

INVIVO THERAPEUTICS HOLDINGS CORP.

INSPIRE 2.0 with Bolstered Balance Sheet Set to Commence; BUY and \$6 PT

NVIV (NASDAQ)

Company & Market Data

Closing Price (as of 11/08/2018):	\$2.09
Rating:	BUY
Price Target:	\$6.00
52 Week Range:	\$1.63 - \$33.75
Shares Outstanding (MM):	9.3
Market Capitalization (MM):	\$19
Cash (MM):	\$19.7
Debt (MM):	\$0.2
Fiscal Year End:	Dec

*Shares Outstanding (MM): The company announced a 1-for-25 reverse stock split on April 9, 2018.

Estimates

EPS	2018E	2019E	2020E
1Q	\$(3.34)A	\$(0.30)	\$(0.22)
2Q	\$(7.48)A	\$(0.31)	\$(0.23)
Prior		\$(0.28)	\$(0.20)
3Q	\$(0.42)A	\$(0.24)	\$(0.26)
Prior	\$(0.38)	\$(0.27)	\$(0.28)
4Q	\$(0.34)	\$(0.25)	\$(0.27)
Prior	\$(0.38)	\$(0.27)	\$(0.29)
Full Year	\$(11.58)	\$(1.09)	\$(0.97)
Prior		\$(1.11)	\$(1.00)
Revenue (MM)	2018E	2019E	2020E
1Q	\$0.0A	\$0.0	\$0.2
2Q	\$0.0A	\$0.0	\$0.2
3Q	\$0.0A	\$0.0	\$0.3
4Q	\$0.0	\$0.0	\$0.3
Full Year	\$0.0	\$0.0	\$1.0

Ratios

P/E	NA	NA	NA
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Chart data: Bloomberg

InVivo announced Q3-2018 financial results. OPEX for the quarter was \$2.1 million comprised of \$0.9 million from Research and Development and \$1.2 million from General and Administrative as compared to our estimates of \$3.0 million, \$1.4 million, and \$1.6 million, respectively. Net loss and loss per share for the quarter was \$3.2 million and \$0.42 while our models estimated \$3.0 million and \$0.38.

The company continues to be focused on activating sites and enrolling patients in the INSPIRE 2.0 study. The company received approval from Western Institutional Review Board (WIRB), which is a centralized IRB and upon approval by WIRB a trial protocol is approved by all sites that participate, thus providing a more efficient method for achieving IRB approval throughout multiple target sites. Recall, the company announced FDA approval of the IDE for INSPIRE 2.0 in July 2018. The primary endpoint is the conversion (of at least one level) at 6-months for both arms with "success" deemed to be a 20% or greater conversion rate for the treatment arm. We believe the company will activate a total of 20 sites with initial patient enrollment expected to commence in Q4-2018.

During the quarter, the company also announced a joint research agreement with Q Therapeutics, Inc., a privately-held, clinical stage, biotechnology company focused on spinal cord injuries. InVivo's Neuro-Spinal Scaffold will be combined with Q Therapeutics' adult neural progenitor cells, including those from induced pluripotent stem cells to determine both compatibility and potential synergies. We believe preclinical efforts could take approximately six- to 12-months as timing, allocation, and number of cells will be evaluated.

The company also announced the publication of preclinical data related to the Neuro-Spinal Scaffold in *Biomaterials*. The study evaluated the outcomes of neuroprotection and endogenous repair of spinal contusions with internal decompression alone and internal decompression in conjunction with the Neuro-Spinal Scaffold over a three-month period. In the test subjects implanted with the scaffold, researchers recognized delayed ingrowth of inflammatory cells which resulted in endogenously created laminin-rich tissue. Reduced cavitation and tissue-remodeling macrophages were noticed as well (J. Guest, et.al., 2018). The publication provides further data that encourages ongoing clinical efforts related to spinal cord injury.

We continue to believe that the eventual approval in a number of groups of spinal cord injuries remains a question of "when" and not "if", and currently expect that approval for the first indication (complete-thoracic levels) could occur in 2021. We believe the company should be valued at 4.5 times (previously 5 times) our FY-2022 revenue of \$49.4 million discounted by 2.5 years (previously 3 years) at 15% (previously 14%), or \$6.00 with a BUY rating.

Disclosures and Analyst Certifications can be found in Appendix A.

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Commercial Strategy / Modelling / Revenue & Market Buildout

Neuro-Spinal Scaffold – U.S.

If or when approved, we currently believe that the company intends to directly commercialize the Neuro-Spinal Scaffold directly in the United States. We have modelled in a commercialization team within our income statement commencing during 2020 and in anticipation and prior to FDA approval and commercial launch. Our financial models present our most current information of the marketplace and our estimates of data out to 2025.

Figure 1: U.S. – SCI – Acute/Complete/Thoracic/T2-T12

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI)/Complete Thoracic (T2-T12(L1))/HDI U.S. Unit Model - All figures are U.S. Dollars (\$ in Millions)	2012 A	2013A	2014 A	2015 A	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Total Annual U.S. Acute SCI Market				17,000	17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Estimated size of U.S. SCI Market				17,000	17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Annual growth rate (%)				20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
% complete (ASIA) thoracic % non-penetrating				15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Appropriate % complete (ASIA) thoracic % non-penetrating				2.550	2.576	2.601	2.627	2.654	2.680	2.707	2.734	2.761	2.789	2.817
Complete (ASIA) thoracic % non-penetrating														
Estimated market penetration rate							0.0%	0.0%	2.0%	7.0%	20.0%	30.0%	40.0%	50.0%
Total # Scaffold implants							0	0	54	189	547	928	1,116	1,408
Scaffold ASP							\$0.085	\$0.087	\$0.089	\$0.092	\$0.094	\$0.096	\$0.099	\$0.101
ASP annual growth							2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Gross revenues - complete thoracic							\$0.0	\$0.0	\$4.8	\$17.3	\$51.3	\$79.7	\$110.0	\$142.3
Total royalty rate to BCH & MIT							15%	15%	15%	15%	15%	15%	15%	15%
InVivo revenues							\$0.0	\$0.0	\$4.1	\$14.7	\$43.6	\$67.7	\$93.5	\$121.0

