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

OR

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

For the transition period from to

Commission File Number: 000-52024

ALPHATEC HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**20-2463898**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**

5818 El Camino Real

Carlsbad, CA 92008

(Address of principal executive offices, including zip code)

(760) 431-9286

(Registrant's telephone number, including area code)

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 Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $.0001 per share	ATEC	The NASDAQ Global Select Market

As of April 30, 2019, there were 46,857,420 shares of the registrant's common stock outstanding.

ALPHATEC HOLDINGS, INC.
QUARTERLY REPORT ON FORM 10-Q
March 31, 2019

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PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

ALPHATEC HOLDINGS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except for par value data)

	March 31, 2019	December 31, 2018
Assets	**(Unaudited)**	
Current assets:		
Cash	$ 16,419	$ 29,054
Accounts receivable, net	13,760	15,095
Inventories, net	31,166	28,765
Prepaid expenses and other current assets	2,167	2,030
Withholding tax receivable from officer	—	350
Current assets of discontinued operations	237	242
Total current assets	63,749	75,536
Property and equipment, net	12,821	13,235
Operating lease right-of-use asset	2,394	—
Goodwill	13,897	13,897
Intangibles, net	26,226	26,408
Other assets	277	347
Noncurrent assets of discontinued operations	53	54
Total assets	$ 119,417	$ 129,477
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 6,780	$ 4,399
Accrued expenses	18,527	22,316
Current portion of long-term debt	619	3,276
Current portion of operating lease liability	1,132	—
Current liabilities of discontinued operations	569	621
Total current liabilities	27,627	30,612
Long-term debt, less current portion	42,559	42,299
Operating lease liability	1,778	—
Other long-term liabilities	14,600	15,389
Redeemable preferred stock, $0.0001 par value; 20,000 shares authorized at March 31, 2019 and December 31, 2018; 3,319 shares issued and outstanding at both March 31, 2019 and December 31, 2018	23,603	23,603
Commitments and contingencies		
Stockholders' equity:		
Series A convertible preferred stock, $0.0001 par value; 15 shares authorized at March 31, 2019 and December 31, 2018; 0 and 4 shares issued and outstanding at March 31, 2019 and December 31, 2018, respectively	—	—
Series B convertible preferred stock, $0.0001 par value; 45 shares authorized at March 31, 2019 and December 31, 2018; 0 shares issued and outstanding at March 31, 2019 and December 31, 2018	—	—
Common stock, $0.0001 par value; 200,000 shares authorized at March 31, 2019 and December 31, 2018; 46,853 issued and 46,578 outstanding at March 31, 2019 net of 275 unvested shares and 43,368 shares issued and outstanding at December 31, 2018	4	4
Treasury stock, at cost, 2 shares, at both March 31, 2019 and December 31, 2018	(97)	(97)
Additional paid-in capital	528,094	523,525
Shareholder note receivable	(5,000)	(5,000)
Accumulated other comprehensive income	1,139	1,064
Accumulated deficit	(514,890)	(501,922)
Total stockholders' equity	9,250	17,574
Total liabilities and stockholders' equity	$ 119,417	$ 129,477

See accompanying notes to unaudited condensed consolidated financial statements.

ALPHATEC HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

(In thousands, except per share amounts)

	Three Months Ended March 31,	
	2019	**2018**
Revenues:		
Revenue from U.S. products	$ 22,955	$ 19,201
Revenue from international supply agreement	1,600	2,106
Total revenues	24,555	21,307
Cost of revenues	7,987	6,402
Gross profit	16,568	14,905
Operating expenses:		
Research and development	3,469	1,786
Sales, general and administrative	21,000	17,257
Litigation-related expenses	2,623	580
Amortization of intangible assets	182	177
Transaction-related expenses	—	1,542
Gain on settlement	—	(6,168)
Restructuring expenses	60	398
Total operating expenses	27,334	15,572
Operating loss	(10,766)	(667)
Total other income (expense), net	(2,119)	(1,645)
Loss from continuing operations before taxes	(12,885)	(2,312)
Income tax provision (benefit)	31	(458)
Loss from continuing operations	(12,916)	(1,854)
Loss from discontinued operations, net of applicable taxes	(52)	(62)
Net loss	$ (12,968)	$ (1,916)
Net loss per share, basic and diluted:		
Continuing operations	$ (0.29)	$ (0.09)
Discontinued operations	$ (0.00)	$ (0.00)
Net loss per share, basic and diluted	$ (0.29)	$ (0.09)
Shares used in calculating basic and diluted net loss per share	45,020	21,212

See accompanying notes to unaudited condensed consolidated financial statements.

ALPHATEC HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(UNAUDITED)

(In thousands)

	Three Months Ended March 31,	
	2019	**2018**
Net loss	$ (12,968)	$ (1,916)
Foreign currency translation adjustments related to continuing operations	75	(22)
Comprehensive loss	$ (12,893)	$ (1,938)

See accompanying notes to unaudited condensed consolidated financial statements.

ALPHATEC HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(UNAUDITED)

(In thousands)

	Common stock		Series A Convertible Preferred Stock		Series B Convertible Preferred Stock		Additional paid-in capital	Shareholder note receivable	Treasury stock	Accumulated other comprehensive income (loss)	Accumulated deficit	Total stockholders' equity
	Shares	Par Value	Shares	Par Value	Shares	Par Value						
Balance at January 1, 2018	19,857	$ 2	5	$ —	—	$ —	$ 436,803	$ (5,000)	$ (97)	$ 1,093	$ (459,459)	$ (26,658)
Stock-based compensation	—	—	—	—	—	—	812	—	—	—	—	812
Issuance of Series B preferred stock, net of offering costs of $2.6 million	—	—	—	—	45	—	42,823	—	—	—	—	42,823
Common stock issued for conversion of Series A preferred stock	637	—	(1)	—	—	—	—	—	—	—	—	—
Common stock issued for vesting of restricted stock awards, net of shares repurchased for tax liability	38	—	—	—	—	—	—	—	—	—	—	—
Common stock issued for warrant exercises	2,061	—	—	—	—		4,128	—	—	—	—	4,128
Issuance of common stock and warrants for the acquisition of SafeOp	2,975	—	—	—	—	—	11,468	—	—	—	—	11,468
Prepaid forward contract for the additional shares to be issued for the acquisition of SafeOp	—	—	—	—	—	—	938	—	—	—	—	938
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	—	(22)	—	(22)
Net loss			—		—						(1,916)	(1,916)
Balance at March 31, 2018	25,568	$ 2	4	$ —	45	$ —	$ 496,972	$ (5,000)	$ (97)	$ 1,071	$ (461,375)	$ 31,573
Balance at January 1, 2019	43,368	$ 4	4	$ —	—	$ —	$ 523,525	$ (5,000)	$ (97)	$ 1,064	$ (501,922)	$ 17,574
Stock-based compensation	—	—	—	—	—	—	1,565	—	—	—	—	1,565
Distributor equity incentives	15	—	—	—	—	—	42	—	—	—	—	42
Common stock issued for conversion of Series A preferred stock	1,858	—	(4)	—	—	—	—	—	—	—	—	—
Recognition of beneficial conversion feature - SafeOp Convertible Notes							242				—	242
Common stock issued for stock option exercises	8	—	—	—	—	—	14	—	—	—	—	14
Common stock issued for vesting of restricted stock awards, net of shares repurchased for tax liability	442	—	—	—	—	—	(183)	—	—	—	—	(183)
Issuance of common stock for acquisition of SafeOp - Milestone 2	887	—	—	—	—	—	2,889	—	—	—	—	2,889
Foreign currency translation adjustments	—	—	—	—	—	—	—	—	—	75	—	75
Net loss			—		—						(12,968)	(12,968)
Balance at March 31, 2019	46,578	$ 4	—	$ —	—	$ —	$ 528,094	$ (5,000)	$ (97)	$ 1,139	$ (514,890)	$ 9,250

See accompanying notes to unaudited condensed consolidated financial statements

ALPHATEC HOLDINGS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)
(In thousands)

	Three Months Ended March 31,	
	2019	**2018**
Operating activities:		
Net loss	$ (12,968)	$ (1,916)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,785	1,886
Stock-based compensation	1,612	619
Amortization of debt discount and debt issuance costs	503	589
Amortization of right-of-use asset	217	—
Provision for doubtful accounts	66	55
Provision for excess and obsolete inventory	1,997	1,345
Deferred income tax benefit	4	31
Gain on settlement	—	(6,168)
Beneficial conversion feature from convertible notes	242	—
Gain on disposal of instruments	(275)	(131)
Accretion to contingent consideration	289	—
Changes in operating assets and liabilities:		
Accounts receivable, net	1,268	2,846
Inventories, net	(4,398)	(2,733)
Prepaid expenses and other current assets	198	(217)
Other assets	69	37
Other long-term assets	(2,612)	—
Accounts payable	3,319	(192)
Accrued expenses and other	(1,071)	(258)
Lease liability	2,910	—
Other long-term liabilities	(1,099)	(1,093)
Net cash used in operating activities	(7,944)	(5,300)
Investing activities:		
Purchases of property and equipment	(1,068)	(410)
Cash paid for acquisition of SafeOp Surgical, Inc.	—	(13,844)
Cash received from sale of equipment	—	172
Net cash used in investing activities	(1,068)	(14,082)
Financing activities:		
Proceeds from sale of stock, net	14	47,259
Borrowings under lines of credit	26,433	22,433
Repayments under lines of credit	(26,822)	(24,178)
Principal payments on capital lease obligations	(5)	(31)
Debt issuance costs	(300)	—
Principal payments on term loan	(3,022)	(900)
Net cash (used in) provided by financing activities	(3,702)	44,583
Effect of exchange rate changes on cash	79	(22)
Net increase (decrease) in cash	(12,635)	25,179
Cash at beginning of period, including discontinued operations	29,054	22,466
Cash at end of period, including discontinued operations	$ 16,419	$ 47,645
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ 1,357	$ 1,092
Cash paid for income taxes	$ 23	$ 6
Purchases of property and equipment in accounts payable	$ 785	$ 515
Common stock issued for achievement of SafeOp contingent consideration	$ 2,889	$ —

See accompanying notes to unaudited condensed consolidated financial statements.

1. The Company and Basis of Presentation

The Company

Alphatec Holdings, Inc. (the "Company"), through its wholly owned subsidiaries, Alphatec Spine, Inc. ("Alphatec Spine") and SafeOp Surgical, Inc. ("SafeOp"), is a medical technology company that designs, develops, and markets spinal fusion technology products and solutions for the treatment of spinal disorders associated with disease and degeneration, congenital deformities, and trauma. The Company markets its products in the U.S. via independent sales agents and a direct sales force.

On March 8, 2018, the Company completed its acquisition of SafeOp, a Delaware corporation, pursuant to a reverse triangular merger of SafeOp into a newly-created wholly-owned subsidiary of the Company, with SafeOp being the surviving corporation and a wholly-owned subsidiary of the Company. See Note 8 for further information.

On September 1, 2016, the Company completed the sale of its international distribution operations and agreements (collectively, the "International Business") to Globus Medical Ireland, Ltd., a subsidiary of Globus Medical, Inc., and its affiliated entities (collectively "Globus"). As a result of this transaction, the International Business has been excluded from continuing operations for all periods presented in this Quarterly Report on Form 10-Q and is reported as discontinued operations. See Note 4 for additional information on the divestiture of the International Business.

Basis of Presentation

The accompanying condensed consolidated balance sheet as of December 31, 2018, which has been derived from audited financial statements, and the unaudited interim condensed consolidated financial statements have been prepared by the Company in accordance with U.S. generally accepted accounting principles ("GAAP") and the rules and regulations of the Securities and Exchange Commission ("SEC") related to a quarterly report on Form 10-Q. Certain information and note disclosures normally included in annual audited financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to those rules and regulations, although the Company believes that the disclosures made in this Quarterly Report on Form 10-Q are adequate to make the information not misleading. The unaudited interim condensed consolidated financial statements reflect all adjustments, including normal recurring adjustments which, in the opinion of management, are necessary for a fair statement of the financial position and results of operations for the periods presented. These unaudited condensed consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2018, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 that was filed with the SEC on March 29, 2019. Operating results for the three months ended March 31, 2019 are not necessarily indicative of the results that may be expected for the year ending December 31, 2019, or any other future periods.

Liquidity

The accompanying condensed consolidated financial statements have been prepared assuming that the Company will continue as a going concern and do not include any adjustments that might result from the outcome of this uncertainty. A going concern basis of accounting contemplates the recovery of the Company's assets and the satisfaction of its liabilities in the normal course of business.

The Company's annual operating plan projects that its existing working capital at March 31, 2019 of $36.1 million (including cash of $16.4 million) along with the use of the Expanded Credit Facility with Squadron Medical Finance Solutions LLC ("Squadron") of $30.0 million that closed on March 27, 2019 allows the Company to fund its operations through at least one year subsequent to the date the financial statements are issued.

The Company has incurred significant net losses since inception and has relied on its ability to fund its operations through revenues from the sale of its products, equity financings and debt financings. As the Company has historically incurred losses, successful transition to profitability is dependent upon achieving a level of revenues adequate to support the Company's cost structure. This may not occur and, unless and until it does, the Company will continue to need to raise additional capital. Operating losses and negative cash flows may continue for at least the next year as the Company continues to incur costs related to the execution of its operating plan and introduction of new products. The Company's inability to raise additional capital from outside sources will have a material adverse impact on its operations.

As more fully described in Note 5, the Company's debt agreements include traditional lending and reporting covenants, including a financial covenant that requires the Company to maintain a minimum fixed charge coverage ratio beginning in April 2020 and a minimum liquidity covenant of $5.0 million effective through March 2020. Should at any time the Company fail to maintain compliance with these covenants, the Company will need to seek waivers or amendments to the debt agreements. If the Company is unable to secure such waivers or amendments, it may be required to classify its obligations under the debt agreements in current liabilities on its consolidated balance sheet. The Company may also be required to repay all or a portion of outstanding indebtedness under the debt agreements, which would require the Company to obtain further financing. There is no assurance that the Company will be able to obtain further financing, or do so on reasonable terms.

Reclassification

Certain amounts in the condensed consolidated statement of cash flows for the three months ended March 31, 2018 have been reclassified to conform to the current period's presentation. These reclassifications include the depreciation expense for surgical instruments, which was reclassified, to be consistent with industry practice, out of cost of revenues and into sales, general and administrative expense on the Company's consolidated statements of operations. This resulted in a reclassification of $1.3 million of depreciation expense for the three months ended March 31, 2018. In addition, general and administrative expense for 2018 was combined into a single line item with sales and marketing expense for a new expense line titled "Sales, general and administrative expense" and litigation-related expenses primarily pertaining to the ongoing litigation with NuVasive, Inc. were classified out of selling, general and administrative expense on the Company's consolidated statement of operations for the three months ended March 31, 2018 and onto its own expense line item. None of the adjustments had any effect on the prior period net loss.

2. Summary of Significant Accounting Policies

The Company's significant accounting policies are described in Note 2 to its audited consolidated financial statements for the year ended December 31, 2018, which are included in the Company's Annual Report on Form 10-K that was filed with the SEC on March 29, 2019. Except as discussed below, these accounting policies have not changed during the three months ended March 31, 2019.

Operating Lease

Effective January 1, 2019, the Company adopted ASC No. 2016-02, Leases (Topic 842) ("ASU 2016-02" or "ASC 842"), which supersedes the current accounting for leases, using the modified retrospective transition method. The Company has elected to apply the practical expedients allowed by the standard for existing leases. The new standard, while retaining two distinct types of leases, finance and operating, (i) requires lessees to record a right-of-use ("ROU")asset and a related liability for the rights and obligations associated with a lease, regardless of lease classification, and recognize lease expense in a manner similar to current accounting, (ii) eliminates current real estate specific lease provisions, (iii) modifies the lease classification criteria and (iv) aligns many of the underlying lessor model principles with those in the new revenue standard. The Company determines the initial classification and measurement of its ROU asset and lease liabilities at the lease commencement date and thereafter, if modified. The Company recognizes a ROU asset for its operating leases with lease terms greater than 12 months. The lease term includes any renewal options and termination options that the Company is reasonably assured to exercise. The present value of lease payments is determined by using the incremental borrowing rate for operating leases determined by using the incremental borrowing rate of interest that the Company would pay to borrow on a collateralized basis an amount equal to the lease payments in a similar economic environment. The Company applied the new guidance to its existing facility lease at the time of adoption and recognized a ROU asset of $2.4 million and operating lease liability of $2.9 million as of March 31, 2019 and recorded a reversal of the previous deferred rent balance under the previous lease guidance of approximately $0.6 million.

Rent expense for operating leases is recognized on a straight-line basis over the reasonably assured lease term based on the total lease payments and is included in research and development and general and administrative expenses in the statements of operations.

Beneficial Conversion Feature – SafeOp Convertible Notes

In March 2019, the Company's Convertible Note outstanding reached maturity and allowed for the noteholders to elect settlement in cash or shares of common stock. As the Convertible Note provided the holders the benefit to convert to shares of common stock, a beneficial conversion feature ("BCF") with a calculated intrinsic fair value at issuance of $0.2 million existed as of the date the Convertible Note was able to be converted into shares of common stock. Although the holders elected for cash settlement, the BCF was required to be recognized as interest expense on the Company's consolidated statement of operations and within additional paid-in-capital within the Company's condensed consolidated statement of stockholders' equity for the three months ended March 31, 2019.

Fair Value Measurements

The carrying amount of financial instruments consisting of cash, restricted cash, trade accounts receivable, prepaid expenses and other current assets, accounts payable, accrued expenses, accrued compensation and current portion of long-term debt included in the Company's consolidated financial statements are reasonable estimates of fair value due to their short maturities. Based on the borrowing rates currently available to the Company for loans with similar terms, management believes the fair value of long-term debt approximates its carrying value.

Authoritative guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1:Observable inputs such as quoted prices in active markets;

Level 2:Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3:Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions.

The Company does not maintain any financial assets that are considered to be Level 1, Level 2 or Level 3 instruments as of March 31, 2019. The fair value of the contingent consideration liability assumed in the SafeOp acquisition was recorded as part of the purchase price consideration of the acquisition. The contingent consideration related to the SafeOp acquisition is classified within Level 3 of the fair value hierarchy as the Company is using a probability-weighted income approach, utilizing significant unobservable inputs including the probability of achieving each of the potential milestones and an estimated discount rate related to the risks of the expected cash flows attributable to the milestones.

The following table provides a reconciliation of liabilities measured at fair value using significant unobservable inputs (Level 3) for the three months ended March 31, 2019 (in thousands):

	Level 3 Liabilities
Balance at January 1, 2019	$ 2,600
Settlement of Milestone #2	(2,889)
Change in fair value measurement	289
Balance at March 31, 2019	$ —

During the three months ended March 31, 2019, the Company achieved the second of the two milestones which was settled through the issuance of 886,843 shares of the Company's common stock. See Note 8 for further information.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02*, Leases (Topic 842)*, which changes several aspects of the accounting for leases, including the requirement that all leases with durations greater than twelve months be recognized on the balance sheet. The guidance is effective for annual and interim reporting periods in fiscal years beginning after December 15, 2018. The Company adopted the guidance effective January 1, 2019 and elected the optional transition method to account for the impact of the adoption with a cumulative-effect adjustment in the period of adoption and did not restate prior periods. The Company elected certain practical expedients permitted under the transition guidance. As part of the adoption, the Company recorded a ROU asset and liability upon adoption of the guidance pertaining to its long-term real estate lease for its corporate facilities. No cumulative-effect adjustment was needed.

