6. Exhibits.

Exhibit No.	Name of Document
4.1	Form of Warrant to Purchase Common Stock (incorporated herein by reference to Exhibit No. 4.1 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on March 15, 2019 (File No. 001-37406)).
10.1	Form of Securities Purchase Agreement dated February 26, 2019 by and between Corindus Vascular Robotics, Inc. and the purchaser named therein (incorporated herein by reference to Exhibit No. 10.1 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on February 27, 2019 (File No. 001-37406)).
10.2	Form of Registration Rights Agreement dated February 26, 2019 by and between Corindus Vascular Robotics, Inc. and signatory thereto (incorporated herein by reference to Exhibit No. 10.2 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on February 27, 2019 (File No. 001-37406)).
10.3	Form of Securities Purchase Agreement dated March 12, 2019 by and among Corindus Vascular Robotics, Inc. and the purchasers named therein (incorporated herein by reference to Exhibit No. 10.1 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on March 15, 2019 (File No. 001-37406)).
10.4	Form of Registration Rights Agreement dated March 12, 2019 by and among Corindus Vascular Robotics, Inc. and the signatories thereto (incorporated herein by reference to Exhibit No. 10.2 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on March 15, 2019 (File No. 001-37406)).
10.5	First Amendment to Loan and Security Agreement dated March 14, 2019 by and among Corindus Vascular Robotics, Inc. and the parties named therein (incorporated herein by reference to Exhibit No. 10.3 to Corindus Vascular Robotics, Inc.'s Current Report on Form 8-K filed on March 15, 2019 (File No. 001-37406)).
10.6	Director Compensation Policy, as amended and restated effective February 1, 2019 (incorporated herein by reference to Exhibit No. 10.17 to Corindus Vascular Robotics, Inc.'s Annual Report on Form 10-K filed on March 18, 2019 (File No. 001-37406)).
31.1	Certification of Chief Executive Officer of Periodic Report pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) dated May 8, 2019.*
31.2	Certification of Chief Financial Officer of Periodic Report pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) dated May 8, 2019.*
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 dated May 8, 2019. **
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350 dated May 8, 2019. **
101.INS	XBRL Instance Document*
101.SCH	XBRL Taxonomy Extension Schema Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document*

* Filed herewith.

** This certification is being furnished and shall not be deemed "filed" with the SEC for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act or the Exchange Act, except to the extent that the Registrant specifically incorporates it by reference.

SIGNATURES

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

DATE: May 8, 2019

CORINDUS VASCULAR ROBOTICS, INC.

By: /s/ Mark J. Toland
Mark J. Toland
Chief Executive Officer and President

By: /s/ David W. Long
David W. Long
Chief Financial Officer and Senior Vice President

EXHIBIT 31.1

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

I, Mark J. Toland, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Corindus Vascular Robotics, 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 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.

May 8, 2019

/s/ Mark J. Toland
Mark J. Toland
Chief Executive Officer and President
(Principal Executive Officer)

EXHIBIT 31.2

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

I, David W. Long, certify that:

(1) I have reviewed this quarterly report on Form 10-Q of Corindus Vascular Robotics, 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 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.

May 8, 2019

/s/ David W. Long
David W. Long
Chief Financial Officer and Senior Vice President
(Principal Financial and Accounting Officer)

EXHIBIT 32.1

CERTIFICATION 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 Corindus Vascular Robotics, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2019, as filed with the Securities and Exchange Commission (the "Report"), I, Mark J. Toland, Principal Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, that:

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

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

May 8, 2019

/s/ Mark J. Toland
Mark J. Toland
Chief Executive Officer and President
(Principal Executive Officer)

A signed original of this certification has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

EXHIBIT 32.2

CERTIFICATION 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 Corindus Vascular Robotics, Inc. (the "Company") on Form 10-Q for the period ending March 31, 2019, as filed with the Securities and Exchange Commission (the "Report"), I, David W. Long, Principal Financial and Accounting Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, to my knowledge, that:

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

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

May 8, 2019

/s/ David W. Long
David W. Long
Chief Financial Officer and Senior Vice President
(Principal Financial and Accounting Officer)

A signed original of this certification has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.