Source: Ladenburg Thalmann & Co., Inc., Company reports

We anticipate that InVivo’s Neuro-Spinal Scaffold in the acute setting for complete/cervical would be their second indication to the market during 2019 under HDE and is currently progressing towards clinical work in Canada. Based on the NSCISC database we may assume that approximately 13% of SCI injury is complete/cervical but we have further differentiated down to 10% which we believe would fall within the specific category as well as to eliminate for penetrating injuries. We currently estimate that InVivo’s market penetration of this population would build out from 5% to 65% during the years 2019 through 2025 with annual treated patients increasing from 88 to 1,221 during the time period. We estimate that direct pricing for the NSS will be \$85,000 and will increase annually by 2.5%. We estimate annual revenues during the period would increase from \$6.4 million to \$102.3 million while gross margins increase from 72% to 80%. We also estimate a 15% total royalty rate to both BCH and MIT for the technology.

Figure 2: U.S. – SCI – Acute/Complete/Cervical/C1-C8

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI) - Complete Cervical (C1-C8) - HDE U.S. Unit Model - All figures are U.S. Dollars (\$ in Millions)	2012 A	2013A	2014 A	2015 A	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Total Annual U.S. Acute SCI Market				17,000	17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Estimated size of U.S. SCI Market				17,000	17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Annual growth rate (%)				20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
% complete (ASIA) cervical % non-penetrating				13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
Appropriate % complete (ASIA) cervical % non-penetrating				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Complete (ASIA) cervical % non-penetrating				1,700	1,717	1,734	1,752	1,769	1,787	1,805	1,823	1,841	1,859	1,878
Estimated market penetration rate							0.0%	0.0%	5.0%	15.0%	25.0%	35.0%	45.0%	
Total # Scaffold implants							0	0	90	273	460	651	845	
Scaffold ASP							\$0.085	\$0.087	\$0.089	\$0.092	\$0.094	\$0.096	\$0.099	
ASP annual growth							2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	
Gross revenues - complete thoracic							\$0.0	\$0.0	\$8.1	\$25.0	\$43.2	\$62.6	\$83.3	
Total royalty rate to BCH & MIT							15%	15%	15%	15%	15%	15%	15%	
InVivo revenues							\$0.0	\$0.0	\$6.8	\$21.3	\$36.7	\$53.2	\$70.8	

Source: Ladenburg Thalmann & Co., Inc., Company reports

We anticipate that InVivo’s Neuro-Spinal Scaffold in the incomplete acute setting for both thoracic and cervical would be their third indication to the market during 2021 under a PMA approval pathway. Based on the NSCISC database we may assume that approximately 65% of SCI injuries (or the balance from the previous 2 indications) are incomplete cervical and thoracic, but we have further differentiated down to 35% which we believe would fall within the category of candidates who may be appropriate for the technology.

We currently estimate that InVivo's market penetration of this population would build out from 5% to 35% during the years 2022 through 2025 with annual treated patients increasing from 429 to 1878 during the time period. We estimate that direct pricing for the NSS will be \$70,000 and will increase annually by 2.0%. Pricing has been estimated to be approximately 17.5% lower than for complete in order to account for the less severe nature of the injury.

Figure 3: U.S. – SCI – Acute/Incomplete/Thoracic & Cervical

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI)/Incomplete/Thoracic & Cervical/PMA U.S. Unit Model - All figures are U.S. Dollars (\$ in Millions)	2012 A Dec-12	2013 A Dec-13	2014 A Dec-14	2015 A Dec-15	2016 E Dec-16	2017 E Dec-17	2018 E Dec-18	2019 E Dec-19	2020 E Dec-20	2021 E Dec-21	2022 E Dec-22	2023 E Dec-23	2024 E Dec-24	2025 E Dec-25
Total Annual U.S. Acute Incomplete SCI Market				17,000	17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Estimated size of U.S. SCI Market					17,170	17,342	17,515	17,690	17,867	18,046	18,226	18,409	18,593	18,779
Annual growth rate (%)					1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
% incomplete - thoracic & cervical					65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Appropriate % incomplete (ASI B, C, D) thoracic & cervical % non-penetrating					35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Incomplete - thoracic & cervical					6,010	6,070	6,130	6,192	6,254	6,316	6,379	6,443	6,507	6,573
Estimated market penetration rate									0.0%	0.0%	5.0%	15.0%	25.0%	35.0%
Total # Scaffold implants									0	0	319	966	1,827	2,300
Scaffold ASP									\$0.070	\$0.072	\$0.074	\$0.075	\$0.077	\$0.079
ASP annual growth									2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Gross revenues - complete thoracic									\$0.0	\$0.0	\$23.5	\$72.9	\$125.7	\$182.2
Total royalty rate to BCH & MT									15%	15%	15%	15%	15%	15%
InVivo revenues									\$0.0	\$0.0	\$19.9	\$61.9	\$106.8	\$154.9

Source: Ladenburg Thalmann & Co., Inc., Company reports

Neuro-Spinal Scaffold – ROW

For commercialization strategies outside the United States, we believe that the company will take a worldwide approach for approvals and developing partners for specific geographies and regions. Generally speaking, we do not currently believe that the company will try to directly commercialize a country or region themselves; although a few countries or regions may be of interest to them based on language, population, regulation and economy (such as Canada, UK, Germany). What we would anticipate unfolding is that the company partners with a number of entities for specific territories and regions such as SE Asia, Europe, Australia, etc. This would keep the overall number of partners to a smaller group and also enable economy of scale for both sides when it comes to regulatory, sales, marketing and other commercial efforts. For modelling purposes, we have assumed that WW partners, territories and regulatory approvals will become effective one year after their respective U.S. approvals.

We anticipate that InVivo's Neuro-Spinal Scaffold in the acute setting for complete/thoracic would be available to the market during 2019. We assume the X-U.S. annual SCI market currently at 100,000 and increasing by 1% annually. We estimate (similar to the U.S. levels) that approximately 20% of SCI injury is complete/thoracic but we have further differentiated down to 15% which we believe would fall within the specific category as well as to eliminate for penetrating injuries.