Recently Issued Accounting Pronouncements

In January 2017, the FASB issued ASU 2017-04, *Intangibles – Goodwill and Other*, which eliminates the requirement to calculate the implied fair value of goodwill to measure a goodwill impairment charge. Instead, entities will record an impairment charge based on the excess of a reporting unit's carrying amount over its fair value. The standard has tiered effective dates, starting in 2020 for calendar-year public business entities that meet the definition of an SEC filer. Early adoption is permitted for annual and interim goodwill impairment testing dates after January 1, 2017. The Company is in the process of determining the impacts the adoption will have on its consolidated financial statements as well as whether to early adopt the new guidance.

3. Select Condensed Consolidated Balance Sheet Details

Accounts Receivable, net

Accounts receivable, net consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Accounts receivable	$ 13,966	$ 15,291
Allowance for doubtful accounts	(206)	(196)
Accounts receivable, net	$ 13,760	$ 15,095

Inventories, net

Inventories, net consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Raw materials	$ 5,862	$ 5,813
Work-in-process	805	952
Finished goods	43,613	39,758
	50,280	46,523
Less reserve for excess and obsolete finished goods	(19,114)	(17,758)
Inventories, net	$ 31,166	$ 28,765

Property and Equipment, net

Property and equipment, net consist of the following (in thousands except as indicated):

	Useful lives (in years)	March 31, 2019	December 31, 2018
Surgical instruments	4	$ 52,441	$ 54,848
Machinery and equipment	7	5,993	5,971
Computer equipment	3	3,307	3,104
Office furniture and equipment	5	1,195	1,155
Leasehold improvements	various	1,765	1,765
Construction in progress	n/a	53	92
		64,754	66,935
Less accumulated depreciation and amortization		(51,933)	(53,700)
Property and equipment, net		$ 12,821	$ 13,235

Total depreciation expense was $1.6 million and $1.5 million for the three months ended March 31, 2019 and 2018, respectively. At both March 31, 2019 and December 31, 2018, assets recorded under capital leases of $0.1 million were included in the machinery and equipment balance. Amortization of assets under capital leases is included in depreciation expense.

Intangible Assets, net

Intangible assets, net consist of the following (in thousands, except as indicated):

	Remaining Avg. Useful lives (in years)	March 31, 2019	December 31, 2018
Developed technology	10	$ 26,976	$ 26,976
Intellectual property	—	1,004	1,004
License agreements	1	5,536	5,536
Trademarks and trade names	—	792	792
Customer-related	4	7,458	7,458
Distribution network	3	4,027	4,027
In process research and development	19	8,800	8,800
		54,593	54,593
Less accumulated amortization		(28,367)	(28,185)
Intangible assets, net		$ 26,226	$ 26,408

Total amortization expense was $0.2 million and $0.3 million for the three months ended March 31, 2019 and 2018, respectively.

Future amortization expense related to intangible assets as of March 31, 2019 is as follows (in thousands):

Year Ending December 31,	
Remainder of 2019	$ 1,558
2020	1,890
2021	1,890
2022	1,890
2023	1,890
Thereafter	17,108
	$ 26,226

Accrued Expenses

Accrued expenses consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Commissions and sales milestones	$ 3,885	$ 3,594
Payroll and payroll related	3,419	3,222
Litigation settlement obligation	4,400	4,400
Professional fees	2,366	2,637
Royalties	1,471	1,354
Restructuring and severance accruals	162	710
Taxes	31	(3)
Interest	127	261
Acquisition related - contingent consideration	-	2,600
Other	2,666	3,541
Total accrued expenses	$ 18,527	$ 22,316

4. Discontinued Operations

In connection with the sale of the International Business, the Company entered into a product manufacture and supply agreement (the "Supply Agreement") with Globus, pursuant to which the Company supplies to Globus certain of its implants and instruments (the "Products"), previously offered for sale by the Company in international markets at agreed-upon prices for a minimum term of three years, with the option for Globus to extend the term for up to two additional twelve month periods subject to Globus meeting specified purchase requirements. During the three months ended March 31, 2019, Globus notified the Company that it

will exercise the option to extend the agreement an additional twelve months through August 2020. In accordance with authoritative guidance, sales to Globus are reported under continuing operations as the Company has continuing involvement under the Supply Agreement.

During the three months ended March 31, 2019, the Company recorded $1.6 million in revenue and $1.4 million in cost of revenue from the Supply Agreement in continuing operations. Included in the results of continuing operations for the three months ended March 31, 2018 are revenues of $2.1 million and cost of revenue of $2.0 million from the Supply Agreement. Sales, general and administrative expenses pertaining to discontinued operations on the Company's condensed consolidated statements of operations were immaterial for the three months ended March 31, 2019 and 2018.

5. Debt

MidCap Facility Agreement

The Company's Amended Credit Facility with MidCap provides for a revolving credit commitment up to $22.5 million and provided for a term loan commitment up to $5 million. As of March 31, 2019, $10.6 million was outstanding under the revolving line of credit. The principal balance outstanding under the revolving line of credit is due in December 2022.

Amounts outstanding under the revolving line of credit accrue interest at the London Interbank Offered Rate ("LIBOR") plus 6.0%, reset monthly. At March 31, 2019, the revolving line of credit carried an interest rate of 8.50%, with interest payable monthly. The borrowing base is determined based on the value of domestic eligible accounts receivable. As collateral for the Amended Credit Facility, MidCap has a first lien security interest in accounts receivable and a second lien on substantially all other assets.

At March 31, 2019, $1.2 million remains as an unamortized debt discount related to the Amended Credit Facility on the condensed consolidated balance sheet, which will be amortized over the remaining term of the Amended Credit Facility.

The Amended Credit Facility also includes several event of default provisions, such as payment default, insolvency conditions and a material adverse effect clause, which could cause interest to be charged at a rate which is up to five percentage points above the rate effective immediately before the event of default or result in MidCap's right to declare all outstanding obligations immediately due and payable.

On March 8, 2018, the Company entered into a Seventh Amendment to the Amended Credit Facility to extend the date that the financial covenants of the Amended Credit Facility are effective from April 2018 to April 2019, and established a minimum liquidity covenant of $5.0 million through March 2019. On November 6, 2018, the Company entered into the Eighth Amendment to the MidCap Facility to extend the date that the financial covenants of the MidCap Facility are effective from April 2019 to April 2020, and extended the minimum liquidity covenant through March 2020. The Company was in compliance with the covenants under the Amended Credit Facility at March 31, 2019.

Squadron Credit Agreement

On November 6, 2018, the Company closed a $35 million Term Loan with Squadron, a provider of debt financing to growing companies in the orthopedic industry. Net proceeds of approximately $34.1 million were used to retire the Company's existing $29.2 million term debt with Globus, with the remainder of the proceeds used for general corporate purposes.

The debt has a five-year maturity and bears interest at LIBOR plus 8% (10.5% as of March 31, 2019) per annum. The credit agreement specifies a minimum interest rate of 10% and a maximum of 13% per year. Interest-only payments are due monthly through May 2021, followed by $10 million in principal payable in 29 equal monthly installments beginning June 2021 and a $25 million lump-sum payment payable at maturity in November 2023. As collateral for the Term Loan, Squadron has a first lien security interest in substantially all assets except for accounts receivable.

The credit agreement also includes several event of default provisions, such as payment default, insolvency conditions and a material adverse effect clause, which could cause interest to be charged at a rate which is up to five percentage points above the rate effective immediately before the event of default or result in Squadron's right to declare all outstanding obligations immediately due and payable. Furthermore, the credit agreement contains various covenants, including monthly compliance certifications and compliance with government regulations and maintenance of insurance, and prohibitions against certain specified actions, including acquiring any new equipment financings over a specified amount. The credit agreement also contains various negative covenants including a $5 million minimum liquidity requirement through March 31, 2020. The minimum liquidity covenant will be replaced by a fixed charge ratio, pursuant to which operating cash to fixed charges (as defined) must equal at least 1:1 on a rolling 12-month basis, beginning April 2020. The Company was in compliance with the covenants under the credit agreement at March 31, 2019.

In connection with the financing, the Company issued warrants to Squadron to purchase 845,000 shares of common stock at an exercise price of $3.15 per share. The warrants have a seven-year term and are immediately exercisable. See Note 10 for further detail on the warrants.

As of March 31, 2019, the debt is recorded at its carrying value of $32.2 million, net of issuance costs, including all amounts paid to third parties to secure the debt and the fair value of the warrants issued. The debt issuance costs are being amortized into interest expense over the five-year term utilizing the effective interest rate method.

In March 2019, the Company closed on an expanded credit facility with Squadron for up to $30 million in additional secured financing. This additional financing has been made available under the Company's existing credit facility with Squadron. No amounts have been drawn on the expanded credit facility as of March 31, 2019. Any amounts drawn will be used for general corporate purposes. The additional borrowings under the credit facility will mature concurrent with the current secured financing from Squadron and bear interest at the same rate and subject to the same 10% floor and 13% ceiling. For any draws taken, interest-only payments are due monthly through May 2021, followed by principal payable in 29 equal monthly installments beginning June 2021 and a lump-sum payment payable at maturity in November 2023. At such time as the Company makes its first draw under the Expanded Credit Facility, the Company will issue to Squadron warrants to purchase 4.8 million shares of the Company's common stock at an exercise price of $2.17 per share. The warrants will have a seven-year term and will be immediately exercisable upon issuance. The Company accounted for the amendment as a debt modification with continued amortization of the existing and inclusion of the new debt issuance costs of $0.3 million amortized into interest expense utilizing the effective interest rate method. The warrants will be recorded upon issuance utilizing the monte-carlo simulation model to value the warrants and they will be recorded within equity in accordance with authoritative accounting guidance and as a debt discount to the total amount outstanding under the Squadron agreements. The total debt discount will be amortized into interest expense through maturity of the debt utilizing the effective interest rate method.

Inventory Financing

The Company has an Inventory Financing Agreement with a key inventory and instrument components supplier whereby the Company may draw up to $3.0 million for the purchase of inventory to accrue interest at a rate of LIBOR plus 8% subject to the same 10% floor and 13% ceiling. All principal will become due and payable upon maturity on November 6, 2023 and all interest will be paid monthly. The obligation outstanding under the Inventory Financing Agreement as of March 31, 2019 was $0.8 million.

Principal payments remaining on the Company's debt were as follows as of March 31, 2019 (in thousands):

Year Ending December 31,		
Remainder of 2019	$	566
2020		47
2021		4,483
2022		18,306
2023 and thereafter		23,617
Total		47,019
Add: capital lease principal payments		123
Less: unamortized debt discount and debt issuance costs		(3,964)
Total		43,178
Less: current portion of long-term debt		(619)
Long-term debt, net of current portion	$	42,559

6. Commitments and Contingencies

Capital Lease

The Company has one outstanding capital lease arrangement for the lease of equipment as of March 31, 2019 that matures in 2022. The lease bears interest at an annual rate of 6.40% per annum, is due in monthly principal and interest installments and is collateralized by the related equipment. The total capital lease commitment outstanding as of March 31, 2019 and December 31, 2018 was $0.1 million in both periods.

Operating Lease

The Company leases its buildings and certain equipment under operating leases which expire on various dates through 2021. Upon the Company's adoption of ASC 842 as of January 1, 2019, the Company recognized a ROU asset and lease liability for its building lease, assuming a 10.5% discount rate. Any short-term leases defined as 12 months or less or month-to-month leases were

excluded and continue to be expensed each month. Total costs associated with these leases for the three months ended March 31, 2019 was immaterial.

The Company determines if an arrangement is a lease at inception. The Company has operating leases for its buildings and certain equipment with lease terms of one year to 5.5 years, some of which include options to extend and/or terminate the lease. The exercise of lease renewal options is at the Company's sole discretion and were not included in the calculation of the Company's lease liability as the Company is not able to determine without uncertainty if the renewal option will be exercised. The depreciable life of assets and leasehold improvements are limited to the expected term, unless there is a transfer of title or purchase option reasonably certain of exercise. The Company's lease agreements do not contain any variable lease payments, residual value guarantees or any restrictive covenants.

The Company's ROU asset represents the right to use an underlying asset for the lease term and lease liabilities represent the obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date of the lease or the ASC 842 adoption date, whichever is later, based on the present value of lease payments over the lease term. When readily determinable, the Company uses the implicit rate in determining the present value of lease payments, or 10.5% as of the adoption date. When leases do not provide an implicit rate, the Company uses its incremental borrowing rate based on the information available at the lease commencement date or adoption date, including the lease term. The operating lease ROU asset also includes any lease payments made and excludes lease incentives. Lease expense for lease payments is recognized on a straight-line basis over the lease term.

Future minimum annual lease payments under such leases are as follows as of March 31, 2019 (in thousands):

Undiscounted lease payments:		
Year Ending December 31,		
Remainder of 2019	$	1,033
2020		1,416
2021		849
Total undiscounted lease payments		3,298
Less: present value adjustment		(388)
Operating lease liability		2,910
Less: current portion of operating lease liability		(1,132)
Operating lease liability, less current portion	$	1,778

As of March 31, 2019, the Company's remaining lease term is 2.3 years. Rent expense under operating leases for the three months ended March 31, 2019 and 2018 was $0.3 million for both periods. The Company paid $0.3 million of cash payments related to its operating lease agreement for the three months ended March 31, 2019.

Litigation

The Company is and may become involved in various legal proceedings arising from its business activities. While management is not aware of any litigation matter that in and of itself would have a material adverse impact on the Company's consolidated results of operations, cash flows or financial position, litigation is inherently unpredictable, and depending on the nature and timing of a proceeding, an unfavorable resolution could materially affect the Company's future consolidated results of operations, cash flows or financial position in a particular period. The Company assesses contingencies to determine the degree of probability and range of possible loss for potential accrual or disclosure in the Company's consolidated financial statements. An estimated loss contingency is accrued in the Company's consolidated financial statements if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Because litigation is inherently unpredictable and unfavorable resolutions could occur, assessing contingencies is highly subjective and requires judgments about future events. When evaluating contingencies, the Company may be unable to provide a meaningful estimate due to a number of factors, including the procedural status of the matter in question, the presence of complex or novel legal theories, and/or the ongoing discovery and development of information important to the matters. In addition, damage amounts claimed in litigation against the Company may be unsupported, exaggerated or unrelated to reasonably possible outcomes, and as such are not meaningful indicators of the Company's potential liability.

On February 13, 2018, NuVasive, Inc. filed suit against the Company in the United States District Court for the Southern District of California, alleging that certain of the Company's products (including components of the Battalion™ Lateral System), infringe, or contribute to the infringement of, U.S. Patent Nos. 7,819,801, 8,355,780, 8,439,832, 8,753,270, 9,833,227 (entitled "Surgical access system and related methods"), U.S. Patent No. 8,361,156 (entitled "Systems and methods for spinal fusion"), and

U.S. Design Patent Nos. D652,519 ("Dilator") and D750,252 ("Intervertebral Implant"). NuVasive is seeking unspecified monetary damages and a court injunction against future infringement by the Company.

On March 8, 2018, the Company moved to dismiss NuVasive's claims of infringement of its design patents on the grounds that those allegations fail to state a cognizable legal claim. On May 14, 2018, the Court ruled that NuVasive had failed to state a plausible claim for infringement of the asserted design patents and granted the Company's motion to dismiss those claims with prejudice, as any further amendment would be futile. The Company filed its answer, affirmative defenses and counterclaims to NuVasive's remaining claims on May 21, 2018.

On March 26, 2018, NuVasive moved for a preliminary injunction, which, on March 27, 2018, the Court denied without prejudice for failure to comply with the Court's chambers rules. On April 5, 2018, NuVasive again moved for a preliminary injunction. The Court held a hearing on the matter, having been fully briefed, on June 21, 2018. On July 10, 2018, the Court ruled that NuVasive had failed to establish either likelihood of success on the merits of its remaining claims or that it would suffer irreparable harm in the absence of a preliminary injunction. Accordingly, the Court denied NuVasive's motion for preliminary injunction.

On September 13, 2018, NuVasive filed an Amended Complaint for Patent Infringement, asserting additional infringement claims of U.S. Patent Nos. 9,924,859, 9,974,531 and 8,187,334. The Company filed its answer, affirmative defenses and counterclaims to NuVasive's claims on October 12, 2018. On October 26, 2018, NuVasive moved to dismiss the Company's counterclaims that NuVasive intentionally had misled the U.S. Patent and Trademark Office as a means of obtaining certain patents asserted against the Company. On January 30, 2019, the Court denied NuVasive's motion as to all but one of the Company's counterclaims. The Court granted NuVasive's motion with respect to one counterclaim, but granted the Company leave to amend its counterclaim to cure the dismissal. The Company amended that counterclaim on February 14, 2019. On February 28, 2019, NuVasive moved to dismiss the amended counterclaim. On March 29, 2019, the Court denied NuVasive's motion. NuVasive filed its Answer to the amended counterclaim on April 12, 2019.

On December 13, 2018, the Company filed a petition with the Patent Trial and Appeal Board ("PTAB") challenging the validity of certain claims of U.S. Patent No. 8,361,156. On December 21, 2018, the Company filed a similar petition with PTAB challenging the validity of certain claims of U.S. Patent No. 8,187,334. The Company expects the PTAB to issue its decisions on the matters in the second half of 2019. On February 6, 2019, upon joint motion of the parties, the Court stayed all proceedings in this matter, except as noted above, pending PTAB's determination of whether to institute *inter partes* review of the asserted claims of the two patents at issue and vacated the trial date. The Company anticipates that the stay of proceedings will remain in effect until at least July 2019.

The Company believes that the allegations lack merit and intends to vigorously defend all claims asserted. It is impossible at this time to assess whether the outcome of this proceeding will have a material adverse effect on the Company consolidated results of operations, cash flows or financial position. Therefore, in accordance with authoritative accounting guidance, the Company has not recorded any accrual for a contingent liability associated with this legal proceeding based on its belief that a liability, while possible, is not probable and any range of potential future charge cannot be reasonably estimated at this time.

Indemnifications

In the normal course of business, the Company enters into agreements under which it occasionally indemnifies third-parties for intellectual property infringement claims or claims arising from breaches of representations or warranties. In addition, from time to time, the Company provides indemnity protection to third-parties for claims relating to past performance arising from undisclosed liabilities, product liabilities, environmental obligations, representations and warranties, and other claims. In these agreements, the scope and amount of remedy, or the period in which claims can be made, may be limited. It is not possible to determine the maximum potential amount of future payments, if any, due under these indemnities due to the conditional nature of the obligations and the unique facts and circumstances involved in each agreement.

In October 2017, NuVasive filed a lawsuit in Delaware Chancery Court against Mr. Miles, the Company's Chairman and CEO, who was a former officer and board member of NuVasive. The Company itself was not initially a named defendant in this lawsuit; however, on June 28, 2018, NuVasive amended its complaint to add the Company as a defendant. As of March 31, 2019, the Company has not recorded any liability on the consolidated balance sheet related to this matter. On October 12, 2018, the Delaware Court ordered that NuVasive begin advancing a portion of the legal fees for Mr. Miles' defense in the lawsuit, as well as Mr. Miles' legal fees incurred in pursuing advancement of his fees, pursuant to an indemnification agreement between NuVasive and Mr. Miles.

Royalties

The Company has entered into various intellectual property agreements requiring the payment of royalties based on the sale of products that utilize such intellectual property. These royalties primarily relate to products sold by Alphatec Spine and are based on fixed fees or calculated either as a percentage of net sales or on a per-unit sold basis. Royalties are included on the accompanying

consolidated statements of operations as a component of cost of revenues. As of March 31, 2019, the Company is obligated to pay guaranteed minimum royalty payments under these agreements of approximately $5.8 million through 2023 and beyond.

7. Orthotec Settlement

On September 26, 2014, the Company entered into a Settlement and Release Agreement, dated as of August 13, 2014, by and among the Company and its direct subsidiaries, including Alphatec Spine, Inc., Alphatec Holdings International C.V., Scient'x S.A.S. and Surgiview S.A.S.; HealthpointCapital, LLC, HealthpointCapital Partners, L.P., HealthpointCapital Partners II, L.P., John H. Foster and Mortimer Berkowitz III; and Orthotec, LLC and Patrick Bertranou, (the "Settlement Agreement"). Pursuant to the Settlement Agreement, the Company agreed to pay Orthotec, LLC $49.0 million in cash, including initial cash payments totaling $1.75 million, which the Company previously paid in March 2014, and an additional lump sum payment of $15.75 million, which the Company previously paid in April 2014. The Company agreed to pay the remaining $31.5 million in 28 quarterly installments of $1.1 million and one additional quarterly installment of $0.7 million, commencing October 1, 2014. The payments set forth above are guaranteed by Stipulated Judgments held against the Company, HealthpointCapital Partners, L.P., HealthpointCapital Partners II, L.P., HealthpointCapital, LLC, John H. Foster and Mortimer Berkowitz III and, in the event of a default, will be entered and enforced against these entities and/or individuals in that order. In September 2014, the Company and HealthpointCapital entered into an agreement for joint payment of settlement whereby HealthpointCapital has agreed to contribute $5 million to the $49 million settlement amount. The $5 million is classified within stockholders' equity on the Company's condensed consolidated balance sheet due to the related party nature with HealthpointCapital and its affiliates. See Note 12 for further information.

As of March 31, 2019, the Company has made installment payments in the aggregate of $37.3 million, with a remaining outstanding balance of $20.5 million (including interest). The Company has the right to prepay the amounts due without penalty. In addition, the unpaid balance of the amounts due accrues interest at the rate of 7% per year until paid in full. The accrued but unpaid interest will be paid in quarterly installments of $1.1 million (or the full amount of the accrued but unpaid interest if less than $1.1 million) following the full payment of the $31.5 million in quarterly installments described above. No interest will accrue on the accrued interest. The Settlement Agreement provides for mutual releases of all claims in the Orthotec, LLC v. Surgiview, S.A.S, et al. matter in the Superior Court of California, Los Angeles County and all other related litigation matters involving the Company and its directors and affiliates.

8. Acquisition of SafeOp Surgical, Inc.

On March 9, 2018, the Company acquired SafeOp, a privately-held provider of neuromonitoring technology designed to enable effective intra-operative nerve health assessment. At the time of the acquisition, SafeOp had FDA 510(k) approval for a somatosensory evoked potential ("SSEP") monitoring technology. The Company has developed a product that will allow for both free run and triggered specific recording of muscle activity, also known as Electromyography ("EMG"). The Company received FDA clearance for SafeOp's EMG technology in February 2019 to complement the SSEP solution, and anticipates commercialization of the combined technology solution in mid-2019. In addition to expanding the Company's market presence in lateral spine surgery, the Company believes that the SafeOp solution will allow it to integrate neuromonitoring into its broader product portfolio and accelerate the transition to procedural integration of the entire portfolio.

Under the term of the definitive merger agreement, the Company agreed to pay $15.1 million in cash and agreed to issue 3,265,132 shares of common stock. The Company paid the full $15.1 million in cash consideration during the year ended December 31, 2018. On March 8, 2018, the Company issued 2,975,209 shares of common stock valued at $9.8 million, based on the closing share price of $3.30, and issued an additional 115,621 shares of common stock during the second quarter of 2018 and the remaining 174,302 during the third quarter of 2018.

In March 2018, the Company also issued $3 million in convertible notes that were convertible into a total of 987,578 shares of common stock, which included total expected interest to be incurred, and issued warrants to purchase 2.2 million shares of common stock at an exercise price of $3.50 per share. The convertible notes matured on March 9, 2019 and were settled in cash. Upon maturity, the Company recognized the value associated with the beneficial conversion feature calculated at issuance of $0.2 million within interest expense on the Company's condensed consolidated statement of operations for the three months ended March 31, 2019. Shares of common stock were issued upon achievement of post-closing milestones as described further below. The warrants remain outstanding as of March 31, 2019.

The first of the two milestones was achieved during the year ended December 31, 2018 and resulted in the issuance of 443,421 shares of common stock as payment. During the three months ended March 31, 2019, the second milestone pertaining to regulatory approval was achieved and the Company issued 886,843 shares of common stock as payment. Prior to achievement, the contingent consideration was recorded as a liability and measured at fair value using a probability-weighted income approach, utilizing significant unobservable inputs including the probability of achieving each of the potential milestones and an estimated discount rate related to the risks of the expected cash flows attributable to the milestones. The fair value of the contingent consideration, and the associated liability relating to the contingent consideration at each reporting date, was re-assessed with the changes in fair value reflected in earnings. For the three months ended March 31, 2019, the fair value for the contingent consideration increased by $0.3 million due to the proximity of the achievement of the milestone. The amount was recorded within research and development expense on the condensed consolidated statement of operations and a corresponding increase in the liability on the Company's condensed consolidated balance sheet. The full liability was relieved upon achievement of the remaining milestone during the period.

9. Net Loss Per Share

Basic earnings per share ("EPS") is calculated by dividing the net income or loss available to common stockholders by the weighted average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted EPS is computed by dividing the net income available to common stockholders by the weighted average number of common shares outstanding for the period and the weighted average number of dilutive common stock equivalents outstanding for the period determined using the treasury-stock method. For purposes of this calculation, common stock subject to repurchase by the Company, convertible preferred stock, options, convertible notes and warrants are considered to be common stock equivalents and are only included in the calculation of diluted earnings per share when their effect is dilutive.

The following table presents the computation of basic and diluted net loss per share for continuing and discontinued operations (in thousands, except per share amounts):

	Three Months Ended March 31,	
	2019	2018
Numerator:		
Loss from continuing operations	$ (12,916)	$ (1,854)
Loss from discontinued operations	(52)	(62)
Net loss	$ (12,968)	$ (1,916)
Denominator:		
Weighted average common shares outstanding	45,310	21,212
Weighted average unvested common shares subject to repurchase	(290)	—
Weighted average common shares outstanding—basic and diluted	45,020	21,212
Net loss per share, basic and diluted:		
Continuing operations	$ (0.29)	$ (0.09)
Discontinued operations	$ (0.00)	$ (0.00)
Net loss per share, basic and diluted	$ (0.29)	$ (0.09)

The anti-dilutive securities not included in diluted net loss per share were as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Options to purchase common stock	4,670	3,180
Unvested restricted share awards	3,761	2,034
Series A Convertible Preferred Stock	164	2,022
Series B Convertible Preferred Stock	—	14,349
Convertible Notes	—	988
Warrants to purchase common stock	22,302	23,182
Total	30,897	45,755

10. Stock Benefit Plans and Equity Transactions

Stock Benefit Plans

On October 25, 2018, the Company's Board of Directors adopted an amendment to the Company's 2016 Equity Incentive Award Plan (the "Amendment"). The Amendment increases the maximum aggregate number of shares with respect to one or more stock rights that may be granted to any one person during any fiscal year from 500,000 to 1,250,000.

Total stock-based compensation for the three months ended March 31, 2019 and 2018 is as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Cost of revenues	$ 28	$ 22
Research and development	462	(116)
Sales, general and administrative	1,122	713
Total	$ 1,612	$ 619

The negative stock-based compensation expense recorded within the Company's research and development expense in 2018 is a result of the revaluation of the Company's Elite Medical Holdings and Pac 3 Surgical Collaboration liability, which was subsequently terminated during the first quarter of 2018.

Shares Reserved for Future Issuance

As of March 31, 2019, the Company had reserved shares of its common stock for future issuance as follows (in thousands):

	March 31, 2019
Stock options outstanding	4,670
Unvested restricted stock award	3,761
Employee stock purchase plan	223
Series A convertible preferred stock	164
Warrants outstanding	22,302
Distributor and Development Services plans	3,985
Authorized for future grant under the Company equity plans	461
Total	35,566

Series A Convertible Preferred Stock

In March 2017, the Company completed a private placement (the "2017 Private Placement") with certain institutional and accredited investors, including certain directors, executive officers and employees of the Company (collectively, the "Purchasers"), providing for the sale by the Company of 1,809,628 shares of the Company's common stock at a purchase price of $2.00 per share and 15,245 shares of newly designated Series A Convertible Preferred Stock at a purchase price of $1,000 per share (which shares were convertible into approximately 7,622,372 shares of common stock). Except as otherwise required by law, the holders of Series A Convertible Preferred Stock have no right to vote on matters submitted to a vote of the Company's stockholders.

During the three month ended March 31, 2019 and 2018, 3,715 and 1,274 shares of Series A Convertible Preferred Stock were converted into 1,857,586 and 636,997 shares of common stock. As of March 31, 2019, there were 328 shares of Series A Convertible Preferred Stock outstanding, which are convertible into 164,087 shares of common stock.

2017 Warrants

In connection with the 2017 Private Placement, the Company issued warrants to purchase up to 9,432,000 shares of the Company's common stock at an exercise price of $2.00 per share (the "2017 Common Stock Warrants"). The Company also issued warrants to purchase common stock to the exclusive placement agents for the issuance (the "2017 Banker Warrants"). The 2017 Banker Warrants were for the purchase of up to an aggregate of 471,600 shares of the Company's common stock with substantially the same terms as the 2017 Common Stock Warrants, except that they have an exercise price equal $2.50 per share. The 2017 Common Stock Warrants and the 2017 Banker Warrants (collectively, the "2017 Warrants") expire on June 15, 2022. The 2017 Warrants may not be exercised by the holder to the extent that the holder, together with its affiliates, would beneficially own, after such exercise more than 4.99% of the shares of the Company's common stock then outstanding (subject to the right of the holder to increase or decrease such beneficial ownership limitation upon notice to us, provided that such limitation cannot exceed 9.99%) and provided that any increase in the beneficial ownership limitation shall not be effective until 61 days after such notice is delivered.

In conjunction with the 2018 Private Placement described further below, during the three months ended March 31, 2018, a holder of 2.4 million 2017 Warrants exercised 1.7 million 2017 Warrants at the original exercise price of $2.00 per warrant in exchange for the issuance of additional warrants. As a result of the warrant exercise, the Company received gross proceeds of $3.4 million on March 8, 2018.

During the three months ended March 31, 2018, excluding the $3.4 million described above, the Company received proceeds of approximately $0.9 million in connection with the exercise of approximately 0.4 million of 2017 Common Stock Warrants, respectively. There were no 2017 Warrant exercises during the three months ended March 31, 2019. As of March 31, 2019, there were 3,757,000 2017 Common Stock Warrants outstanding.

During the three months ended March 31, 2018, 304,182 of the 2017 Banker Warrants were exercised for total cash proceeds upon exercise of $0.8 million during the period. There were no 2017 Banker Warrant exercises for the three months ended March 31, 2019. A total of 167,418 of the 2017 Banker Warrants remained outstanding as of March 31, 2019.

All the 2017 Warrants were deemed to qualify for equity classification under authoritative accounting guidance.

Series B Convertible Preferred Stock

On March 8, 2018, the Company completed the 2018 Private Placement to certain institutional and accredited investors, including certain directors and executive officers of the Company, providing for the sale by the Company at a purchase price of $1,000 per share, 45,200 of newly designated Series B Convertible Preferred Stock, which shares of preferred stock were automatically converted into 14,349,236 shares of the Company's common stock upon approval by the Company's stockholders at the 2018 annual meeting of stockholders held in May 2018, and warrants to purchase up to 12,196,851 shares of common stock at an exercise price of $3.50 per share (the "2018 Common Stock Warrants"). The 2018 Common Stock Warrants became exercisable following stockholder approval at the 2018 annual meeting of stockholders, are subject to certain ownership limitations in certain cases, and expire five years after the date of such stockholder approval. The gross proceeds from the 2018 Private Placement were approximately $45.2 million.

Pursuant to the terms of the purchase agreement entered into in connection with the 2018 Private Placement, from the date of the stockholder approval of the 2018 Private Placement, or May 17, 2018, through the first anniversary of the effective date of the resale registration statement related to the 2018 Private Placement, or May 11, 2019, if the Company issues any shares of common stock or common stock equivalents, subject to certain permitted exceptions, at a price below the conversion price on the date stockholder approval was obtained (a "Dilutive Issuance"), the Company is required to issue an additional number of shares of common stock to the purchasers in the 2018 Private Placement in amount equal the number of shares of common stock such purchasers would have received if the Dilutive Issuance occurred prior to the date the Company's stockholders approved the 2018 Private Placement.

2018 Warrants

The 2018 Common Stock Warrants (the "2018 Warrants") have a five year life and are exercisable for cash or by cashless exercise. Some of the 2018 Warrants may not be exercised by the holder to the extent that the holder, together with its affiliates, would beneficially own, after such exercise more than 4.99% of the shares of the Company's common stock then outstanding (subject to the right of the holder to increase or decrease such beneficial ownership limitation upon notice to us, provided that such limitation cannot exceed 9.99%) and provided that any increase in the beneficial ownership limitation shall not be effective until 61 days after such notice is delivered.

In addition to the 12,196,851 warrants issued in the 2018 Private Placement, the Company issued 1,800,000 warrants to an existing holder with identical terms to the 2018 Warrants, including the exercise price of $3.50.

All the 2018 Warrants were deemed to qualify for equity classification under authoritative accounting guidance.

A summary of all outstanding warrants is as follows:

	Number of Warrants	Strike Price
2017 Common Stock Warrants	3,757,000	$ 2.00
2017 Banker Warrants	167,418	$ 2.50
2018 Common Stock Warrants	13,996,851	$ 3.50
Merger Warrants	2,200,000	$ 3.50
Executive	1,327,434	$ 5.00
Squadron Capital	845,000	$ 3.15
Other	7,812	$ 19.20
Total	22,301,515	

2017 Distributor Inducement Plan

In December 2017, the Board of Directors approved and adopted the 2017 Distributor Inducement Plan which authorizes the Company to issue to distributors restricted shares of common stock of the Company and/or warrants to purchase the Company's common stock. The warrants are issuable with an exercise price equal to the fair market value of the common stock on the date of issuance. Each warrant and common stock issuance is subject to a time-based or net sales-based vesting provision. The Board of Directors authorized the grant of up to 1,000,000 shares of common stock under the 2017 Distributor Inducement Plan. As of March 31, 2019, 0.3 million warrants and 17,000 shares of common stock were earned under the 2017 Distributor Inducement Plan. Total expense for the plan was $0.1 million for both the three months ended March 31, 2019 and 2018.

In December 2017, the Board of Directors also authorized grant of warrants to purchase 50,000 of the Company's common stock, and 75,000 restricted stock units to a distributor of which 15,000 were earned and issued. These warrants and restricted stock units are subject to time based and net sales based vesting conditions.

2017 Development Services Plan

In December 2017, the Board approved and adopted the 2017 Development Services Plan which authorizes the Company to enter into Development Services Agreements with third-party individuals or entities whereby, upon the achievement of certain Company financial and commercial revenue milestones, future royalty payments for product and/or intellectual property development work may be paid in either cash or restricted shares of Company common stock at the option of the developer. Each common stock issuance would be subject to net sales-based vesting provisions and satisfaction of applicable laws and market regulations regarding the issuance of restricted shares to such developers. The Board of Directors authorized the grant of up to 3,000,000 shares of common stock under the Development Services Plan. As of March 31, 2019, 2.3 million shares of common stock have been designated under the 2017 Development Services Plan, but no common stock elections, grants or cash payouts have been made as of March 31, 2019.

11. Income Taxes

To calculate its interim tax provision, at the end of each interim period the Company estimates the annual effective tax rate and applies that to its ordinary quarterly earnings. In addition, the effect of changes in enacted tax laws or rates or tax status is recognized in the interim period in which the change occurs. The computation of the annual estimated effective tax rate at each interim period requires certain estimates and significant judgment including, but not limited to, the expected operating income for the year, projections of the proportion of income earned and taxed in foreign jurisdictions, permanent and temporary differences between book and tax amounts, and the likelihood of recovering deferred tax assets generated in the current year. The accounting estimates used to

compute the provision for income taxes may change as new events occur, additional information is obtained or the tax environment changes.

Intraperiod tax allocation rules require the Company to allocate the provision for income taxes between continuing operations and other categories of earnings, such as discontinued operations. In periods in which the Company has a year-to-date pre-tax loss from continuing operations and pre-tax income in other categories of earnings, such as discontinued operations, the Company must allocate the tax provision to the other categories of earnings, and then record a related tax benefit in continuing operations.

The unrecognized tax benefits at March 31, 2019 and December 31, 2018 were $4.4 million for both periods, with no changes occurring during the three month period. With the facts and circumstances currently available to the Company, it is reasonably possible that the amount of reserves that could reverse over the next 12 months is approximately $0.1 million. The Company recognizes interest and penalties related to uncertain tax positions as a component of the income tax provision. The Company is not currently under examination by the Internal Revenue Service, foreign, or state or local tax authorities.

The income tax benefit from continuing operations for the three months ended March 31, 2019 consists primarily of a release of the valuation allowance due to an increase in net deferred tax liabilities recorded as a result of the acquisition of SafeOp. The Company's effective tax rate of (0.24)% for the three months ended March 31, 2019 differs from the federal statutory rate of 21% primarily due to the change in the valuation allowance related to the SafeOp acquisition, as noted above.

12. Related Party Transactions

In July 2016, the Company entered into a forbearance agreement with HealthpointCapital, LLC, HealthpointCapital Partners, L.P., and HealthpointCapital Partners II, L.P. (collectively, "HealthpointCapital"), pursuant to which HealthpointCapital, on behalf of the Company, paid $1.0 million of the $1.1 million payment due and payable by the Company to Orthotec on July 1, 2016 and agreed to not exercise its contractual rights to seek an immediate repayment of such amount. Pursuant to this forbearance agreement, the Company repaid this amount in September 2016. The Company and HealthpointCapital also entered into an agreement for joint payment of settlement whereby HealthpointCapital has agreed to contribute $5 million to the $49 million Orthotec settlement amount.

During the second quarter of 2018, HealthpointCapital Partners, L.P., and HealthpointCapital Partners II, L.P distributed its holdings in the Company's common stock to its limited partners. As a result, the fund is no longer a shareholder of the Company as of March 31, 2019. The $5 million receivable from HealthpointCapital, LLC continues to be classified within stockholders' equity on the Company's condensed consolidated balance sheet due to the related party nature with HealthpointCapital affiliates.