We currently estimate that InVivo's partner's market penetration of this population would build out from 2% to 25% during the years 2021 through 2025 with annual treated patients increasing from 318 to 4,142 during the time period. We estimate that transfer pricing to partners for the NSS will be \$40,000 and will increase annually by 2.0%. We should note that for many territories and entities internationally, there will most likely not be just transfer prices, but that the company and these entities will likely have arrangements which may account for regulatory clearance and costs, commercialization and clinical training activities, upfront payments, sales milestone payments, and the like which we are unable to model at this point in time.

Figure 4: ROW – SCI – Acute/Complete/Thoracic/T2-T12

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI) - Complete Thoracic (T2-T12)(L1)	2012 A	2013A	2014 A	2015 A	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
ROW - Unit Model - All figures are U.S. Dollars (\$ in Millions)	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Total Annual ROW/Developed - Acute SCI Market														
Estimated size of ROW SCI Market				100,000	101,000	102,010	103,030	104,060	105,101	106,152	107,214	108,286	109,369	110,462
Annual growth rate (%)				1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
% complete (ASIA) thoracic % non-penetrating				20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Appropriate % complete (ASIA) thoracic % non-penetrating				15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%	15.0%
Complete (ASIA) thoracic % non-penetrating				15,000	15,150	15,609	15,455	15,609	15,765	15,923	16,082	16,243	16,405	16,569
Estimated market penetration rate								0.0%	0.0%	2.0%	4.0%	8.0%	15.0%	25.0%
Total # Scaffold implants								0	0	318	843	1,293	2,461	4,142
Scaffold ASP - Transfer price to partner								\$0.040	\$0.041	\$0.042	\$0.042	\$0.043	\$0.044	\$0.045
ASP annual growth								2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Gross revenues - complete thoracic								\$0.0	\$0.0	\$13.3	\$27.3	\$56.3	\$108.7	\$186.6
Total royalty rate to BCH & MIT								15%	15%	15%	15%	15%	15%	15%
InVivo revenues								\$0.0	\$0.0	\$11.3	\$23.2	\$47.8	\$92.4	\$158.6

Source: Ladenburg Thalmann & Co. Inc. Company reports

We anticipate that InVivo's Neuro-Spinal Scaffold in the acute setting for complete/cervical would be available to the market during 2022. We assume the X-U.S. annual SCI market currently at 100,000 and increasing by 1% annually. We estimate (similar to the U.S. levels) that approximately 13% of SCI injury is complete/cervical but we have further differentiated down to 10% which we believe would fall within the specific category as well as to eliminate for penetrating injuries. We currently estimate that InVivo's partner's market penetration of this population would build out from 4% to 17% during the years 2020 through 2025 with annual treated patients increasing from 429 to 1,878 during the time period. We estimate that transfer pricing to partners for the NSS will be \$40,000 and will increase annually by 2.0%.

Figure 5: ROW – SCI – Acute/Complete/Cervical/C1-C8

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI) - Complete Cervical (C1-C8)	2012 A	2013A	2014 A	2015 A	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
ROW - Unit Model - All figures are U.S. Dollars (\$ in Millions)	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Total Annual ROW/Developed - Acute SCI Market														
Estimated size of ROW SCI Market				100,000	101,000	102,010	103,030	104,060	105,101	106,152	107,214	108,286	109,369	110,462
Annual growth rate (%)				1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
% complete (ASIA) cervical % non-penetrating				13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%	13.0%
Appropriate % complete (ASIA) cervical % non-penetrating				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Complete (ASIA) cervical % non-penetrating				10,000	10,100	10,201	10,303	10,406	10,510	10,615	10,721	10,829	10,937	11,046
Estimated market penetration rate									0.0%	0.0%	4.0%	8.0%	13.0%	17.0%
Total # Scaffold implants									0	0	429	866	1,422	1,878
Scaffold ASP - Transfer price to partner									\$0.040	\$0.041	\$0.042	\$0.042	\$0.043	\$0.044
ASP annual growth									2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Gross revenues - complete thoracic									\$0.0	\$0.0	\$17.8	\$36.8	\$61.6	\$82.9
Total royalty rate to BCH & MIT									15%	15%	15%	15%	15%	15%
InVivo revenues									\$0.0	\$0.0	\$15.2	\$31.3	\$52.3	\$70.5

Source: Ladenburg Thalmann & Co. Inc. Company reports

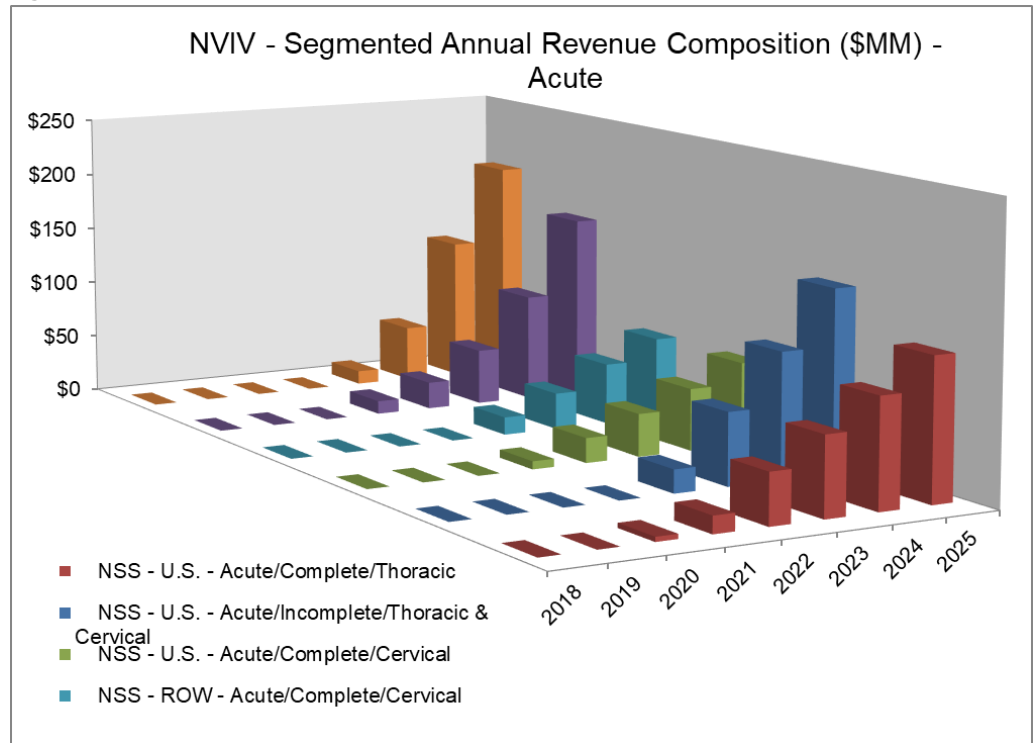
We anticipate that InVivo's Neuro-Spinal Scaffold in the incomplete acute setting for both thoracic & cervical would be their third indication to the OUS market during 2022. We currently estimate that InVivo's partner's market penetration of this population would build out from 1% to 15% during the years 2022 through 2025 with annual treated patients increasing from 375 to 5,799 during the time period. We estimate that transfer pricing for the NSS will be \$35,000 and will increase annually by 2.0%.