Certain of the Company's board of directors and senior management participated in the March 2017 and 2018 Private Placements.

13. Restructuring

In connection with the sale of the International Business (described in Note 4), the Company terminated employment agreements with several executive officers, including the chief executive officer and the chief financial officer, and commenced an employee headcount reduction program. In conjunction with the restructuring program, the Company recorded restructuring expenses related to severance liabilities and post-employment benefits. A rollforward of the accrued restructuring liability is presented below (in thousands):

Balance at January 1, 2019	$	710
Accrued restructuring charges		60
Payments		(608)
Balance at March 31, 2019	$	162

All activities and costs are expected to be completed during 2019.

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

You should read the following management's discussion and analysis of our financial condition and results of operations in conjunction with our unaudited condensed consolidated financial statements and the related notes thereto that appear elsewhere in this Quarterly Report on Form 10-Q and the audited consolidated financial statements and notes thereto and under the heading "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC"), on March 29, 2019. In addition to historical information the following management's discussion and analysis of our financial condition and results of operations includes forward-looking information that involves risks, uncertainties, and assumptions. Our actual results and the timing of events could differ materially from those anticipated by these forward-looking statements as a result of many factors, such as those set forth under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018 and any updates to those risk factors filed from time to time in our subsequent periodic and current reports filed with the SEC.

Overview

We are a medical technology company focused on the design, development, and advancement of technology for better surgical treatment of spinal disorders. We are dedicated to revolutionizing the approach to spine surgery. We have a broad product portfolio designed to address the majority of U.S. market for fusion-based spinal disorder solutions. We intend to drive growth by exploiting our collective spine experience and investing in the research and development to continually differentiate our solutions and improve spine surgery. We believe our future success will be fueled by introducing market-shifting innovation to the spine market, and we believe that we are well-positioned to capitalize on current spine market dynamics.

We market and sell our products in the U.S. through a network of independent distributors and direct sales representatives. An objective of our leadership team is to deliver increasingly consistent, predictable growth. To accomplish this, we have partnered more closely with new and existing distributors to create a more dedicated and loyal sales channel for the future. We have added, and intend to continue to add, new high-quality dedicated distributors to expand future growth. We believe this will allow us to reach an untapped market of surgeons, hospitals, and national accounts across the U.S., as well as better penetrate existing accounts and territories.

We have made significant progress in the transition of our sales channel since early 2017, driving the percent of sales contributed by our strategic distribution channel from approximately 72% for the three months ended March 31, 2018 to 84% for the three months ended March 31, 2019. Going forward, we intend to continue to relentlessly drive toward a fully exclusive network of independent and direct sales agents. Recent consolidation in the industry is facilitating the process, as large, seasoned agents are seeking opportunities to re-enter the spine market by partnering with spine-focused companies that have broad, growing product portfolios.

Sale of International Business

On September 1, 2016, we completed the sale of our international distribution operations and agreements, including our wholly-owned subsidiaries in Japan, Brazil, Australia, China and Singapore and substantially all of the assets of our other sales operations in the United Kingdom and Italy ("International Business"), to an affiliate of Globus ("Globus Transaction"). Following the closing of the Globus Transaction, we now operate in the U.S. market only and are restricted from marketing and selling our products in foreign markets pursuant to the terms and conditions, and for the time periods, set forth in the definitive documents related to the Globus Transaction.

Revenue and Expense Components

The following is a description of the primary components of our revenues and expenses:

Revenues. We derive our revenues primarily from the sale of spinal surgery implants used in the treatment of spine disorders. Spinal implant products include pedicle screws and complementary implants, interbody devices, plates, and tissue-based materials. Our revenues are generated by our direct sales force and independent distributors. Our products are requested directly by surgeons and shipped and billed to hospitals and surgical centers. Currently, most of our business is conducted with customers within markets in which we have experience and with payment terms that are customary to our business. We may defer revenues until the time of collection if circumstances related to payment terms, regional market risk or customer history indicate that collectability is not reasonably assured.

Cost of revenues. Cost of revenues consists of direct product costs, royalties, milestones and the amortization of purchased intangibles. Our product costs consist primarily of direct labor, overhead, and raw materials and components. The product costs of certain of our biologics products include the cost of procuring and processing human tissue. We incur royalties related to the technologies that we license from others and the products that are developed in part by surgeons with whom we collaborate in the product development process. Amortization of purchased intangibles consists of amortization of developed product technology.

Research and development. Research and development expense consists of costs associated with the design, development, testing, and enhancement of our products. Research and development expense also includes salaries and related employee benefits, research-related overhead expenses, fees paid to external service providers in both cash and equity, and costs associated with our Scientific Advisory Board and Executive Surgeon Panels.

Sales, general and administrative. Sales, general and administrative expense consists primarily of salaries and related employee benefits, sales commissions and support costs, depreciation of our surgical instruments, regulatory affairs, quality assurance costs, professional service fees, travel, medical education, trade show and marketing costs, insurance and legal expenses.

Litigation-related expenses. Litigation-related expenses are costs incurred for our ongoing litigation, primarily with NuVasive, Inc.

Transaction related expenses. Reflects the recognition of transaction expenses incurred as part of the SafeOp acquisition.

Gain on settlement. Gain on settlement consists of a gain of approximately $6.2 million for the year ended December 31, 2018 as a result of the settlement agreement with Elite Medical Holdings and Pac 3 Surgical, pursuant to which we made a cash payment of $0.4 million as the final and total compensation under the collaboration and related amendment. The gain reflects the reversal of accrued obligations previously recorded under the collaboration.

Restructuring expenses. Restructuring expense consists of severance, social plan benefits and related taxes in connection with our ongoing cost rationalization efforts, including the termination of our manufacturing operations in California in 2017.

Total other income (expense). Total other income (expense) includes interest income, interest expense, gains and losses from foreign currency exchanges and other non-operating gains and losses.

Income tax benefit. Income tax benefit from continuing operations primarily consists of release of the valuation allowance from the SafeOp acquisition, partially offset by state taxes.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations is based upon our unaudited condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the U.S. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, expenses and related disclosures. On an on-going basis, we evaluate our estimates and assumptions, including those related to revenue recognition, allowances for accounts receivable, inventories and intangible assets, stock-based compensation and income taxes. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumption conditions.

Critical accounting policies are those that, in management's view, are most important in the portrayal of our financial condition and results of operations. Aside from newly implemented accounting policies related to revenues discussed below and for the changes disclosed in Note 2 to the Notes to Condensed Consolidated Financial Statements included in Item 1, Part I of this Quarterly Report on Form 10-Q, management believes there have been no material changes during the three months ended March 31, 2019 to the critical accounting policies discussed in the Management's Discussion and Analysis of Financial Condition and Results of Operations section of our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 29, 2019.

Leases

Effective January 1, 2019, we adopted ASC No. 2016-02, Leases (Topic 842) ("ASU 2016-02" or "ASC 842"), which supersedes the current accounting for leases, using the modified retrospective transition method. The Company has elected to apply the practical expedients allowed by the standard for existing leases. The new standard, while retaining two distinct types of leases, finance and operating, (i) requires lessees to record a right-of-use asset and a related liability for the rights and obligations associated with a lease, regardless of lease classification, and recognize lease expense in a manner similar to current accounting, (ii) eliminates current real estate specific lease provisions, (iii) modifies the lease classification criteria and (iv) aligns many of the underlying lessor model principles with those in the new revenue standard. We determined the initial classification and measurement of its right-of-use assets and lease liabilities at the lease commencement date, or the adoption date, if later, and thereafter if modified. We recognized a right-of-use asset for our operating leases with lease terms greater than 12 months. The lease term includes any renewal options and termination options that we are reasonably assured to exercise. The present value of lease payments is determined by using the incremental borrowing rate for operating leases determined by using the incremental borrowing rate of interest that we would pay to borrow on a collateralized basis an amount equal to the lease payments in a similar economic environment. We applied the new guidance to our existing facility lease at the time of adoption and recognized a right-of-use asset of $2.4 million and operating lease liability of $2.9 million and recorded a reversal of the previous deferred rent balance under the previous lease guidance of approximately $0.6 million.

Rent expense for operating leases is recognized on a straight-line basis over the reasonably assured lease term based on the total lease payments and is included in research and development and general and administrative expenses in the statements of operations and comprehensive loss.

Results of Operations

The tables below set forth certain statements of operations data for the periods indicated (in thousands). Our historical results are not necessarily indicative of the operating results that may be expected in the future.

	Three Months Ended March 31,	
	2019	2018
Revenues:		
Revenue from U.S. products	$ 22,955	$ 19,201
Revenue from international supply agreement	1,600	2,106
Total revenues	24,555	21,307
Cost of revenues	7,987	6,402
Gross profit	16,568	14,905
Operating expenses:		
Research and development	3,469	1,786
Sales, general and administrative	21,000	17,257
Litigation-related expenses	2,623	580
Amortization of intangible assets	182	177
Transaction-related expenses	—	1,542
Gain on settlement	—	(6,168)
Restructuring expenses	60	398
Total operating expenses	27,334	15,572
Operating loss	(10,766)	(667)
Total other income (expense), net	(2,119)	(1,645)
Loss from continuing operations before taxes	(12,885)	(2,312)
Income tax (benefit) provision	31	(458)
Loss from continuing operations	(12,916)	(1,854)
Loss from discontinued operations, net of applicable taxes	(52)	(62)
Net loss	$ (12,968)	$ (1,916)

	Three Months Ended March 31,	
	2019	2018
Revenues by source		
Revenue from U.S. products	$ 22,955	$ 19,201
Revenue from international supply agreement	1,600	2,106
Total revenues	$ 24,555	$ 21,307
Gross profit by source		
Revenue from U.S. products	$ 16,394	$ 14,767
Revenue from international supply agreement	174	138
Total gross profit	$ 16,568	$ 14,905
Gross profit margin by source		
Revenue from U.S. products	71.4%	76.9%
Revenue from international supply agreement	10.9%	6.6%
Total gross profit margin	67.5%	70.0%

Three Months Ended March 31, 2019 Compared to the Three Months Ended March 31, 2018

Revenues. Revenues were $24.6 million for the three months ended March 31, 2019 compared to $21.3 million for the three months ended March 31, 2018, representing an increase of $3.3 million, or 15.5%.

Revenue from U.S. products were $23.0 million for the three months ended March 31, 2019 compared to $19.2 million for the three months ended March 31, 2018, representing an increase of $3.8 million, or 19.8% . The increase in revenue for the three months ended March 31, 2019 was attributed primarily to our focus on our strategic distribution channel, as detailed below (in thousands):

	Three Months Ended March 31,				Increase (Decrease)	
	2019		2018		$	%
U.S. revenues by distributor type:						
Strategic distribution	$19,372	84%	$13,873	72%	$ 5,499	40%
Legacy and terminated distribution	3,583	16%	5,328	28%	(1,745)	-33%
Total U.S. revenues	$22,955	100%	$19,201	100%	$ 3,754	20%

Revenue from international supply agreement which is attributed to sales to Globus under which we supply to Globus certain of its implants and instruments at agreed-upon prices for a minimum term of three years, were $1.6 million for the three months ended March 31, 2019 compared to $2.1 million for the three months ended March 31, 2018, representing a decrease of $0.5 million. We expect these revenues to continue to decrease over the next several quarters, as Globus continues to register its own products in international markets. Globus has the option to extend the term for up to two additional twelve month periods subject to Globus meeting specified purchase requirements. During the three months ended March 31, 2019, Globus notified us that it will exercise the option to extend the agreement an additional twelve months through August 2020.

Cost of revenues. Cost of revenues was $8.0 million for the three months ended March 31, 2019 compared to $6.4 million for the three months ended March 31, 2018, representing an increase of $1.6 million, or 25.0%.

Cost of revenue from U.S. products for the three months ended March 31, 2019 was $6.6 million compared to $4.4 million for the three months ended March 31, 2018, representing an increase of $2.2 million, or 50.0%. The increase is primarily due to an increase in excess and obsolescence expense as we are launching newly developed products and phasing out older, legacy products.

Cost of revenues from international supply agreement were $1.4 million for the three months ended March 31, 2019 compared to $2.0 million for the three months ended March 31, 2018. This decrease was attributed to a reduction in sales volumes and related costs under the supply agreement with Globus.

Gross profit. Gross profit was $16.6 million for the three months ended March 31, 2019 compared to $14.9 million for the three months ended March 31, 2018, representing an increase of $1.7 million, or 11.4%.

Gross profit margin from U.S. product revenue was 71.4% for the three months ended March 31, 2019 compared to 76.9% for the three months ended March 31, 2018. The decrease is attributable to an increase in excess and obsolescence expense as we are launching newly developed products and phasing out older products.

Gross profit margin from international supply agreement was 10.9% for the three months ended March 31, 2019 compared to 6.6% for the three months ended March 31, 2018. The changes in gross margin from other revenues was primarily related to the impact of fixed minimum royalty costs, product mix, and to a lesser extent, decrease in average selling price for certain products.

Research and development expense. Research and development expense increased $1.7 million, or 94.4% during the three months ended March 31, 2019 compared to the three months ended March 31, 2018. This increase was primarily related to the integration of the SafeOp technology into our product portfolio, as evidenced by the achievement of the second SafeOp contingent consideration milestone, an increase of personnel related costs as well as increased product development costs and related research expenses. We expect research and development expenses to increase in future periods as we hire additional engineering and development talent, and continue to invest in our product pipeline.

Sales, general and administrative expense. Sales, general and administrative expense increased $3.7 million, or 21.4% during the three months ended March 31, 2019 compared to the three months ended March 31, 2018. The increase was primarily related to increased commission and related sales compensation expenses associated with our increase in U.S. revenue, as well as increased marketing efforts, including additional headcount. Additionally, our stock-based compensation increased during the first quarter 2019. We expect our sales, general and administrative expenses to increase in absolute dollars in line with expected increase in our U.S. product revenue.

Litigation-related expenses. Litigation-related expenses of $2.6 million for the three months ended March 31, 2019 and $0.6 million for the three months ended March 31, 2018 are costs incurred for our ongoing litigation, primarily with NuVasive, Inc. We expect these expenses to decrease in future periods.

Amortization of acquired intangible assets. Amortization of acquired intangible assets remained consistent for the three months ended March 31, 2019 compared to the three months ended March 31, 2018. This expense represents amortization in the period for intangible assets associated with general business assets, intellectual property, licenses and other assets obtained in acquisitions and licensing agreements.

Transaction-related expenses. Transaction-related expenses of $1.5 million for the three months ended March 31, 2018 are attributed to advisory and legal fees and other transaction costs incurred in connection with the SafeOp acquisition.

Gain on settlement. In February 2018, we reached a settlement agreement with Elite Medical Holdings and Pac 3 Surgical, pursuant to which we made a cash payment of $0.4 million as the final and total compensation under a collaboration agreement and related amendment between the Company and these third parties. In addition, the parties agreed to release each other and waive any and all rights and claims arising from the collaboration agreement and amendment. We recorded a gain of approximately $6.2 million for the three months ended March 31, 2018, reflecting the reversal of accrued obligations previously recorded under the collaboration agreement.

Restructuring expense. Restructuring expense was $0.1 million for the three months ended March 31, 2019 compared to $0.4 million for the three months ended March 31, 2018. Beginning in late 2016 with the sale of our international business to Globus and continuing in 2018, we began a corporate initiative to rationalize our cost structure in line with our reduced operations and implemented a strategic repositioning of the Company, including the changeover of our senior leadership team, and have incurred related restructuring costs consisting primarily of severance and other personnel charges.

Total other income (expense), net. Total other income (expense), net, increased $0.5 million during the three months ended March 31, 2019 compared to the three months ended March 31, 2018 primarily due to our new debt arrangements.

Income tax provision (benefit). The 2018 income tax benefit from continuing operations primarily consists of the release of the valuation allowance related to the SafeOp acquisition, partially offset by state taxes. ASC 740-20 requires total income tax expense or benefit to be allocated among continuing operations, discontinued operations, extraordinary items, other comprehensive income and items charged directly to shareholders' equity. This allocation is referred to as intra-period tax allocation. Accordingly, we are required to allocate the provision or benefit for income taxes between continuing operations and discontinued operations.

Liquidity and Capital Resources

We have incurred significant net losses since inception and relied on our ability to fund our operations through revenues from the sale of our products, debt financings and equity financings, including our private placement in March 2018 ("2018 Private Placement"). As we have incurred losses, a successful transition to profitability is dependent upon achieving a level of revenues adequate to support our cost structure. This may not occur and, unless and until it does, we will continue to need to raise additional capital. At March 31, 2019, our principal sources of liquidity consisted of cash of $16.4 million and accounts receivable (net) of $13.8 million. We believe that our current available cash, combined with the availability of our Expanded Credit Facility with Squadron Capital (described below) and draws on our revolving credit facility, will be sufficient to fund our planned expenditures and meet our obligations for at least 12 months following our financial statement issuance date.

Historically, our principal sources of cash have included customer payments from the sale of our products, proceeds from the issuance of common and preferred stock and proceeds from the issuance of debt. Our principal uses of cash have included cash used in operations, payments relating to purchases of surgical instruments, repayments of borrowings under the Amended Credit Facility, payments due under the Orthotec settlement agreement and acquisitions of businesses and intellectual property rights. We expect that our principal uses of cash in the future will be similar. We expect that, as our revenues grow, our sales and marketing, research and development expenses and our capital expenditures will continue to grow and, as a result, we will need to generate significant net revenues to achieve profitability. We expect operating losses and negative cash flows to continue for at least the next year as we continue to incur costs related to the execution of our operating plan and introduction of new products.

On March 27, 2019, we closed on an expanded credit facility with Squadron for up to $30 million in additional secured financing. This additional financing will be made available under our existing credit facility with Squadron. No amounts have been drawn on the expanded credit facility as of its issuance date. Any amounts drawn will be used for general corporate purposes. The additional borrowings under the credit facility will mature concurrent with the current secured financing from Squadron and bear interest at LIBOR plus 8% per annum, subject to a 10% floor and a 13% ceiling. For any draws taken, interest-only payments are due monthly through May 2021, followed by principal payable in 29 equal monthly installments beginning June 2021 and a lump-sum payment payable at maturity in November 2023. At such time as we make our first draw under the Expanded Credit Facility, we will issue to Squadron warrants to purchase 4.8 million shares of the Company's common stock at an exercise price of $2.17 per share. The warrants will have a seven-year term and will be immediately exercisable upon issuance.

We may seek additional funds from public and private equity or debt financings, borrowings under new or existing debt facilities or other sources to fund our projected operating requirements. However, there is no guarantee that we will be able to obtain further financing, or do so on reasonable terms. If we are unable to raise additional funds on a timely basis, or at all, we would be materially adversely affected. As more fully described below, our debt agreements include traditional lending and reporting covenants, including a financial covenant that requires us to maintain a minimum fixed charge coverage ratio beginning in April 2020 and a minimum liquidity covenant of $5.0 million effective through March 2020. Should at any time we fail to maintain compliance with these covenants, we will need to seek waivers or amendments to the debt agreements. If we are unable to secure such waivers or amendments, we may be required to classify our obligations under the debt agreements in current liabilities on our consolidated balance sheet. We may also be required to repay all or a portion of outstanding indebtedness under the debt agreements, which would require us to obtain further financing. We were in compliance with the covenants under the credit agreement at March 31, 2019.