Figure 6: ROW – SCI – Acute/Incomplete/Thoracic & Cervical

InVivo Therapeutics Holdings Corp. - Neuro-Spinal Scaffold (acute SCI) - Incomplete/Thoracic & Cervical/PM	2012 A	2013A	2014 A	2015 A	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
ROW - Unit Model - All figures are U.S. Dollars (\$ in Millions)	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Total Annual ROW/Developed - Acute Incomplete SCI Market														
Estimated size of ROW - SCI Market				100,000	101,000	102,010	103,030	104,060	105,101	106,152	107,214	108,286	109,369	110,462
Annual growth rate (%)				1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
% incomplete - thoracic & cervical				65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Appropriate % incomplete (ASIA B, C, D) cervical % non-penetrating				35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%
Incomplete - thoracic & cervical				35,350	35,704	36,061	36,421	36,785	37,153	37,525	37,900	38,279	38,662	39,046
Estimated market penetration rate									0.0%	0.0%	1.0%	4.0%	10.0%	15.0%
Total # Scaffold implants									0	0	375	1,516	3,828	5,799
Scaffold ASP - Transfer price to partner									\$0.035	\$0.036	\$0.036	\$0.037	\$0.038	\$0.039
ASP annual growth									2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Gross revenues - incomplete thoracic									\$0.0	\$0.0	\$13.7	\$56.3	\$145.0	\$224.1
Total royalty rate to BCH & MIT									15%	15%	15%	15%	15%	15%
InVivo revenues									\$0.0	\$0.0	\$11.6	\$47.9	\$123.3	\$190.5

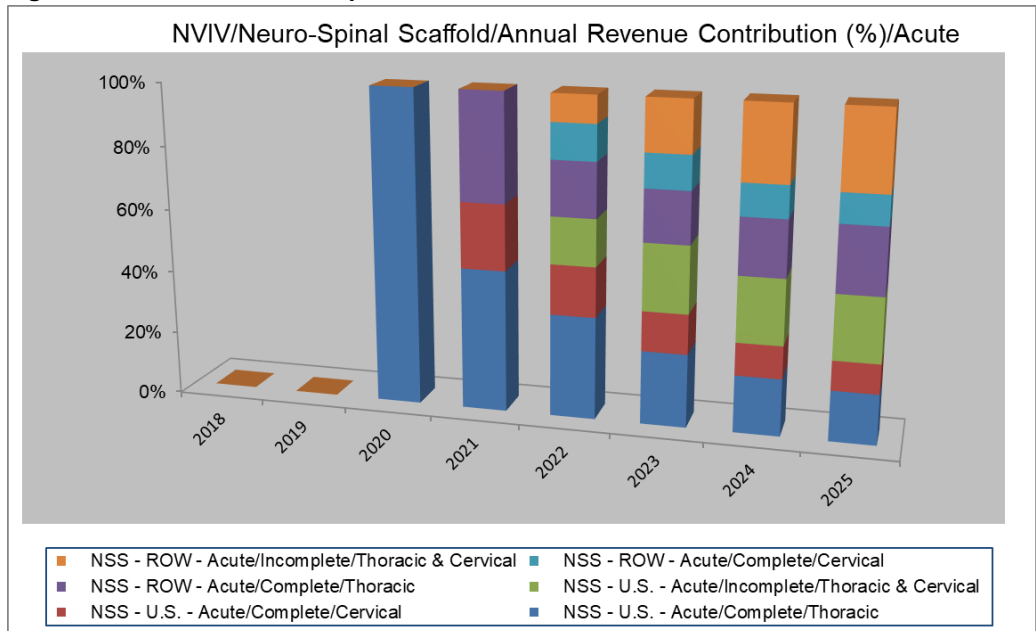
Source: Ladenburg Thalmann & Co. Inc. Company reports

Figure 7: Worldwide– Neuro-Spinal Scaffold – Estimated Revenue Composition



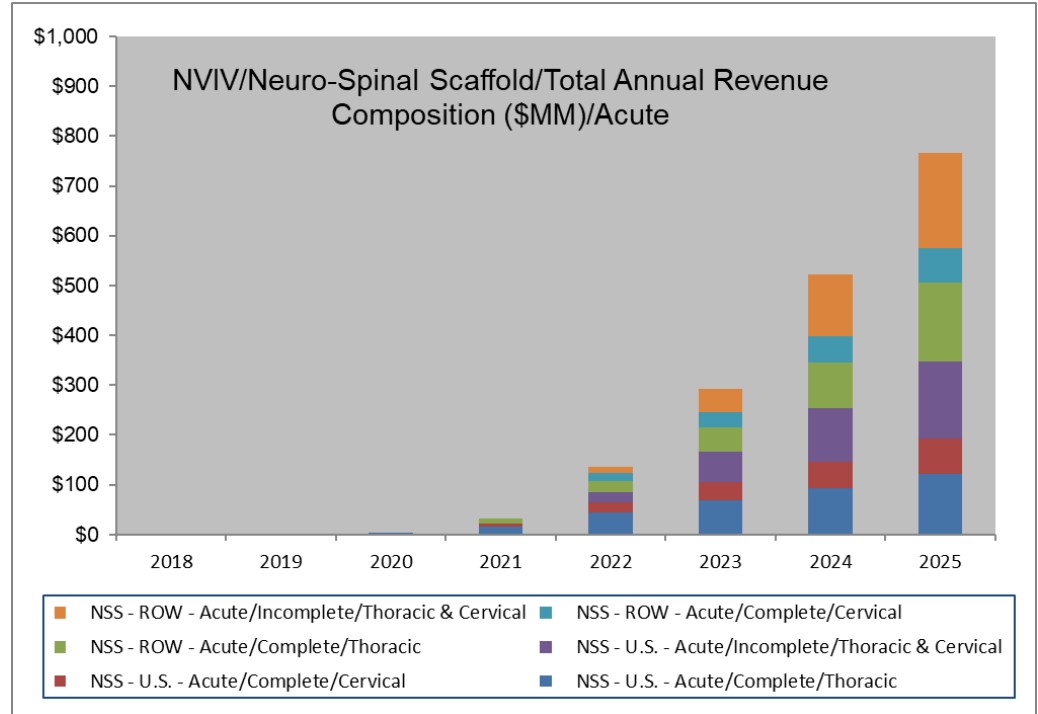
Source: Ladenburg Thalmann & Co, Inc. estimates

Figure 8: Worldwide– Neuro-Spinal Scaffold – Estimated Revenue Contribution



Source: Ladenburg Thalmann & Co, Inc. estimates

Figure 9: Worldwide– Neuro-Spinal Scaffold – Estimated Revenue Composition



Source: Ladenburg Thalmann & Co, Inc. estimates

Valuation, Modelling & Financial Assumptions

We continue to believe that the eventual approval in a number of groups of spinal cord injuries remains a question of “when” and not “if”, and currently expect that approval for the first indication (complete-thoracic levels) could occur in 2021. We currently believe the company should be valued at 4.5 times (previously 5 times) our FY-2022 revenue of \$49.4 million discounted by 2.5 years (previously 3 years) at 15% (previously 14%). or \$6.00 with a BUY rating.

Figure 10: EV/Revenue Price Target – Neuro-Spinal Scaffold

InVivo Therapeutics Holdings Corp. - EV/Revenue Price Target Model (\$MM)	
Neuro-Spinal Scaffold	
EV/Revenue Multiple of Comparable Companies	4.50
Total current cash & investments	\$ 19.70
Total current debt	\$ 0.2
Total outstanding shares used in calculation	26.00
Estimated Revenue for FY-2022	\$ 49.37
Market Cap at EV/Revenue multiple	241.66
Price target at EV/Revenue multiple	\$ 9.29
Annual Discount Rate	15%
Discounted number of years	2.5
Discounted Price Target at EV/Revenue Multiple	\$ 6.19

Source: Ladenburg Thalmann & Co. Inc., Company reports

Source: Ladenburg Thalmann & Co., Inc estimates.

Figure 11: Comparable Company Analysis

Company Name	Company Name		Market Data			Revenue Estimate			EV/Total Revenue Estimate			Net Income		
	Ticker	Rating	Price	Shares (MM)	Market Cap	FY2018	FY2019	FY2020	FY2018	FY2019	FY2020	FY2018	FY2019	FY2020
InVivo Therapeutics Holdings Corp.	NasdaqCM:NVIV	BUY	1.98	8	16	-	-	1	-	-	NM	-	-	-
Abbott Laboratories	NYSE:ABT	NR	72.32	1756	128142	30660	32259	34362	4.7x	4.5x	4.2x	5113.2	5695.5	6388.8
AxoGen, Inc.	NasdaqCM:AXGN	NR	36.48	39	1456	85	115	157	15.7x	11.6x	8.5x	-11.8	-6.1	4.6
CYBERDYNE Inc.	TSE:7779	NR	7.31	215	1572	23	21	32	-	70.3x	46.1x	-	-	-
Ekso Bionics Holdings, Inc.	NasdaqCM:EKSO	NR	2.14	63	132	12	17	26	10.3x	7.3x	4.8x	-28.4	-24.3	-21.0
Second Sight Medical Products, Inc.	NasdaqCM:EYES	NR	1.58	73	118	8	25	45	14.1x	4.6x	2.5x	-35.5	-33.1	-27.5
Mazor Robotics Ltd.	TASE:MZOR	Neutral	58.22	53	1546	61	88	113	23.6x	16.4x	12.7x	-1.7	4.4	13.4
Pixium Vision SA	ENXTPA:PIX	NR	2.24	22	48	1	1	-	31.1x	26.9x	-	-8.8	-14.7	-19.7
ReWalk Robotics Ltd.	NasdaqCM:RWLK	NR	0.68	36	24	8	12	-	3.8x	2.5x	-	-22.4	-19.8	-
TransEnterix, Inc.	AMEX:TRXC	BUY	3.51	210	717	24	39	54	26.8x	15.9x	10.6x	-62.0	-51.3	-101.6
Average			18.6	247	13377	3431	3620	4349	16.3x	17.8x	12.8x	617.8	693.8	891.0
Median			2.9	58	424	23	25	49	14.9x	11.6x	8.5x	-17.1	-17.2	-19.7

Source: S&P Capital IQ

NR = Not Rated.

Pricing is as of intraday 11/09/2018.

Mention of specific companies not covered by Ladenburg Thalmann & Co Inc. is not a recommendation to buy, hold or sell those securities mentioned.