A substantial portion of our available cash funds is held in business accounts with reputable financial institutions. At times, however, our deposits, may exceed federally insured limits and thus we may face losses in the event of insolvency of any of the financial institutions where our funds are deposited. We did not hold any marketable securities as of March 31, 2019.

Amended Credit Facility, Squadron Credit Agreement and Other Debt

Our Amended Credit Facility with MidCap provides for a revolving credit commitment up to $22.5 million. As of March 31, 2019, $10.6 million was outstanding under the revolving line of credit.

The revolving line of credit accrues interest at LIBOR plus 6.0%, reset monthly. At March 31, 2019, the revolving line of credit carried an interest rate of 8.50%. The borrowing base is determined based on the value of domestic eligible accounts receivable. As collateral for the Amended Credit Facility, MidCap has a first lien security interest in accounts receivable and a second lien on substantially all other assets. The Amended Credit Facility also includes several event of default provisions, such as payment default, insolvency conditions and a material adverse effect clause, which could cause interest to be charged at a rate which is up to five percentage points above the rate effective immediately before the event of default or result in MidCap's right to declare all outstanding obligations immediately due and payable.

On September 1, 2016, we entered into the Globus facility, pursuant to which Globus agreed to loan us up to $30 million. We made an initial draw of $25 million under the Globus facility with an additional draw of $5 million made in the fourth quarter of 2016. In November 2018, the $29.2 million outstanding was paid in full.

On November 6, 2018, we closed the $35.0 million Term Loan with Squadron for net proceeds of approximately $34.1 million, which were partially used to retire our existing $29.2 million term debt with Globus noted above. The debt has a five-year maturity and bears interest at LIBOR plus 8% (10.5% as of March 31, 2019) per annum. The credit agreement specifies a minimum interest rate of 10% and a maximum of 13% per year. Interest-only payments are due monthly through May 2021, followed by $10 million in principal payable in 29 equal monthly installments beginning June 2021 and a $25 million lump-sum payment payable at maturity in November 2023. As collateral for the Term Loan, Squadron has a first lien security interest in substantially all assets except for accounts receivable.

The Term Loan also includes several event of default provisions, such as payment default, insolvency conditions and a material adverse effect clause, which could cause interest to be charged at a rate which is up to five percentage points above the rate effective immediately before the event of default or result in Squadron's right to declare all outstanding obligations immediately due and payable. Furthermore, the credit agreement contains various covenants, including various negative covenants including a $5 million minimum liquidity requirement through March 31, 2020. The minimum liquidity covenant will be replaced by a fixed charge ratio, pursuant to which operating cash to fixed charges (as defined) must equal at least 1:1 on a rolling 12-month basis, beginning April 2020. We were in compliance with the covenants under the credit agreement at March 31, 2019.

We entered into an Inventory Financing Agreement whereby we may draw up to $3.0 million for the purchase of inventory to accrue interest at a rate of LIBOR plus 8% and also includes a 10% floor and 13% ceiling. All principal will become due and payable upon maturity on November 6, 2023 and all interest will be paid monthly. Should we elect to prepay the Squadron credit agreement, all amounts due under the Inventory Financing Agreement will become mandatorily due.

As of March 31, 2019, we have made $37.3 million in Orthotec settlement payments and there remains an aggregate $20.5 million of Orthotec settlement payments (including interest) to be paid by us.

Operating Activities

We used net cash of $7.9 million from operating activities for the three months ended March 31, 2019. During this period, net cash used in operating activities consisted of our net loss adjusted for non-cash adjustments including amortization, depreciation, stock-based compensation, provision for doubtful accounts, provision for excess and obsolete inventory, interest expense related to amortization of debt discount and issuance costs, beneficial conversion feature from our convertible notes which matured during the quarter, and the contingent consideration fair market value adjustment of $6.5 million and working capital and other assets used cash of $1.4 million.

Investing Activities

We used cash of $1.1 million in investing activities for the three months ended March 31, 2019 primarily for the purchase of surgical instruments to support the commercial launch of new products.

Financing Activities

Financing activities used cash of $3.7 million for the three months ended March 31, 2019, primarily attributed to the principal payments on our term loan totaling $3.0 million. Under the MidCap Amended Credit Facility, we made net payments under the lines of credit of $0.4 million and paid $0.3 million for the Squadron Amendment cost during the three months ended March 31, 2019.

Off-Balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Contractual obligations and commercial commitments

Total contractual obligations and commercial commitments as of March 31, 2019 are summarized in the following table (in thousands):

	Payment Due by Year						
	Total	2019 (remainder)	2020	2021	2022	2023	Thereafter
Amended Credit Facility with MidCap	$ 11,346	$ 125	$ —	$ —	$ 11,221	$ —	$ —
Inventory financing	784	—	—	—	—	784	—
Squadron Term Loan	35,300	300	—	4,483	7,685	22,832	—
Interest expense	21,104	4,069	5,402	5,272	4,538	1,823	—
Note payable for software agreements and insurance premiums	613	566	47	—	—	—	—
Capital lease obligations	139	28	37	37	37	—	—
Facility lease obligation	3,298	1,033	1,416	849	—	—	—
Other operating lease obligations	697	220	295	182	—	—	—
Litigation settlement obligations, gross (2)	20,225	3,263	3,938	4,340	4,329	4,323	32
Guaranteed minimum royalty obligations	5,796	893	943	918	918	918	1,206
License agreement milestones (1)	2,250	700	650	250	450	—	200
Total	$ 101,552	$ 11,197	$ 12,728	$ 16,331	$ 29,178	$ 30,680	$ 1,438

(1) These commitments represent payments in cash, and are subject to attaining certain sales milestones which we believe are reasonably likely to be achieved beginning in 2019.

(2) Represents gross payments due to Orthotec, LLC pursuant to a Settlement and Release Agreement, dated as of August 13, 2014, by and among the Company and its direct subsidiaries, including Alphatec Spine, Inc., Alphatec Holdings International C.V., Scient'x S.A.S. and Surgiview S.A.S.; HealthpointCapital, LLC, HealthpointCapital Partners, L.P., HealthpointCapital Partners II, L.P., John H. Foster and Mortimer Berkowitz III; and Orthotec, LLC and Patrick Bertranou. In September 2014, the Company and HealthpointCapital entered into an agreement for joint payment of settlement whereby HealthpointCapital is obligated to pay $5 million of the settlement amount, with payments beginning in the fourth quarter of 2020 and continuing through 2021. See Note 12 of our Notes to Condensed Consolidated Financial Statements for further information.

Real Property Leases

In January 2016, we entered into a lease agreement (the “Building Lease”) for office, engineering, and research and development space in Carlsbad, California with the lease term through July 31, 2021. Under the Building Lease our monthly rent payable is approximately $105,000 during the first year and increases by approximately $3,000 each year thereafter.

Recent Accounting Pronouncements

Aside from newly implemented accounting policies related to revenue recognition discussed above under "Critical Accounting Policies and Estimates" and for the changes disclosed in Note 2 to the Notes to Condensed Consolidated Financial Statements (Unaudited) under the heading "Recent Accounting Pronouncements," there have been no new accounting pronouncements or changes to accounting pronouncements during the three months ended March 31, 2019, as compared to the recent accounting pronouncements described in the Company's Annual Report on Form 10-K for the year ended December 31, 2018, filed on March 29, 2019.

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 (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), including statements regarding:

- our estimates regarding anticipated operating losses, future revenue, expenses, cost savings, capital requirements, uses and sources of cash and liquidity, including our anticipated revenue growth and cost savings;
- our ability to meet the financial covenants under our credit facilities;
- our ability to ensure that we have effective disclosure controls and procedures;
- our not realizing the full economic benefit from the Globus Transaction, including as a result of indemnification claims under the definitive agreement and the retention by us of certain liabilities associated with the international business, and our ability to meet our obligations under the Globus supply agreement;
- our ability to meet, and potential liability from not meeting, the payment obligations under the Orthotec settlement agreement;
- our ability to regain and maintain compliance with the quality requirements of the FDA;
- 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;
- our ability to successfully achieve and maintain regulatory clearance or approval for our products in applicable jurisdictions and in a timely manner;
- the effect of any existing or future federal, state or international regulations on our ability to effectively conduct our business;
- our estimates of market sizes and anticipated uses of our products;
- our business strategy and our underlying assumptions about market data, demographic trends, reimbursement trends and pricing trends;
- our ability to achieve profitability, and the potential need to raise additional funding;
- our ability to attract and retain a qualified management team, as well as other qualified personnel and advisors;
- our ability to protect our intellectual property, and to not infringe upon the intellectual property of third parties;
- our ability to meet or exceed the industry standard in clinical and legal compliance and corporate governance programs;
- potential liability resulting from litigation;
- potential liability resulting from a governmental review of our business practices;
- our beliefs about the usefulness of the non-GAAP financial measures included in this Quarterly Report on Form 10-Q;
- our beliefs with respect to our critical accounting policies and the reasonableness of our estimates and assumptions; and
- other factors discussed elsewhere in this Quarterly Report on Form 10-Q or any document incorporated by reference herein or therein.

Any or all of our forward-looking statements in this Quarterly Report on Form 10-Q may turn out to be wrong. They can be affected by inaccurate assumptions and/or by known or unknown risks and uncertainties. Many factors mentioned in our discussion in this Quarterly Report on Form 10-Q will be important in determining future results. Consequently, no forward-looking statement can be guaranteed. Actual future results may vary materially from expected results.

We also provide a cautionary discussion of risks and uncertainties under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018 and any updates to those risk factors filed from time to time in our subsequent periodic and current reports filed with the SEC. These are factors that we think could cause our actual results to differ materially from expected results. Other factors besides those listed there could also adversely affect us.

Without limiting the foregoing, the words "believe," "anticipate," "plan," "expect," "estimate," "may," "will," "should," "could," "would," "seek," "intend," "continue," "project," and similar expressions are intended to identify forward-looking statements. There are a number of factors and uncertainties that could cause actual events or results to differ materially from those indicated by such forward-looking statements, many of which are beyond our control, including the factors set forth under "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2018 and any updates to those risk factors filed from time to time in our subsequent periodic and current reports filed with the SEC. In addition, the forward-looking statements contained herein represent our estimate only as of the date of this filing and should not be relied upon as representing our estimate as of any subsequent date. While we may elect to update these forward-looking statements at some point in the future, we specifically disclaim any obligation to do so to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking statements.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Interest Rate Risk

Other outstanding debt consists of fixed rate instruments, including debt outstanding under the Amended Credit Facility with MidCap and the Globus Facility Agreement, notes payable and capital leases.

Our borrowings under our credit facilities expose us to market risk related to changes in interest rates. As of March 31, 2019, our outstanding floating rate indebtedness totaled $46.4 million. The primary base interest rate is the LIBOR rate. Assuming the outstanding balance on our floating rate indebtedness remains constant over a year, a 100 basis point increase in the interest rate would decrease pre-tax income and cash flow by approximately $0.5 million.

Commodity Price Risk

We purchase raw materials that are processed from commodities, such as titanium and stainless steel. These purchases expose us to fluctuations in commodity prices. Given the historical volatility of certain commodity prices, this exposure can impact our product costs. However, because our raw material prices comprise a small portion of our cost of revenues, we have not experienced any material impact on our results of operations from changes in commodity prices. A 10% change in commodity prices would not have had a material impact on our results of operations for the three months ended March 31, 2019.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in our reports that we file or submit pursuant to the Securities Exchange Act of 1934, as amended, or the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's, or SEC's, rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, we carried out an evaluation of the effectiveness of our disclosure controls and procedures (as such term is defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this report. Based on such evaluation, our management, including our Chief Executive Officer and Chief Financial Officer, has concluded that our disclosure controls and procedures were not effective at a reasonable assurance level for the interim periods ended and as of June 30, 2018 and September 30, 2018 and as of December 31, 2018. This conclusion was based on the material weakness identified in our internal control over financial reporting related to our lack of sufficient oversight and review to ensure the complete and proper application of U.S. GAAP associated with complex equity transactions. We identified and reported this weakness to both the Audit Committee of our Board of Directors. A material weakness existed as of December 31, 2018 that was remediated during the first quarter 2019. All controls were deemed to be functioning effectively as of March 31, 2019.

Remediation of the Material Weakness during the first quarter 2019

This material weakness related to a lack of sufficient oversight and review to ensure the complete and proper application of U.S. GAAP associated with complex equity transactions. To remediate the material weakness described above and to prevent similar deficiencies in the future, we added additional controls and procedures, including:

- Hiring of additional personnel, including an accounting manager and staff accountant, that allows for increased oversight of the accounting and finance processes and additional review of complex and non-routine transactions; and
- Re-design of internal controls to ensure more timely quarterly reviews of technical accounting positions documented by our staff and our independent external technical accounting consultants

However, the material weakness will not be considered fully remediated until the applicable remedial controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. Any actions we have taken or may take to remediate these deficiencies are subject to continued management review supported by testing, as well as oversight by the Audit Committee of our Board of Directors.

We cannot assure you that material weaknesses or significant deficiencies will not occur in the future and that we will be able to remediate such weaknesses or deficiencies in a timely manner, which could impair our ability to accurately and timely report our financial position, results of operations or cash flows.

Changes in Internal Control over Financial Reporting

Except as described above, there has been no change to our internal control over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

Litigation

We are and may become involved in various legal proceedings arising from our business activities. While the Company has no material accruals for pending litigation or claims for which accrual amounts are not disclosed in the Company's consolidated financial statements, litigation is inherently unpredictable, and depending on the nature and timing of a proceeding, an unfavorable resolution could materially affect our future consolidated results of operations, cash flows or financial position in a particular period. We assess contingencies to determine the degree of probability and range of possible loss for potential accrual or disclosure in our consolidated financial statements. An estimated loss contingency is accrued in our consolidated financial statements if it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Because litigation is inherently unpredictable and unfavorable resolutions could occur, assessing contingencies is highly subjective and requires judgments about future events. When evaluating contingencies, we may be unable to provide a meaningful estimate due to a number of factors, including the procedural status of the matter in question, the presence of complex or novel legal theories, and/or the ongoing discovery and development of information important to the matters. In addition, damage amounts claimed in litigation against us may be unsupported, exaggerated or unrelated to reasonably possible outcomes, and as such are not meaningful indicators of our potential liability.

Refer to Note 6 for further information regarding the NuVasive, Inc. litigation.

Item 1A. Risk Factors

There have been no material changes to the risk factors described under Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2018, filed with the SEC on March 29, 2019.

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

None.

Item 5. Other Information

None.

Item 6. Exhibits

Exhibit Number	Exhibit Description
10.1	Ninth Amendment to Credit, Security and Guaranty Agreement, dated as of March 27, 2019, with MidCap Funding IV Trust, as a lender and other lenders from time to time a party thereto (filed herein)
10.2	First Amendment to Credit, Security and Guaranty Agreement between Alphatec Holdings, Inc., Alphatec Spine, Inc. and SafeOp Surgical, Inc. and Squadron Medical Finance Solutions LLC, dated March 27, 2019 (filed herein)
31.1	Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32	Certification Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from the Alphatec Holdings, Inc. Quarterly Report on Form 10-Q for the three months ended March 31, 2019, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets (Unaudited) as of March 31, 2019 and December 31, 2018, (ii) Condensed Consolidated Statements of Operations (Unaudited) for the Three Months Ended March 31, 2019 and 2018, (iii) Condensed Consolidated Statements of Comprehensive Loss (Unaudited) for the Three Months Ended March 31, 2019 and 2018, (iv) Condensed Consolidated Statements of Stockholders' Equity (Unaudited) for the Three Months Ended March 31, 2019 and 2018 (v) Condensed Consolidated Statements of Cash Flows (Unaudited) for Three Months Ended March 31, 2019 and 2018, and (vi) Notes to Condensed Consolidated Financial Statements (Unaudited).

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.

ALPHATEC HOLDINGS, INC.

By: /s/ Patrick S. Miles
Patrick S. Miles
Chairman and Chief Executive Officer
(principal executive officer)

By: /s/ Jeffrey G. Black
Jeffrey G. Black
Executive Vice President and Chief Financial Officer
(principal financial officer and principal accounting officer)

Date: May 10, 2019

Exhibit 10.1

OMNIBUS NINTH AMENDMENT TO AMENDED AND RESTATED CREDIT, SECURITY AND GUARANTY AGREEMENT AND LIMITED CONSENT UNDER INTERCREDITOR AGREEMENT

This NINTH AMENDMENT TO AMENDED AND RESTATED CREDIT, SECURITY AND GUARANTY AGREEMENT (this "**Agreement**") is made as of this 27th day of March, 2019, by and among ALPHATEC HOLDINGS, INC., a Delaware corporation ("**Alphatec Holdings**"), ALPHATEC SPINE, INC., a California corporation ("**Alphatec Spine**"), SAFEOP SURGICAL, INC., a Delaware corporation ("**SafeOp**"; together with Alphatec Holdings and Alphatec Spine, each being referred to herein individually as a "**Borrower**", and collectively as "**Borrowers**"), MIDCAP FUNDING IV TRUST (as Agent for Lenders, "**Agent**"), and MIDCAP FUNDING IV TRUST, individually, as a Lender, and the other financial institutions or other entities from time to time parties to the Credit Agreement referenced below, each as a Lender.

RECITALS

A. Agent, Lenders and Borrowers are parties to that certain Amended and Restated Credit, Security and Guaranty Agreement, dated as of August 30, 2013, as amended by the First Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of March 17, 2014, the Second Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of July 10, 2015, the Third Amendment and Waiver to Amended and Restated Credit, Security and Guaranty Agreement, dated as of March 11, 2016, by the Fourth Amendment and Waiver to Amended and Restated Credit, Security and Guaranty Agreement, dated as of August 9, 2016, by the Consent and Fifth Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of September 1, 2016, by the Sixth Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of March 30, 2017, by the Consent, Joinder and Omnibus Seventh Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of March 8, 2018 and by the Eighth Amendment to Amended and Restated Credit, Security and Guaranty Agreement, dated as of November 6, 2018 (and as further amended, modified, supplemented and restated from time to time prior to the date hereof, the "**Original Credit Agreement**" and as the same is amended hereby and as it may be further amended, modified, supplemented and restated from time to time, the "**Credit Agreement**"), pursuant to which the Lenders have agreed to make certain advances of money and to extend certain financial accommodations to Borrowers and certain of their Affiliates in the amounts and manner set forth in the Credit Agreement.

B. Agent, Squadron Medical Finance Solutions, LLC ("**Squadron**"), and Borrowers are party to that certain Intercreditor Agreement, dated as of November 6, 2018, pursuant to which Squadron may not increase the aggregate principal amount of the Squadron Debt (as defined in the Credit Agreement), without the prior written consent of Agent.

C. Borrowers have requested, and Agent and the Lenders have agreed, (i) to amend the Original Credit Agreement and (ii) consent under the Squadron Intercreditor Agreement (as defined in the Credit Agreement), in each case, to permit Borrowers to enter into an amendment to the Squadron Credit Agreement (as defined in the Credit Agreement) (the "**First Amendment**") and to increase the aggregate principal amount of the Debt thereunder to $65,000,000, all on the terms and conditions set forth herein.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing, the terms and conditions set forth in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Agent, the Lenders and Borrowers hereby agree as follows:

1. **Recitals**. This Agreement shall constitute a Financing Document and the Recitals and each reference to the Credit Agreement in the Original Credit Agreement, unless otherwise expressly noted, will be deemed to reference the Credit Agreement as amended hereby. The Recitals set forth above shall be construed as part of this Agreement as if set forth fully in the body of this Agreement and capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Original Credit Agreement (including those capitalized terms used in the Recitals hereto).