Financial Statements & Modelling

Figure 12: Annual Income Statement

InVivo Therapeutics Holdings Corp. - Consolidated Statement of Operations	2012 A	2013 A	2014 A	2015 A	2016 A	2017 A	2018 E	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E
All figures are U.S. Dollars (\$ in Millions) Blue shading denotes variables	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Dec-18	Dec-19	Dec-20	Dec-21	Dec-22	Dec-23	Dec-24	Dec-25
Revenues							0.0	0.0	1.0	8.4	24.0	45.1	81.8	108.9
NSS - U.S. - Acute/Complete/Thoracic								0.0	0.0	1.4	7.1	22.0	38.0	55.1
NSS - U.S. - Acute/Complete/Cervical								0.0	0.0	0.0	0.0	20.6	64.1	110.6
NSS - U.S. - Acute/Incomplete/Thoracic & Cervical								0.0	0.0	0.0	0.0	0.0	0.0	0.0
NSS - ROW - Acute/Complete/Thoracic								0.0	0.0	5.6	14.5	23.9	49.3	95.2
NSS - ROW - Acute/Complete/Cervical								0.0	0.0	3.8	19.5	48.3	86.2	162.2
NSS - ROW - Acute/Incomplete/Thoracic & Cervical								0.0	0.0	0.0	0.0	23.9	98.6	152.4
NSS - ROW - Acute/Incomplete/Thoracic & Cervical								0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Revenues		0.00	0.00	0.00	0.00	0.00	0.0	0.0	1.0	15.4	49.4	155.2	380.1	584.3
Average Cost of Revenue (COGS) - NSS U.S							0.0	0.0	0.3	2.4	6.8	17.6	36.8	54.9
% (COGS) - NSS U.S							28%	28%	28%	24%	22%	20%	20%	20%
Average Cost of Revenue (COGS) - Neural Trails U.S										0.0	0.0	0.0	0.0	0.0
% (COGS) - Neural Trails U.S										30%	25%	25%	20%	20%
Average Cost of Revenue (COGS) - NSS ROW								0.0	0.0	2.0	6.2	21.6	58.9	86.7
% (COGS) - NSS ROW								40%	40%	36%	34%	32%	30%	28%
Average Cost of Revenue (COGS) - Neural Trails ROW										0.0	0.0	0.0	0.0	0.0
% (COGS) - Neural Trails ROW										45%	40%	35%	30%	30%
Blended average COG's %										28%	26%	25%	25%	24%
Blended average gross margins %										72%	74%	75%	75%	76%
Total COGS							0.0	0.0	0.3	4.4	13.1	39.1	95.6	141.6
Gross profit							0.0	0.0	0.7	11.0	36.3	116.1	284.4	442.7
Operating expenses														
Research & Development	6.38	10.53	10.27	10.06	12.56	11.08	4.68	6.15	6.77	7.44	8.19	9.01	9.91	10.90
General and administrative	6.40	8.47	7.57	12.34	11.51	13.51	7.81	5.76	6.10	6.53	6.98	7.47	8.00	8.56
Sales Expense							0.00	0.00	2.00	6.00	8.40	10.50	12.60	15.12
Total Operating expenses	12.78	19.01	17.84	22.40	24.06	24.59	12.49	11.91	14.87	19.97	23.57	26.98	30.51	34.58
Operating Income (Loss)	(12.78)	(19.01)	(17.84)	(22.40)	(24.06)	(24.59)	(12.49)	(11.91)	(14.14)	(8.92)	12.74	89.08	253.93	408.08
Other income (expense)														
Interest income	0.04	0.02	0.01	0.06	0.19	0.19	0.17	0.20	0.20	2.00	5.00	7.00	9.00	11.00
Interest expense	(0.07)	(0.13)	(0.14)	(0.17)	(0.16)	(0.08)	(0.05)	(0.20)	(0.20)	(0.50)	(0.10)	(0.10)	(0.10)	(0.10)
Other expense														
Modification of warrants		(0.77)												
Derivatives gain (loss)	17.48	(18.87)	(0.38)	(10.80)	0.59									
Total other income (expense), net	17.44	(19.75)	(0.51)	(10.92)	0.63	(2.15)	(11.14)	0.00	0.00	1.50	4.90	6.90	8.90	10.90
Income (loss)	4.66	(38.76)	(18.35)	(33.31)	(23.44)	(26.74)	(23.63)	(11.90)	(14.13)	(7.42)	17.64	95.98	262.83	418.98
Tax rate										32%	32%	32%	32%	32%
Taxes										(2.38)	5.65	30.71	84.11	134.07
Net income (loss)										(5.05)	12.00	65.27	178.73	284.91
Net income per share (basic)	0.30	(2.10)	(0.83)	(1.26)	(0.76)	(0.82)	(11.58)	(1.09)	(0.97)	(0.27)	0.48	2.42	1.72	2.50
Net income per share (diluted)	0.26	(2.10)	(0.83)	(1.26)	(0.76)	(0.81)	(11.58)	(1.09)	(0.97)	(0.25)	0.46	2.33	1.70	2.48
Weighted Average number of common shares outstanding, basic (MM)	15.81	18.50	22.08	26.46	31.03	32.95	4.68	11.00	14.50	19.00	25.00	27.00	104.00	114.00
Weighted Average number of common shares outstanding, diluted (MM)	17.98	18.50	22.08	26.46	31.03	32.95	4.68	11.00	14.50	20.00	26.00	28.00	105.00	115.00
MARGIN ANALYSIS:														
Expenses														
Research & Development										48.3%	16.6%	5.8%	2.6%	1.9%
General & Administrative										42.3%	14.1%	4.8%	2.1%	1.5%
Sales & Marketing										38.9%	17.0%	6.8%	3.3%	2.6%
Total Expenses (%)										129.5%	47.7%	17.4%	8.0%	5.9%
Total Expenses (with COGS)										180.6%	64.9%	23.2%	10.7%	7.8%
GROWTH ANALYSIS (Y/Y)														
Revenues										1416.6%	220.1%	214.3%	144.9%	53.7%
Cost of goods										1437.2%	198.2%	199.6%	144.4%	48.1%
Expenses														
Research & Development		65.2%	-2.5%	-2.1%	24.8%	-11.7%	-57.8%	31.5%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
General & Administrative		32.3%	-10.7%	63.1%	-6.8%	17.4%	-42.2%	-26.3%	6.0%	7.0%	7.0%	7.0%	7.0%	7.0%
Sales and Marketing										200.0%	40.0%	25.0%	20.0%	20.0%
Total operating expenses		48.7%	-6.1%	25.6%	7.4%	2.2%	-49.2%	-4.6%	24.9%	34.3%	18.0%	14.5%	13.1%	13.3%