2. **Limited Consent Under Intercreditor Agreement.** At the request of and as an accommodation to the Borrowers, subject to the terms and conditions set forth herein, including without limitation, the terms set forth in Section 6, Agent and Lenders, (a) notwithstanding anything contained in Section 4.2(v) of the Squadron Intercreditor Agreement to the contrary, hereby consent to the First Amendment, dated as of the date hereof, pursuant to which the maximum principal amount of the Squadron Debt shall be increased to $65,000,000. The consents set forth in this Section 2 are effective solely for the purposes set forth herein and shall be limited precisely as written and shall not be deemed to (a) be a consent to any amendment, waiver or modification of any other term or condition of the Credit Agreement, the Squadron Intercreditor Agreement or any other Financing Document; (b) prejudice any right that Agent or Lenders have or may have in the future under or in connection with the Credit Agreement, the Squadron Intercreditor Agreement or any other Financing Document; (c) constitute a consent to or waiver of any past, present or future Default or Event of Default or other violation of any provisions of the Credit Agreement or any other Financing Documents, (d) create any obligation to forbear from taking any enforcement action, or to make any further extensions of credit or (e) establish a custom or course of dealing among any of the Credit Parties, on the one hand, or Agent or any Lender, on the other hand.

3. **Amendment to Original Credit Agreement**. Subject to the terms and conditions of this Agreement, including, without limitation, the conditions to effectiveness set forth in Section 6 below, the definition of "**Squadron Debt**" in Section 1.1 of the Original Credit Agreement thereof is hereby amended and restated in its entirety to read as follows:

> "**Squadron Debt**" means Debt incurred pursuant to and in accordance with the terms of the Squadron Credit Agreement in a principal amount not to exceed $65,000,000.

4. **Representations and Warranties; Covenants; Reaffirmation of Security Interest**. Each Borrower hereby (a) confirms that all of the representations and warranties set forth in the Credit Agreement are true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) with respect to such Borrower as of the date hereof except to the extent that any such representation or warranty relates to a specific date in which case such representation or warranty shall be true and correct as of such earlier date, and (b) covenants to perform its respective obligations under the Credit Agreement. Each Borrower confirms and agrees that all security interests and Liens granted to Agent continue in full force and effect, and all Collateral remains free and clear of any Liens, other than Permitted Liens. Except as specifically provided in this Agreement, nothing herein is intended to impair or limit the validity, priority or extent of Agent's security interests in and Liens on the Collateral. Each Borrower acknowledges and agrees that the Credit Agreement, the other Financing Documents and this Agreement constitute the legal, valid and binding obligation of each Borrower, and are enforceable against each Borrower in accordance with their terms,

except as the enforceability thereof may be limited by bankruptcy, insolvency or other similar laws relating to the enforcement of creditors' rights generally and by general equitable principles.

5. **Costs and Fees.** Borrowers shall be responsible for the payment of all reasonable and documented out-of-pocket costs and fees of Agent's counsel incurred in connection with the preparation of this Agreement and any related documents. If Agent or any Lender uses in-house counsel for any of these purposes, Borrowers further agree that the Obligations include reasonable charges for such work commensurate with the fees that would otherwise be charged by outside legal counsel selected by Agent or such Lender for the work performed.

6. **Conditions to Effectiveness.** This Agreement shall become effective as of the date on which each of the following conditions has been satisfied:

(a) Borrowers shall have delivered to Agent this Agreement, duly executed by an authorized officer of each Borrower;

(b) (i) Agent shall have received executed copies of the First Amendment and all other schedules, documents or instruments and all other material ancillary agreements, instruments and documents to be executed or delivered in connection therewith and (ii) all conditions precedent (other than the effectiveness of this Agreement) to the effectiveness of the First Amendment shall have been satisfied or waived;

(c) all of the representations and warranties of Borrowers set forth in the herein and in the other Financing Documents are true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) with respect to such Borrower as of the date hereof except to the extent that any such representation or warranty relates to a specific date in which case such representations and warranties were true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) on and as of such date (and such parties' delivery of their respective signatures hereto shall be deemed to be its certification thereof);

(d) no Default or Event of Default shall exist under any of the Financing Documents (and such parties' delivery of their respective signatures hereto shall be deemed to be its certification thereof);

(e) Borrower shall have delivered such other documents, information, certificates, records, permits, and filings as the Agent may reasonably request; and

(f) Agent shall have received from Borrowers all of the fees owing pursuant to this Agreement.

7. **Release.** In consideration of the agreements of Agent and Lenders contained herein and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, each Borrower, voluntarily, knowingly, unconditionally and irrevocably, with specific and express intent, for and on behalf of itself and all of its respective parents, subsidiaries, affiliates, members, managers, predecessors, successors, and assigns, and each of their respective current and former directors, officers, shareholders, agents, and employees, and each of their respective predecessors, successors, heirs, and assigns (individually and collectively, the "**Releasing Parties**") does hereby fully and completely release, acquit and forever discharge each of Agent, Lenders, and each their respective parents, subsidiaries, affiliates, members, managers, shareholders, directors, officers and employees, and each of their respective predecessors, successors, heirs, and assigns (individually and collectively, the "**Released Parties**"), of and from any and all actions, causes of action, suits, debts, disputes, damages, claims, obligations, liabilities, costs, expenses and demands of any kind whatsoever, at law or in equity, whether matured or unmatured, liquidated or unliquidated, vested or contingent, choate or inchoate, known or unknown that the Releasing Parties (or any of them) has against the Released Parties or any of them

(whether directly or indirectly), based in whole or in part on facts, whether or not now known, existing on or before the Effective Date, that relate to, arise out of or otherwise are in connection with: (i) any or all of the Financing Documents or transactions contemplated thereby or any actions or omissions in connection therewith or (ii) any aspect of the dealings or relationships between or among any or all of the Borrowers, on the one hand, and any or all of the Released Parties, on the other hand, relating to any or all of the documents, transactions, actions or omissions referenced in clause (i) hereof. Each Borrower acknowledges that the foregoing release is a material inducement to Agent's and Lender's decision to enter into this A greement and agree to the modifications contemplated hereunder, and has been relied upon by Agent and Lenders in connection therewith.

8. **No Waiver or Novation.** The execution, delivery and effectiveness of this Agreement shall not, except as expressly provided in this Agreement, operate as a waiver of any right, power or remedy of Agent, nor constitute a waiver of any provision of the Credit Agreement, the Financing Documents or any other documents, instruments and agreements executed or delivered in connection with any of the foregoing. Nothing herein is intended or shall be construed as a waiver of any existing Defaults or Events of Default under the Credit Agreement or other Financing Documents or any of Agent's rights and remedies in respect of such Defaults or Events of Default. This Agreement (together with any other document executed in connection herewith) is not intended to be, nor shall it be construed as, a novation of the Credit Agreement.

9. **Affirmation.** Except as specifically amended pursuant to the terms hereof, each Borrower hereby acknowledges and agrees that the Credit Agreement and all other Financing Documents (and all covenants, terms, conditions and agreements therein) shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrowers. Each Borrower covenants and agrees to comply with all of the terms, covenants and conditions of the Credit Agreement and the Financing Documents, notwithstanding any prior course of conduct, waivers, releases or other actions or inactions on Agent's or any Lender's part which might otherwise constitute or be construed as a waiver of or amendment to such terms, covenants and conditions. Each Borrower hereby agrees that (i) all representations and warranties of Borrowers contained in the Original Credit Agreement and the other Financing Documents are true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) as of the date hereof (and such parties' delivery of their respective signatures hereto shall be deemed to be its certification thereof), except to the extent such representations and warranties expressly relate to a specific date, in which case such representations and warranties were true and correct in all material respects (without duplication of any materiality qualifier in the text of such representation or warranty) on and as of such date and (ii) no Default or Event of Default shall exist under any of the Financing Documents (and each Borrower's delivery of its signatures hereto shall be deemed to be its certification thereof). In consideration of the accommodations set forth herein, each Borrower hereby acknowledges, reaffirms, confirms and ratifies its prior pledge and grant to Agent, for its benefit and for the benefit of Lenders, a continuing general lien in, upon, and to the personal property set forth on Schedule 9.1 of the Credit Agreement, pursuant to the Credit Agreement, and expressly acknowledges that such lien and security interest secures the Obligations.

10. **Confidentiality.** No Borrower will disclose the contents of this Agreement, the Credit Agreement or any of the other Financing Documents to any third party (including, without limitation, any financial institution or intermediary) without Agent's prior written consent, other than to Borrowers' officers and advisors on a need-to-know basis or as otherwise may be required by Law, including to any court or regulatory agency having jurisdiction over such Borrower. Each Borrower agrees to inform all such persons who receive information concerning this Agreement, the Credit Agreement and the other Financing Documents that such information is confidential and may not be disclosed to any other person except as may be required by Law, including to any court or regulatory agency having jurisdiction over such Borrower.

11. **Miscellaneous.**

(a) Reference to the Effect on the Credit Agreement. Upon the effectiveness of this Agreement, each reference in the Credit Agreement to "this Agreement," "hereunder," "hereof," "herein," or words of similar import shall mean and be a reference to the Credit Agreement, as amended by this Agreement. Except as specifically amended above, the Credit Agreement, and all other Financing Documents (and all covenants, terms, conditions and agreements therein), shall remain in full force and effect, and are hereby ratified and confirmed in all respects by Borrowers.

(b) Incorporation of Credit Agreement Provisions. The provisions contained in Section 11.6 (Indemnification) and Article 12 of the Credit Agreement are incorporated herein by reference to the same extent as if reproduced herein in their entirety.

(c) GOVERNING LAW. THIS AGREEMENT AND EACH OTHER FINANCING DOCUMENT, AND ALL MATTERS RELATING HERETO OR THERETO OR ARISING THEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF MARYLAND, WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES.

(d) WAIVER OF JURY TRIAL. EACH BORROWER, AGENT AND THE LENDERS HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THE FINANCING DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED THEREBY AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. EACH BORROWER, AGENT AND EACH LENDER ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS AGREEMENT AND THE OTHER FINANCING DOCUMENTS, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. EACH BORROWER, AGENT AND EACH LENDER WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS.

(e) Headings. Section headings in this Agreement are included for convenience of reference only and shall not constitute a part of this Agreement for any other purpose.

(f) Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be deemed an original and all of which when taken together shall constitute one and the same instrument. Delivery of an executed counterpart of this Agreement by facsimile or by electronic mail delivery of an electronic version (e.g., .pdf or .tif file) of an executed signature page shall be effective as delivery of an original executed counterpart hereof and shall bind the parties hereto.

(g) Entire Agreement. This Agreement constitutes the entire agreement and understanding among the parties hereto and supersedes any and all prior agreements and understandings, oral or written, relating to the subject matter hereof.

(h) Severability. In case any provision of or obligation under this Agreement shall be invalid, illegal or unenforceable in any applicable jurisdiction, the validity, legality and enforceability of the remaining provisions or obligations, or of such provision or obligation in any other jurisdiction, shall not in any way be affected or impaired thereby.

(i) Successors/Assigns. This Agreement shall bind, and the rights hereunder shall inure to, the respective successors and assigns of the parties hereto, subject to the provisions of the Credit Agreement and the other Financing Documents.

[SIGNATURES APPEAR ON FOLLOWING PAGES]

IN WITNESS WHEREOF, intending to be legally bound, and intending that this document constitute an agreement executed under seal, the undersigned have executed this Agreement under seal as of the day and year first hereinabove set forth.

AGENT:

MIDCAP FUNDING IV TRUST, a Delaware statutory trust

By: Apollo Capital Management, L.P.,
its investment manager

By:Apollo Capital Management GP, LLC,
its general partner

By: __/s/ Maurice Amsellem_____ (SEAL)
Name: Maurice Amsellem
Title: Authorized Signatory

LENDERS

MIDCAP FUNDING IV TRUST, a Delaware statutory trust

By: Apollo Capital Management, L.P.,
its investment manager

By:Apollo Capital Management GP, LLC,
its general partner

By: ____/s/ Maurice Amsellem _____ (SEAL)
Name: Maurice Amsellem
Title: Authorized Signatory

[Signatures Continue on Following Page]

BORROWERS: **ALPHATEC HOLDINGS, INC.**,
a Delaware corporation

By: __/s/ Jeffrey G. Black _____ (SEAL)
Name: Jeff Black
Title: Chief Financial Officer

ALPHATEC SPINE, INC.,
a California corporation

By: ___/s/ Jeffrey G. Black _____ (SEAL)
Name: Jeff Black
Title: Chief Financial Officer

SAFEOP SURGICAL, INC.,
a Delaware corporation

By: ___/s/ Jeffrey G. Black _____ (SEAL)
Name: Jeff Black
Title: Chief Financial Officer

Exhibit 10.2

Execution Version

FIRST AMENDMENT TO
CREDIT, SECURITY AND GUARANTY AGREEMENT

This FIRST AMENDMENT TO CREDIT, SECURITY AND GUARANTY AGREEMENT (this " **Amendment**") is entered into as of March 27, 2019, by and among **ALPHATEC HOLDINGS, INC.**, a Delaware corporation, **ALPHATEC SPINE, INC.**, a California corporation and **SAFEOP SURGICAL, INC**., a Delaware corporation (each individually as a "Borrower" and collectively, as "Borrowers") and **SQUADRON MEDICAL FINANCE SOLUTIONS LLC**, a Delaware limited liability company as lender ("Lender").

RECITALS:

A.Lender made loans and certain other financial accommodations to Borrowers as evidenced by that certain Credit, Security and Guaranty Agreement dated as of November 6, 2018 by and among Borrowers and Lender (the "**Existing Credit, Security and Guaranty Agreement**").

B.Borrowers and Lender hereby agree to amend the Existing Credit, Security and Guaranty Agreement as described in this Amendment.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are hereby incorporated into this Amendment and made a part hereof, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1.Incorporation of Recitals. Borrowers and Lender hereby agree that all of the Recitals in this Amendment are hereby incorporated into and made a part hereof.

2.Capitalized Terms. Except as otherwise defined in this Amendment, each capitalized term used herein shall have the same meaning as that assigned to it in the Existing Credit, Security and Guaranty Agreement, and such definitions shall be incorporated herein by reference, as if fully set forth herein.

3.Amendments to Existing Credit, Security and Guaranty Agreement.

A. Section 1.1 of the Existing Credit, Security and Guaranty Agreement is hereby amended by adding the following definitions, or amending and restating existing definitions, in alphabetical order:

"Additional Term Loan" has the meaning set forth in Section 2.1(a)(ii).

"Initial Term Loan" has the meaning set forth in Section 2.1(a)(i).

"Term Loan" has the meaning set forth in Section 2.1(a)(ii).

"Warrants" means (i) the warrants granted to Lender (including any designee of Lender) in connection with the Initial Term Loan on the Closing Date to purchase 845,000 shares of common stock of Holdings at $3.15 per share and (ii) the warrants to be granted to Lender (including any designee of Lender) on the date of the initial drawing by Borrowers under the Additional Term Loan

to purchase 4,838,710 shares of common stock of Holdings at $2.17 per share, such Warrant shall be substantially in the form of Exhibit B.

B. Section 2.1(a) of the Existing Credit, Security and Guaranty Agreement is hereby deleted in its entirety and the following substituted therefor:

(a) Term Loan Amount.

(i)Borrowers and Lender acknowledge that Lender made a term loan to Borrowers in the aggregate original principal amount equal to $35,000,000 on November 6, 2018 ("Initial Term Loan").

(ii)On the terms and conditions set forth herein, Lender agrees to make to Borrowers an additional term loan in the aggregate principal amount equal to $30,000,000 ("Additional Term Loan" and together with the Initial Term Loan, the "Term Loan"). Each drawing by Borrowers under the Additional Term Loan shall be subject to the following conditions:

(A) no Default or Event of Default shall occur or be continuing before and after giving effect to such drawing by Borrowers under the Additional Term Loan;

(B) proceeds of each drawing by Borrowers under the Additional Term Loan shall be used for working capital and general corporate purposes of the Borrowers;

(C) Borrowers shall give Lender a written notice specifying the amount Borrowers desire to draw under the Additional Term Loan not less than fifteen (15) days before each drawing;

(D) each drawing by Borrowers under the Additional Term Loan shall be in a minimum amount of $5,000,000 and incremental amounts in integral multiples of $100,000;

(E) no drawing by Borrowers under the Additional Term Loan shall be made following December 31, 2020; and

(F) in the event Borrowers have not completed an initial drawing under the Additional Term Loan on or before June 30, 2019, Lender shall be entitled to receive a fee in the amount of $300,000 due and payable on June 30, 2019 which fee shall be fully earned when paid and shall not be refundable for any reason whatsoever.

C. Section 2.1(b)(i) of the Existing Credit, Security and Guaranty Agreement is hereby deleted in its entirety and the following substituted therefor:

(i) There shall become due and payable, and Borrowers shall repay the Term Loan through, scheduled payments beginning on June 30, 2021 and continuing on the last Business Day of each month thereafter, in monthly principal payments of $640,393. Notwithstanding the foregoing, the outstanding

principal amount of the Term Loan shall become immediately due and payable in full on the Termination Date.

D. Section 2.1(e) of the Existing Credit, Security and Guaranty Agreement is hereby deleted in its entirety and the following substituted therefor:

(e) Warrants.

(i) Initial Term Loan. The Borrowers and the Lender hereby acknowledge and agree that, for United States income tax purposes, for an aggregate purchase price of $35,000,000, (i) the Lender shall make the Initial Term Loan to the Borrowers and (ii) the Borrowers shall sell to, and the Lender (including any designee of Lender) shall purchase from the Borrowers, the Warrants. Furthermore, the Borrowers and the Lender hereby acknowledge and agree that (i) the issue price (within the meaning of Section 1273(b) of the Internal Revenue Code) of the Initial Term Loan is determined pursuant to Section 1272-1275 of the Code and the Treasury Regulations thereunder and (ii) for United States federal income tax purposes, the issue price of the Warrants within the meaning of Section 1273(b) of the Internal Revenue Code, which issue price was determined pursuant to Section 1.1273-2(h)(1) of the Treasury Regulations, is equal to $2.00. The parties hereto agree to report all income tax matters with respect to the Warrants consistent with the provisions of this Section 2.1(e)(i) unless otherwise required due to a change in applicable Law.

(ii) Additional Term Loan. The Borrowers and the Lender hereby acknowledge and agree that, for United States income tax purposes, for an aggregate purchase price of $30,000,000, (i) the Lender shall make the Additional Term Loan to the Borrowers and (ii) subject to the Borrowers making an initial drawing under the Additional Term Loan, the Borrowers shall sell to, and the Lender (including any designee of Lender) shall purchase from the Borrowers, the Warrants. Furthermore, the Borrowers and the Lender hereby acknowledge and agree that (i) the issue price (within the meaning of Section 1273(b) of the Internal Revenue Code) of the Additional Term Loan is determined pursuant to Section 1272-1275 of the Code and the Treasury Regulations thereunder and (ii) for United States federal income tax purposes, the issue price of the Warrants within the meaning of Section 1273(b) of the Internal Revenue Code, which issue price was determined pursuant to Section 1.1273-2(h)(1) of the Treasury Regulations, is equal to $1.98. The parties hereto agree to report all income tax matters with respect to the Warrants consistent with the provisions of this Section 2.1(e)(ii) unless otherwise required due to a change in applicable Law.