Source: Ladenburg Thalmann & Co. Inc., Company reports

Figure 13: Income Statement

InVivo Therapeutics Holdings Corp. - Consolidated Statement of Operations All figures are U.S. Dollars (\$ in Millions) Blue shading denotes variables	2012 A Dec-12	2013 A Dec-13	2014 A Dec-14	2015 A Dec-15	2016 A Dec-16	2017 A Dec-17	Q1-18 A Mar-18	Q2-18 A Jun-18	Q3-18 A Sep-18	Q4-18 E Dec-18	2018 E Dec-18	Q1-19 E Mar-19	Q2-19 E Jun-19	Q3-19 E Sep-19	Q4-19 E Dec-19	2019 E Dec-19	2020 E Dec-20	2021 E Dec-21	2022 E Dec-22	2023 E Dec-23	2024 E Dec-24	2025 E Dec-25	
Revenues																							
NSS - U.S. - Acute/Complete/Thoracic										0.00	0.0					0.0	1.0	8.4	24.0	45.1	81.8	108.9	
NSS - U.S. - Acute/Complete/Cervical																0.0	1.4	7.1	22.0	38.0	55.1		
NSS - U.S. - Acute/Incomplete/Thoracic & Cervical																0.0	0.0	0.0	0.0	0.0	64.1	110.6	
NSS - ROW - Acute/Complete/Thoracic																0.0	0.0	5.6	14.5	23.9	49.3	95.2	
NSS - ROW - Acute/Complete/Cervical																0.0	0.0	3.8	19.5	48.3	62.2		
NSS - ROW - Acute/Incomplete/Thoracic & Cervical																0.0	0.0	23.9	98.6	152.4			
																0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Revenues		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.0	1.0	15.4	49.4	155.2	380.1	584.3	
Average Cost of Revenue (COGS) - NSS U.S. % (COGS) - NSS U.S											0.0 28%					0.0 28%	0.3 28%	2.4 24%	6.8 22%	17.6 20%	36.8 36%	54.9 50.9	
Average Cost of Revenue (COGS) - Neural Trails U.S. % (COGS) - Neural Trails U.S																		0.0 30%	0.0 25%	0.0 25%	0.0 20%	0.0 20%	
Average Cost of Revenue (COGS) - NSS ROW % (COGS) - NSS ROW																0.0 40%	0.0 40%	2.0 36%	6.2 34%	21.6 32%	58.9 30%	86.7 28%	
Average Cost of Revenue (COGS) - Neural Trails ROW % (COGS) - Neural Trails ROW																		0.0 45%	0.0 40%	0.0 35%	0.0 30%	0.0 30%	
Blended average COGs %																		28%	26%	25%	25%	24%	
Blended average gross margins %											0.0	0.00	0.00	0.00	0.00	0.0	0.3	4.4	13.1	39.1	95.6	141.6	
Total COGS											0.0	0.00	0.00	0.00	0.00	0.0	0.7	11.0	36.3	116.1	284.4	442.7	
Gross profit											0.00	0.00	0.00	0.00	0.00	0.0	0.3	4.4	13.1	39.1	95.6	141.6	
Operating expenses																							
Research & Development	6.38	10.53	10.27	10.06	12.56	11.08	1.40	1.03	0.93	1.33	4.68	1.54	1.54	1.48	1.59	6.15	6.77	7.44	8.19	9.01	9.91	10.90	
General and administrative	6.40	8.47	7.57	12.34	11.51	13.51	3.43	1.79	1.19	1.40	7.81	1.44	1.52	1.36	1.43	5.76	6.10	6.53	6.98	7.47	8.00	8.56	
Sales Expense							0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	6.00	8.40	10.50	12.60	15.12	
Total Operating expenses	12.78	19.01	17.84	22.40	24.06	24.59	4.83	2.81	2.11	2.73	12.49	2.98	3.06	2.85	3.02	11.91	14.87	19.97	23.57	26.98	30.51	34.58	
Operating Income (Loss)	(12.78)	(19.01)	(17.84)	(22.40)	(24.06)	(24.59)	(4.83)	(2.81)	(2.11)	(2.73)	(12.49)	(2.98)	(3.06)	(2.85)	(3.02)	(11.91)	(14.14)	(8.92)	12.74	89.08	253.93	408.08	
Other income (expense)																							
Interest income	0.04	0.02	0.01	0.06	0.19	0.19	0.02	0.03	0.07	0.05	0.17	0.05	0.05	0.05	0.05	0.20	0.20	2.00	5.00	7.00	9.00	11.00	
Interest expense	(0.07)	(0.13)	(0.14)	(0.17)	(0.16)	(0.08)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.20)	(0.20)	(0.50)	(0.10)	(0.10)	(0.10)	(0.10)	
Other expense							0.04	0.03	0.83														
Modification of warrants		(0.77)																					
Derivatives gain (loss)	17.48	(18.87)	(0.38)	(10.80)	0.59		(0.01)	(10.19)	(1.97)														
Total other income (expense), net	17.44	(19.75)	(0.51)	(10.92)	0.63	(2.15)	0.05	(10.13)	(1.06)	0.00	(11.14)	0.00	0.00	0.00	0.00	0.00	0.00	1.50	4.90	6.90	8.90	10.90	
Income (loss)	4.66	(38.76)	(18.35)	(33.31)	(23.44)	(26.74)	(4.78)	(12.94)	(3.18)	(2.73)	(23.63)	(2.98)	(3.06)	(2.85)	(3.02)	(11.90)	(14.13)	(7.42)	17.64	95.98	262.83	418.98	
Tax rate																							
Taxes																		(2.38)	5.65	30.71	84.11	134.07	
Net income (loss)																							
Net income per share (basic)	0.30	(2.10)	(0.83)	(1.26)	(0.76)	(0.82)	(3.34)	(7.48)	(0.42)	(0.34)	(11.58)	(0.30)	(0.31)	(0.24)	(0.25)	(1.09)	(0.97)	(5.05)	12.00	65.27	178.73	284.91	
Net income per share (diluted)	0.26	(2.10)	(0.83)	(1.26)	(0.76)	(0.81)	(3.34)	(7.48)	(0.42)	(0.34)	(11.58)	(0.30)	(0.31)	(0.24)	(0.25)	(1.09)	(0.97)	(5.05)	12.00	65.27	178.73	284.91	
Weighted Average number of common shares outstanding, basic (MM)	15.81	18.50	22.08	26.46	31.03	32.95	1.43	1.73	7.56	8.00	4.68	10.00	10.00	12.00	12.00	11.00	14.50	19.00	25.00	27.00	104.00	114.00	
Weighted Average number of common shares outstanding, diluted (MM)	17.98	18.50	22.08	26.46	31.03	32.95	1.43	1.73	7.56	8.00	4.68	10.00	10.00	12.00	12.00	11.00	14.50	20.00	26.00	28.00	105.00	115.00	
MARGIN ANALYSIS:																							
Expenses																							
Research & Development																			48.3%	16.6%	5.8%	2.6%	1.9%
General & Administrative																			42.3%	14.1%	4.8%	2.1%	1.5%
Sales & Marketing																			38.9%	17.0%	6.8%	3.3%	2.6%
Total Expenses (%)																			129.5%	47.7%	17.4%	8.0%	5.9%
Total Expenses (with COGS)																			180.8%	64.9%	23.2%	10.7%	7.8%
GROWTH ANALYSIS (Y/Y)																							
Revenues																							
Cost of goods																							
Expenses																							
Research & Development																							
General & Administrative		65.2%	-2.5%	-2.1%	24.8%	-11.7%	-58.7%	-68.0%	-68.3%	-15.0%	-57.8%	10.0%	50.0%	60.0%	20.0%	31.5%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	
Sales and Marketing		32.3%	-10.7%	63.1%	-6.8%	17.4%	4.5%	-51.9%	-65.0%	-55.0%	-42.2%	-58.0%	-15.0%	15.0%	2.0%	-26.3%	6.0%	7.0%	7.0%	7.0%	7.0%	7.0%	
Total operating expenses		48.7%	-6.1%	25.6%	7.4%	2.2%	-27.5%	-59.4%	-66.5%	-41.7%	-49.2%	-38.3%	8.7%	34.8%	10.7%	-4.6%	24.9%	34.3%	18.0%	14.5%	13.1%	13.3%	
Source: Ladenburg Thalmann & Co. Inc. Company reports																							