E. Section 2.3 of the Existing Credit, Security and Guaranty Agreement is hereby deleted in its entirety and the following substituted therefor:

Section 2.3 Term Note. The Term Loan made by Lender shall be evidenced by an amended and restated promissory note in the form attached hereto as Exhibit A executed by Borrowers on a joint and several basis ("Term Note") in an original principal amount equal to Sixty Five Million Dollars ($65,000,000).

F. Schedule 2.1 of the Existing Credit, Security and Guaranty Agreement is hereby replaced in its entirety with Schedule 2.1 attached hereto.

G. Exhibit A of the Existing Credit, Security and Guaranty Agreement is hereby replaced in its entirety with Exhibit A attached hereto.

H. Exhibit B of the Existing Credit, Security and Guaranty Agreement is hereby redesignated as Exhibit C.

I. The Existing Credit, Security and Guaranty Agreement is hereby amended to insert Exhibit B attached hereto.

J. Exhibit C of the Existing Credit, Security and Guaranty Agreement is hereby redesignated as Exhibit D.

4.Representations, Warranties and Covenants. Each Borrower hereby represents, warrants and covenants to Lender as follows:

A. no Unmatured Default or Event of Default has occurred and is continuing under the Existing Credit, Security and Guaranty Agreement or any other Loan Document;

B. the representations and warranties of Borrowers in the Existing Credit, Security and Guaranty Agreement and each other Loan Document are true and correct in all material respects as of the date hereof as though each of said representations and warranties was made on the date hereof (except, in each case for representations and warranties which by their terms are expressly applicable to an earlier date, in which case, such representations and warranties shall be true and correct in all material respects as of such earlier date); and

C. this Amendment has been duly authorized, executed and delivered on behalf of Borrowers and this Amendment constitutes the legal, valid and binding obligation of Borrowers, enforceable in accordance with its terms except as enforceability may be limited by applicable bankruptcy, insolvency or laws affecting creditor's rights generally and by general principles of equity.

5.Conditions Precedent. The obligation of Lender to enter into this Amendment is subject to the following conditions precedent:

A.Borrowers shall have entered into, executed and delivered to Lender:

(i)a fully executed original of this Amendment,

(ii) the Amended and Restated Term Note in the form attached hereto as Exhibit A; and

(iii) such consents and approvals acceptable to Lender.

B.Lender shall have received a certificate from the Secretary of each Borrower (i) attesting to the resolutions of the Board of Directors authorizing its execution, delivery and performance of this Amendment, (ii) authorizing specific officers of Borrower to execute this Amendment, and (iii) attesting to the incumbency and signature of specific officers of Borrower.

C.Borrowers shall pay to Lender for its account (and not on behalf of any loan participant) a closing fee in the amount of $300,000 which fee shall be fully earned when paid and shall not be refundable for any reason whatsoever.

7.Waiver of Claims. Each Borrower hereby acknowledges, agrees and affirms that it currently possesses no claims, defenses, offsets, recoupment or counterclaims of any kind or nature against or with respect to the enforcement of the Existing Credit, Security and Guaranty Agreement or any other Loan Document or any amendments thereto (collectively, the "**Claims**"), nor does any Borrower now have knowledge of any facts that would or might give rise to any Claims. If facts now exist which would or could give rise to any Claim against or with respect to the enforcement of the Existing Credit, Security and Guaranty Agreement or any other Loan Document, as amended hereby, each Borrower hereby unconditionally, irrevocably and unequivocally waives to the extent permitted by applicable law and fully releases any and all such Claims as if such Claims were the subject of a lawsuit (other than the defense of payment in full), adjudicated to final judgment from which no appeal could be taken and therein dismissed with prejudice.

8.Ratification of Existing Credit, Security and Guaranty Agreement and the other Loan Documents. From and after the date hereof, the Existing Credit, Security and Guaranty Agreement and the other Loan Documents shall be deemed to be amended and modified as provided herein, and, except as so amended and modified, the Existing Credit, Security and Guaranty Agreement and the other Loan Documents shall continue in full force and effect and the Existing Credit, Security and Guaranty Agreement and the applicable provisions of this Amendment shall be read, taken and construed as one and the same instrument. Each Borrower hereby remakes, ratifies and reaffirms all of its Obligations under the terms of the Existing Credit, Security and Guaranty Agreement and the other Loan Documents and any other document to which it is a party evidencing, creating or securing the Term Loan, as of the date hereof after giving effect to the amendments contained herein including, without limitation, the granting of a security interest thereunder. On and after the date hereof, the term "Credit, Security and Guaranty Agreement" used in any document evidencing the Term Loan shall mean the Existing Credit, Security and Guaranty Agreement as amended hereby. Except as expressly set forth in this Amendment, nothing in this Amendment shall constitute a waiver or relinquishment of (a) any Default or Event of Default under any of the Loan Documents, (b) any of the agreements, terms or conditions contained in any of the Loan Documents, (c) any rights or remedies of Lender with respect to the Loan Documents, or (d) the rights of Lender to collect the full amounts owing to them under the Loan Documents.

9.Consents. Each Borrower hereby represents that this Amendment does not violate any provision of any instrument, document, contract or agreement to which such party is a party, or each Borrower hereby represents that it has obtained all requisite consents under those third party instruments prior to entering into this Amendment.

10.Further Assurances. The parties hereto, shall, at any time and from time to time, following the execution of this Amendment, execute and deliver all such further instruments and take all such further action as may be reasonably necessary or appropriate in order to carry out the provisions of this Amendment.

11.Counterparts. This Amendment may be executed in any number of counterparts, and by the different parties hereto and thereto on the same or separate counterparts, each of which, when so executed and delivered, shall be deemed to be an original; all the counterparts for this Amendment shall together constitute one and the same agreement. Delivery of a counterpart to this Amendment by facsimile or electronic transmission shall constitute delivery of an original counterpart hereto.

12.Representation by Counsel. Each Borrower hereby represents that it has been represented by competent counsel of its choice in the negotiation and execution of this Amendment; that it has read and fully understands the terms hereof, that such party and its counsel have been afforded an opportunity to review, negotiate and modify the terms of this Amendment, and that it intends to be bound hereby.

13.No Third Party Beneficiaries. The terms and provisions of this Amendment shall be for the sole benefit of the parties hereto and their respective successors and assigns; no other person, firm, entity or corporation shall have any right, benefit or interest under this Amendment.

14.Governing Law and Submission to Jurisdiction. The provision of Section 11.8 of the Existing Credit, Security and Guaranty Agreement is hereby incorporated herein by reference.

15.WAIVER OF JURY TRIAL. **EACH BORROWER AND LENDER HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THE FINANCING DOCUMENTS OR THE TRANSACTIONS CONTEMPLATED THEREBY AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. EACH BORROWER AND LENDER ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ENTERING INTO THIS AMENDMENT AND THE OTHER FINANCING DOCUMENTS, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. EACH BORROWER AND LENDER WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS.**

THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK.

IN WITNESS WHEREOF, the parties hereto have executed this First Amendment to Credit, Security and Guaranty Agreement dated as of the date first written above.

ALPHATEC HOLDINGS, INC.,
a Delaware corporation

By: _/s/ Jeffrey G. Black_____
Jeffrey Black
Chief Financial Officer

ALPHATEC SPINE, INC.
a California corporation

By: __/s/ Jeffrey G. Black_____
Jeffrey Black
Chief Financial Officer

SAFEOP SURGICAL, INC.
a Delaware corporation

By: __/s/ Jeffrey G. Black_____
Jeffrey Black
Chief Financial Officer

LENDER:

SQUADRON MEDICAL FINANCE SOLUTIONS, LLC

By: __/s/ David Pelizzon_____

David Pelizzon

President

Exhibit A

Form of Amended and Restated Term Note

$65,000,000 March 27, 2019

FOR VALUE RECEIVED, the undersigned (individually, a "Borrower" and, collectively, the "Borrowers"), jointly and severally promise to pay to the order of **Squadron Medical Finance Solutions LLC**, a Delaware limited liability company (hereinafter, with any subsequent holders, the "Lender"), 18 Hartford Avenue, Granby, CT 06035, the principal sum of SIXTY-FIVE MILLION DOLLARS ($65,000,000), made by the Lender to or for the account of the Borrowers pursuant to the Credit, Security and Guaranty Agreement dated as of November 6, 2018 (as amended, modified, supplemented or restated and in effect from time to time, the "Credit Agreement") by and among the Borrowers, the other Credit Parties from time to time party thereto, and the Lender, with interest at the rate and payable in the manner stated therein.

This is a promissory note ("Term Note") to which reference is made in Section 2.3 of the Credit Agreement and is subject to all terms and provisions thereof. The principal of, and interest on, this Term Note shall be payable at the times, in the manner, and in the amounts as provided in the Credit Agreement and shall be subject to prepayment and acceleration as provided therein. Capitalized terms used herein and not defined herein shall have the meanings assigned to such terms in the Credit Agreement.

The Lender's books and records concerning the Term Loan, the accrual of interest thereon, and the repayment of such Term Loan, shall be prima facie evidence of the indebtedness to the Lender hereunder.

No delay or omission by the Lender in exercising or enforcing any of the Lender's powers, rights, privileges, remedies, or discretions hereunder shall operate as a waiver thereof on that occasion nor on any other occasion. No waiver of any Event of Default shall operate as a waiver of any other Event of Default.

This Term Note shall be binding upon each Borrower, and each endorser and guarantor hereof, and upon their respective successors, assigns, and representatives, and shall inure to the benefit of the Lender and its successors, endorsees, and assigns.

This Term Note amends and restates that certain Term Note dated as of November 6, 2018 made by Borrowers in favor of Lender in the original principal amount of $35,000,000 (the "**Existing Term Note**") and constitutes a replacement and substitute for the Existing Term Note. To the extent that the principal balance of this Term Note includes the indebtedness hitherto evidenced by the Existing Term Note, the indebtedness evidenced by the Existing Term Note is a continuing indebtedness and nothing herein shall be deemed to constitute a payment, settlement or novation of the Existing Term Note or a release of any collateral heretofore pledged to secure payment and performance of the Existing Term Note, all such collateral hereby expressly

pledged to secure the payment and performance of the obligations hereunder as if fully set forth herein.

THIS TERM NOTE AND ALL MATTERS RELATING HERETO OR ARISING HEREFROM (WHETHER SOUNDING IN CONTRACT LAW, TORT LAW OR OTHERWISE), SHALL BE GOVERNED BY, AND SHALL BE CONSTRUED AND ENFORCED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, WITHOUT REGARD TO CONFLICTS OF LAWS PRINCIPLES.

EACH BORROWER HEREBY CONSENTS TO THE JURISDICTION OF ANY STATE OR FEDERAL COURT LOCATED WITHIN THE COUNTY OF NEW YORK COUNTY, STATE OF NEW YORK AND IRREVOCABLY AGREES THAT, SUBJECT TO LENDER'S ELECTION, ALL ACTIONS OR PROCEEDINGS ARISING OUT OF OR RELATING TO THIS AGREEMENT SHALL BE LITIGATED IN SUCH COURTS. EACH BORROWER EXPRESSLY SUBMITS AND CONSENTS TO THE JURISDICTION OF THE AFORESAID COURTS AND WAIVES ANY DEFENSE OF FORUM NON CONVENIENS. EACH BORROWER HEREBY WAIVES PERSONAL SERVICE OF ANY AND ALL PROCESS AND AGREES THAT ALL SUCH SERVICE OF PROCESS MAY BE MADE UPON SUCH BORROWER BY CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED, ADDRESSED TO SUCH BORROWER AT THE ADDRESS SET FORTH IN THE CREDIT AGREEMENT AND SERVICE SO MADE SHALL BE COMPLETE TEN (10) DAYS AFTER THE SAME HAS BEEN POSTED.

EACH BORROWER, AND LENDER BY ITS ACCEPTANCE HEREOF, HEREBY IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS TERM NOTE OR THE TRANSACTIONS CONTEMPLATED THEREBY AND AGREES THAT ANY SUCH ACTION OR PROCEEDING SHALL BE TRIED BEFORE A COURT AND NOT BEFORE A JURY. EACH BORROWER AND LENDER ACKNOWLEDGES THAT THIS WAIVER IS A MATERIAL INDUCEMENT TO ENTER INTO A BUSINESS RELATIONSHIP, THAT EACH HAS RELIED ON THE WAIVER IN ISSUING AND ACCEPTING THIS TERM NOTE, AND THAT EACH WILL CONTINUE TO RELY ON THIS WAIVER IN THEIR RELATED FUTURE DEALINGS. EACH BORROWER AND LENDER WARRANTS AND REPRESENTS THAT IT HAS HAD THE OPPORTUNITY OF REVIEWING THIS JURY WAIVER WITH LEGAL COUNSEL, AND THAT IT KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the Borrowers have caused this Term Note to be duly executed as of the date set forth above.

ALPHATEC HOLDINGS, INC.

By: _____
Name: Jeffrey Black
Title: Chief Financial Officer

ALPHATEC SPINE, INC.

By: _____
Name: Jeffrey Black
Title: Chief Financial Officer

SAFEOP SURGICAL, INC.

By: _____
Name: Jeffrey Black
Title: Chief Financial Officer

Exhibit B

Form of Warrant

NEITHER THIS SECURITY NOR THE SECURITIES FOR WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN REL IANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933 , AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AV AILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY AND THE SECURITIES ISSUABLE UPON EXERCISE OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN SECURED BY SUCH SECURITIES.

COMMON STOCK PURCHASE WARRANT

ALPHATEC HOLDINGS, INC.

Warrant Shares: _____ Issue Date: _____, 2019

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after _____, 2019 (the "Initial Exercise Date") and on or prior to the close of business on the seven-year anniversary of the Initial Exercise Date (the "Termination Date") but not thereafter, to subscribe for and purchase from Alphatec Holdings, Inc., a Delaware corporation (the "Company"), _____ shares (as subject to adjustment hereunder, the "Warrant Shares") of Common Stock. The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Registration Rights Agreement (the "Registration Rights Agreement"), dated as of November 6, 2018, among the Company and the purchasers signatory thereto.

As used in this Warrant, the following terms have the respective meaning set forth below:

"Common Stock Deemed Outstanding" means, at any given time, the sum of (a) the number of shares of Common Stock actually outstanding at such time, *plus* (b) the number of shares of Common Stock issuable upon exercise of Options actually outstanding at such time,

plus (c) the number of shares of Common Stock issuable upon conversion or exchange of Convertible Securities actually outstanding at such time (treating as actually outstanding any Convertible Securities issuable upon exercise of Options actually outstanding at such time), in each case, regardless of whether the Options or Convertible Securities are actually exercisable at such time; provided, that Common Stock Deemed Outstanding at any given time shall not include shares owned or held by or for the account of the Company or any of its wholly-owned subsidiaries.

"Convertible Securities" means any securities (directly or indirectly) convertible into or exchangeable for Common Stock, but excluding Options.

"Excluded Issuances" means any issuance or sale (or deemed issuance or sale in accordance with Section 3(e)) by the Company after the Initial Exercise Date of: (a) shares of Common Stock issued upon the exercise of this Warrant and warrants to purchase shares of Common Stock issued prior to the Initial Exercise Date; (b) up to an aggregate of 9,233,333 shares of Common Stock issued directly or upon the exercise of Options to directors, officers, employees, or consultants of the Company in connection with their service as directors of the Company, their employment by the Company or their retention as consultants by the Company, in each case authorized by the Board and issued pursuant to the Company's 2016 Equity Incentive Plan and 2016 Employment Inducement Award Plan (including all such shares of Common Stock and Options outstanding prior to the Initial Exercise Date); (c) shares of Common Stock issued upon the conversion or exercise of Options (other than Options covered by clause (b) above) or Convertible Securities issued prior to the Initial Exercise Date, *provided* that such securities are not amended after the date hereof to increase the number of shares of Common Stock issuable thereunder or to lower the exercise or conversion price thereof; (d) shares of Common Stock, Options or Convertible Securities issued (i) to persons in connection with a joint venture, strategic alliance or other commercial relationship with such person (including persons that are customers, suppliers and strategic partners of the Company) relating to the operation of the Company's business and not for the primary purpose of raising equity capital and approved by the Board, (ii) in connection with a transaction in which the Company, directly or indirectly, acquires another business or its tangible or intangible assets, or (iii) to lenders as equity kickers in connection with debt financings of the Company, in each case where such transactions have been approved by the Board; (e) shares of Common Stock in an offering for cash for the account of the Company that is underwritten on a firm commitment basis and is registered with the Securities and Exchange Commission under the Securities Act of 1933, as amended; or (f) shares of Common Stock, Options or Convertible Securities issued to the lessor or vendor in any office lease or equipment lease or similar equipment financing transaction in which the Company obtains the use of such office space or equipment for its business.

"Options" means any warrants or other rights or options to subscribe for or purchase Common Stock or Convertible Securities.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial

Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency that the Company may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company), as applicable, of a duly executed facsimile copy or PDF copy submitted by electronic (or e-mail attachment) of the Notice of Exercise in the form annexed hereto as Exhibit A. Within the earlier of (i) three (3) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be $2.17, subject to adjustment hereunder (the "Exercise Price").

(c) Cashless Exercise. This Warrant may also be exercised, in whole or in part, by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, (y) the VWAP on the Trading Day immediately preceding the date the applicable Notice of Exercise is delivered or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price of this Warrant, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the characteristics of the Warrants being exercised, and the holding period of the Warrant Shares being issued may be tacked on to the holding period of this Warrant. The Company agrees not to take any position contrary to this Section 2(c).

"Bid Price" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if

OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the "Pink Sheets" published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of all Warrants issued pursuant to the Credit Agreement and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the "Pink Sheets" published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of all Warrants issued pursuant to the Credit Agreement and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

Notwithstanding anything herein to the contrary, on the Termination Date, this Warrant shall be automatically exercised via cashless exercise pursuant to this Section 2(c).

(d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) the Warrant Shares are eligible for resale by the Holder without volume or manner-of-sale limitations pursuant to Rule

144, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earlier of (i) three (3) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) three (3) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each $1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), $5 per Trading Day (increasing to $10 per Trading Day on the fifth (5th) Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date (subject to receipt of the aggregate Exercise Price for the applicable exercise (other than in the case of a cashless exercise)) until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date (subject to receipt of the aggregate Exercise Price for the applicable exercise (other than in the case of a cashless exercise)), then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date (subject to receipt of the aggregate Exercise Price for the applicable exercise (other than in the case of a cashless exercise)), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of $10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or

injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form, in the form attached hereto as Exhibit B, duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. Unless a Holder has made an election on its signature page hereto, to have this Section 2(e) not apply to him/her/it, the Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution

Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other any securities of the Company or the subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the

number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time or from time to time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of

shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price in effect immediately prior to such dividend distribution, subdivision, combination or reclassification shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or reclassification.

(b) Subsequent Rights Offerings. In addition to any adjustments pursu ant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock, Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder shall be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution (other than cash dividends) of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction)

other than a dividend or other distribution described in Section 3(a) above (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, exclusive license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a stock split, combination or reclassification of shares of Common Stock covered by Section 3(a) above), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business

combination) (each a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant and the Registration Rights Agreement in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the Registration Rights

Agreement referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the Registration Rights Agreement with the same effect as if such Successor Entity had been named as the Company herein.

(e) Adjustment to Exercise Price Upon Issuance of Common Stock. Except as provided in Section 3(g) and except in the case of an event described in either Section 3(a), Section 3(b) or Section 3(c), if the Company shall, at any time or from time to time after the Initial Exercise Date, issue or sell, or in accordance with Section 3(h) is deemed to have issued or sold, any shares of Common Stock without consideration or for consideration per share less than the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale), then immediately upon such issuance or sale (or deemed issuance or sale), the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale) shall be reduced (and in no event increased) to an Exercise Price equal to the quotient obtained by dividing:

(i) the sum of (A) the product obtained by multiplying the Common Stock Deemed Outstanding immediately prior to such issuance or sale (or deemed issuance or sale) by the Exercise Price then in effect plus (B) the aggregate consideration, if any, received by the Company upon such issuance or sale (or deemed issuance or sale); by

(ii) the sum of (A) the Common Stock Deemed Outstanding immediately prior to such issuance or sale (or deemed issuance or sale) plus (B) the aggregate number of shares of Common Stock issued or sold (or deemed issued or sold) by the Company in such issuance or sale (or deemed issuance or sale).

(f) Adjustment to Number of Warrant Shares Upon Adjustment to Exercise Price. Upon any and each adjustment of the Exercise Price as provided in Section 3(e), the number of Warrant Shares issuable upon the exercise of this Warrant immediately prior to any such adjustment shall be increased to a number of Warrant Shares equal to the quotient obtained by dividing:

(i) the product of (A) the Exercise Price in effect immediately prior to any such adjustment multiplied by (B) the number of Warrant Shares issuable upon exercise of this Warrant immediately prior to any such adjustment; by

(ii) the Exercise Price resulting from such adjustment.

(g) Exceptions To Adjustment Upon Issuance of Common Stock. Anything herein to the contrary notwithstanding, there shall be no adjustment to the Exercise Price or the number of Warrant Shares issuable upon exercise of this Warrant with respect to any Excluded Issuance.

(h) Effect of Certain Events on Adjustment to Exercise Price. For purposes of determining the adjusted Exercise Price under Section 3(e) hereof, the following shall be applicable:

(i) Issuance of Options. If the Company shall, at any time or from time to time after the Initial Exercise Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Options, whether or not such Options or the right to convert or exchange any Convertible Securities issuable upon the exercise of such Options are immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 3(h)(v)) for which Common Stock is issuable upon the exercise of such Options or upon the conversion or exchange of Convertible Securities issuable upon the exercise of such Options is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Options, then the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon conversion or exchange of the total maximum amount of Convertible Securities issuable upon the exercise of such Options shall be deemed to have been issued as of the date of granting or sale of such Options (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price under Section 3(e)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 3(e)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of all such Options, plus (y) the minimum aggregate amount of additional consideration payable to the Company upon the exercise of all such Options, plus (z), in the case of such Options which relate to Convertible Securities, the minimum aggregate amount of additional consideration, if any, payable to the Company upon the issuance or sale of all such Convertible Securities and the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the exercise of all such Options or upon the conversion or exchange of all Convertible Securities issuable upon the exercise of all such Options. Except as otherwise provided in Section 3(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock or of Convertible Securities upon exercise of

such Options or upon the actual issuance of Common Stock upon conversion or exchange of Convertible Securities issuable upon exercise of such Options.

(ii) Issuance of Convertible Securities. If the Company shall, at any time or from time to time after the Initial Exercise Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Convertible Securities, whether or not the right to convert or exchange any such Convertible Securities is immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 3(h)(v)) for which Common Stock is issuable upon the conversion or exchange of such Convertible Securities is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Convertible Securities, then the total maximum number of shares of Common Stock issuable upon conversion or exchange of the total maximum amount of such Convertible Securities shall be deemed to have been issued as of the date of granting or sale of such Convertible Securities (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price pursuant to Section 3(e)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 3(e)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of such Convertible Securities, plus (y) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the conversion or exchange of all such Convertible Securities. Except as otherwise provided in Section 3(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock upon conversion or exchange of such Convertible Securities or the issue or sale of Convertible Securities upon exercise of any Options to purchase any such Convertible Securities for which adjustments of the Exercise Price have been made pursuant to the other provisions of this Section 3(h).

(iii) Change in Terms of Options or Convertible Securities. Upon any change in any of (A) the total amount received or receivable by the Company as consideration for the granting or sale of any Options or Convertible Securities referred to in Section 3(h)(i) or Section 3(h)(ii) hereof, (B) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the exercise of any Options or

upon the issuance, conversion or exchange of any Convertible Securities referred to in Section 3(h)(i) or Section 3(h)(ii) hereof, (C) the rate at which Convertible Securities referred to in Section 3(h)(i) or Section 3(h)(ii) hereof are convertible into or exchangeable for Common Stock, or (D) the maximum number of shares of Common Stock issuable in connection with any Options referred to in Section 3(h)(i) hereof or any Convertible Securities referred to in Section 3(h)(ii) hereof (in each case, other than in connection with an Excluded Issuance), then (whether or not the original issuance or sale of such Options or Convertible Securities resulted in an adjustment to the Exercise Price pursuant to this Section 3) the Exercise Price in effect at the time of such change shall be adjusted or readjusted, as applicable, to the Exercise Price which would have been in effect at such time pursuant to the provisions of this Section 3 had such Options or Convertible Securities still outstanding provided for such changed consideration, conversion rate or maximum number of shares, as the case may be, at the time initially granted, issued or sold, but only if as a result of such adjustment or readjustment the Exercise Price then in effect is reduced, and the number of Warrant Shares issuable upon the exercise of this Warrant immediately prior to any such adjustment or readjustment shall be correspondingly adjusted or readjusted pursuant to the provisions of Section 3(e).

(iv) Treatment of Expired or Terminated Options or Convertible Securities. Upon the expiration or termination of any unexercised Option (or portion thereof) or any unconverted or unexchanged Convertible Security (or portion thereof) for which any adjustment (either upon its original issuance or upon a revision of its terms) was made pursuant to this Section 3 (including without limitation upon the redemption or purchase for consideration of all or any portion of such Option or Convertible Security by the Company), the Exercise Price then in effect hereunder shall forthwith be changed pursuant to the provisions of this Section 3 to the Exercise Price which would have been in effect at the time of such expiration or termination had such unexercised Option (or portion thereof) or unconverted or unexchanged Convertible Security (or portion thereof), to the extent outstanding immediately prior to such expiration or termination, never been issued.

(v) Calculation of Consideration Received. If the Company shall, at any time or from time to time after the Initial Exercise Date, issue or sell, or is deemed to have issued or sold in accordance with Section 3(h), any shares of Common Stock, Options or Convertible Securities: (A) for cash,

the consideration received therefor shall be deemed to be the net amount received by the Company therefor; (B) for consideration other than cash, the amount of the consideration other than cash received by the Company shall be the fair value of such consideration, except where such consideration consists of marketable securities, in which case the amount of consideration received by the Company shall be the market price (as reflected on any securities exchange, quotation system or association or similar pricing system covering such security) for such securities as of the end of business on the date of receipt of such securities; (C) for no specifically allocated consideration in connection with an issuance or sale of other securities of the Company, together comprising one integrated transaction, the amount of the consideration therefor shall be deemed to be the fair value of such portion of the aggregate consideration received by the Company in such transaction as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued in such transaction; or (D) to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving corporation, the amount of consideration therefor shall be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued to such owners. The net amount of any cash consideration and the fair value of any consideration other than cash or marketable securities shall be determined in good faith jointly by the Board and the Holder.

(vi) Record Date. For purposes of any adjustment to the Exercise Price or the number of Warrant Shares in accordance with this Section 3, in case the Company shall take a record of the holders of its Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in Common Stock, Options or Convertible Securities or (B) to subscribe for or purchase Common Stock, Options or Convertible Securities, then such record date shall be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be; provided, that if before the distribution to its holders of Common Stock the Company legally abandons its plan to pay or deliver such dividend, distribution, subscription or purchase rights, then thereafter no adjustment shall be required by the taking of such

record and any such adjustment previously made in respect thereof shall be rescinded and annulled.

(vii) Treasury Shares. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company or any of its wholly-owned subsidiaries, and the disposition of any such shares (other than the cancellation or retirement thereof or the transfer of such shares among the Company and its wholly-owned subsidiaries) shall be considered an issue or sale of Common Stock for the purpose of this Section 3.

Whenever following the Initial Exercise Date, the Company shall issue or sell, or in accordance with Section 3(h) is deemed to have issued or sold, any shares of Common Stock, the Company shall prepare a certificate signed by an executive officer setting forth, in reasonable detail, the number of shares issued or sold, or deemed issued or sold, the amount and the form of the consideration received by the Company and the method of computation of such amount and shall cause copies of such certificate to be mailed to the Holder at the address specified in Section 5 hereof or at such other address as may be provided to the Company in writing by the Holder.

(i) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(j) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection

with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

(k) NASDAQ. The Company shall not be obligated to issue any shares of Common Stock upon exercise of this Warrant, and the Holder of this Warrant shall not have the right to receive upon exercise of this Warrant any shares of Common Stock, if the issuance of such shares of Common Stock (taken together with any prior issuance of such shares upon the exercise of this Warrant) would exceed the aggregate number of shares of Common Stock which the Company may issue without breaching the Company's obligations under the rules or regulations of the Nasdaq Capital Market (the "Exchange Cap"), except that such limitation shall not apply in the event that the Company (A) obtains the approval of its stockholders as required by the

applicable rules of the Nasdaq Capital Market for issuances of Common Stock in excess of such amount or (B) obtains a written opinion from outside counsel to the Company that such approval is not required, which opinion shall be reasonably satisfactory to the Holder. Until such approval or written opinion is obtained, the Holder shall not be issued in the aggregate, upon exercise of Warrants, shares of Common Stock in an amount greater than the Exchange Cap. In the event that the Holder shall sell or otherwise transfer any of such Holder's Warrants, the restrictions of the prior sentence shall apply to such transferee.

Section 4. Transfer of Warrant.

(a) Transferability. Subject to compliance with any applicable securities laws and the conditions set forth in Section 4(d) hereof, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

(d) Transfer Restrictions.

(i) The Warrants and Warrant Shares may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of the Warrants and Warrnt Shares other than pursuant to an effective registration statement or Rule 144, to the Company or to an Affiliate of the Holder or in connection with a pledge, the Company may require the transferor thereof to provide to the Company an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Warrants or Warrant Shares under the Securities Act. As a condition of transfer, any such transferee shall agree in writing to be bound by the terms of this Warrant and the Registration Rights Agreement and shall have the rights and obligations of a Holder under this Warrant and the Registration Rights Agreement.

(ii) The Holder agrees to the imprinting, so long as is required by this Section 4(d), of a legend on any of the Warrant and the Warrant Shares in the following form:

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS EXERCISABLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS. THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

The Company acknowledges and agrees that a Holder may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Warrants or Warrant Shares to a financial institution that is an "accredited investor" as defined in Rule 501(a) under the Securities Act and who agrees to be bound by the provisions of this Warrant and the Registration Rights Agreement and, if required under the terms of such arrangement, such Holder may transfer pledged or secured Warrants or Warrant Shares to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Holder's expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Warrants or Warrant Shares may reasonably request in connection with a pledge or transfer of the Warrants or Warrant Shares, including, if the Warranr Shares are subject to registration pursuant to the Registration Rights Agreement, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of Selling Stockholders (as defined in the Registration Rights Agreement) thereunder.

(iii) Certificates evidencing the Warrant Shares shall not contain any legend (including the legend set forth in Section 4(d)(ii) hereof), (A) while a registration statement (including the Registration Statement) covering the resale of such security is effective under the Securities Act, (B) following any sale of such Warrant Shares pursuant to Rule 144, (C) if such Warrant Shares are eligible for sale under Rule 144, without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Warrant Shares and without volume or manner-of-sale restrictions, or (D) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company shall cause its counsel to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Transfer Agent to effect the removal of the legend hereunder. If all or any portion of this Warrant is exercised at a time when there is an effective registration statement to cover the resale of the Warrant Shares, or if such Warrant Shares may be sold under Rule 144 and the Company is then in compliance with the current public information required under Rule 144, or if the Warrant Shares may be sold under Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Warrant Shares or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Warrant Shares shall be issued free of all legends. The

Company agrees that following the Effective Date or at such time as such legend is no longer required under this Section 4(d)(iii), it will, no later than the earlier of (1) three (3) Trading Days and (2) the number of Trading Days comprising the Standard Settlement Period (as defined below) following the delivery by a Holder to the Company or the Transfer Agent of a certificate representing Warrant Shares, as the case may be, issued with a restrictive legend (such third Trading Day, the "Legend Removal Date"), deliver or cause to be delivered to such Holder a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4. Certificates for Securities subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Holder's prime broker with the Depository Trust Company System as directed by such Holder. "Effective Date" means the earliest of the date that (A) the Initial Registration Statement has been declared effective by the Commission, (B) all of the Warrant Shares have been sold pursuant to Rule 144 or may be sold pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions, (C) following the one-year anniversary of the Initial Issuance Date provided that a holder of Warrant Shares is not an Affiliate of the Company, or (D) all of the Warrant Shares may be sold pursuant to an exemption from registration under Section 4(a)(1) of the Securities Act without volume or manner-of-sale restrictions and Company counsel has delivered to such holders a standing written unqualified opinion that resales may then be made by such holders of the Warrant Shares pursuant to such exemption which opinion shall be in form and substance reasonably acceptable to such Holders.

(iv) In addition to such Holder's other available remedies, the Company shall pay to the Holder, in cash, (i) as partial liquidated damages and not as a penalty, for each $1,000 of Warrant Shares (based on the VWAP of the Common Stock on the date such Warrant Shares are submitted to the Transfer Agent) delivered for removal of the restrictive legend and subject to Section 4(d)(ii), $5 per Trading Day (increasing to $10 per Trading Day five (5) Trading Days after such damages have begun to accrue) for each Trading Day after the Legend Removal Date until such certificate is delivered without a legend and (ii) if the Company fails to (A) issue and deliver (or cause to be delivered) to a Holder by the Legend Removal Date a

certificate representing the Warrant Shares so delivered to the Company by such Holder that is free from all restrictive and other legends and (B) if after the Legend Removal Date such Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by such Holder of all or any portion of the number of shares of Common Stock, or a sale of a number of shares of Common Stock equal to all or any portion of the number of shares of Common Stock that such Purchaser anticipated receiving from the Company without any restrictive legend, then, an amount equal to the excess of such Holder's total purchase price (including brokerage commissions and other reasonable, out-of-pocket expenses, if any) for the shares of Common Stock so purchased (including brokerage commissions and other reasonable, out-of-pocket expenses, if any) (the "Buy-In Price") over the product of (1) such number of Warrant Shares that the Company was required to deliver to such Holder by the Legend Removal Date multiplied by (2) the lowest closing sale price of the Common Stock on any Trading Day during the period commencing on the date of the delivery by such Holder to the Company of the applicable Warrant Shares (as the case may be) and ending on the date of such delivery and payment under this clause (ii), at which point the Company's obligation to deliver such certificate shall terminate and such Warrant Shares shall be cancelled.

(e) The Holder agrees with the Company that such Purchaser will sell any Warrant Shares pursuant to either the registration requirements of the Securities Act, including any applicable prospectus delivery requirements, or an exemption therefrom, and that if Warrant Shares are sold pursuant to a Registration Statement, they will be sold in compliance with the plan of distribution set forth therein, and acknowledges that the removal of the restrictive legend from certificates representing Warrant Shares as set forth in this Section 4(d) is predicated upon the Company's reliance upon this understanding.

(f) Representation by the Holder. The Holder, by the acceptance hereof, represents and warrants that it is acquiring this Warrant and, upon any exercise hereof, will acquire the Warrant Shares issuable upon such exercise, for its own account and not with a view to or for distributing or reselling such Warrant Shares or any part thereof in violation of the Securities Act or any applicable state securities law, except pursuant to sales registered or exempted under the Securities Act.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

(b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then, such action may be taken or such right may be exercised on the next succeeding Business Day. "Business Day" means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

(d) Authorized Shares.

(i) The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the

issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

(ii) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

(iii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(e) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Credit Agreement.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the

Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be delivered in accordance with the notice provisions of the Credit Agreement and Registration Rights Agreement.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

****

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

ALPHATEC HOLDINGS, INC.

By:_____
Name:
Title:

[SIGNATURE PAGE TO WARRANT]

EXHIBIT A

NOTICE OF EXERCISE

TO: **ALPHATEC HOLDINGS, INC.**

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

[ ] in lawful money of the United States; or

[ ] if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

_____

The Warrant Shares shall be delivered to the following DWAC Account Number:

_____

_____

_____

(4) Accredited Investor. The undersigned is an "accredited investor" as defined in Regulation D promulgated under the Securities Act of 1933, as amended. If the undersigned exercises this Warrant other than by cashless exercise, the undersigned hereby agrees to complete an "accredited investor" questionnaire for the benefit of the Company substantially in the form provided to the Company in connection with the issuance of the Warrant.

[SIGNATURE OF HOLDER]

Name of Investing Entity: _____
Signature of Authorized Signatory of Investing Entity: _____
Name of Authorized Signatory: _____
Title of Authorized Signatory: _____
Date: _____

EXHIBIT B

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name:

(Please Print)

Address:

(Please Print)

Phone Number: _____

Email Address: _____

Dated: _____ __, _____

Holder's Signature:

Holder's Address:

Schedule 2.1

AMORTIZATION

Payment Date	Amount
June 30, 2021 through October 31, 2023	$640,393
November 6, 2023	Outstanding balance of all principal and interest

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Patrick S. Miles, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Alphatec Holdings, 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(s) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Patrick S. Miles

Patrick S. Miles
Chairman and Chief Executive Officer
(principal executive officer)
May 10, 2019

Exhibit 31.2

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey G. Black, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Alphatec Holdings, 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(s) 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(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

By: /s/ Jeffrey G. Black
Jeffrey G. Black
Chief Financial Officer
(principal financial and accounting officer)
May 10, 2019

Exhibit 32

CERTIFICATION UNDER
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Alphatec Holdings, Inc. (the "Company") on Form 10-Q for the quarterly period ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Patrick S. Miles, Chairman and Chief Executive Officer, certify, to my knowledge, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 10, 2019

/s/ Patrick S. Miles
Patrick S. Miles
Chairman and Chief Executive Officer
(principal executive officer of the Company)

In connection with the Quarterly Report of Alphatec Holdings, Inc. (the "Company") on Form 10-Q for the quarterly period ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jeffery G. Black, Chief Financial Officer, certify, to my knowledge, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: May 10, 2019

/s/ Jeffrey G. Black
Jeffrey G. Black
Chief Financial Officer
(principal financial and accounting officer of the Company)