Figure 14: Balance Sheet

InVivo Therapeutics Holdings Corp. - Consolidated Balance Sheet (\$MM)	2012 A	2013 A	2014 A	2015 A	2016 A	2017 A	Q1-18 A	Q2-18 A	Q3-18 A	2018 E
<i>All figures are denominated into U.S. Dollars (\$ in Millions)</i>	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Jun-18	Sep-18	Dec-18
Assets										
Current Assets										
Cash and cash equivalents	12.83	13.98	13.46	20.19	21.46	12.91	11.61	22.32	19.71	14.14
Marketable securities					11.58					
Restricted cash	0.60	0.60	0.42	0.36	0.36	0.36	0.38	0.01	0.00	0.00
Prepaid expenses and other current assets	<u>0.14</u>	<u>0.02</u>	<u>1.07</u>	<u>0.18</u>	<u>0.45</u>	<u>0.54</u>	<u>1.15</u>	<u>1.24</u>	<u>0.64</u>	<u>0.50</u>
Total Current Assets	13.57	14.60	14.95	20.74	33.85	13.81	13.14	23.57	20.35	14.64
Property and equipment, net	2.31	2.34	1.61	0.94	0.51	0.16	0.07	0.13	0.11	0.10
Long-term marketable securities								0.09	0.09	
Restricted cash								0.08	0.93	0.10
Other	0.18	0.16	0.14	0.12	0.42	0.08	0.08	0.08	0.93	0.10
Total assets	16.06	17.10	16.69	21.79	34.78	14.05	13.29	23.86	21.48	14.84
Liabilities and Stockholders' Equity (Deficit)										
Current liabilities										
Accounts payable	1.15	0.90	0.57	0.52	1.01	0.99	1.23	0.91	1.28	0.88
Loan payable-current portion			0.32	0.40	0.42	0.45	0.46	0.33	0.22	0.00
Note payable - current portion		0.07	0.02							
Capital lease payable - current portion	0.03	0.00								
Derivative warrant liability	14.59		7.22	1.91	1.31	0.00	0.00	21.47		0.20
Deferred rent, current portion					0.14	0.03	0.03			0.20
Accrued expenses	<u>1.02</u>	<u>1.29</u>	<u>1.04</u>	<u>0.77</u>	<u>1.96</u>	<u>1.64</u>	<u>2.39</u>	<u>3.00</u>	<u>1.44</u>	<u>0.20</u>
Total Current Liabilities	16.79	2.27	9.18	3.59	4.85	3.11	4.11	25.71	2.94	1.48
Loan payable - less current portion	1.58	1.92	1.60	1.28	0.85	0.40	0.28			0.00
Note payable - less current portion		0.02								
Deferred rent, net current portion					0.14	0.37	0.52			
Capital lease payable - less current portion	0.00									
Other						<u>0.06</u>	<u>0.06</u>	<u>0.06</u>	<u>0.06</u>	<u>0.00</u>
Total liabilities	18.37	4.21	10.78	4.86	5.84	3.94	4.97	25.77	2.99	1.48
Commitments and Contingencies										
Stockholders equity (deficit)										
Common stock, \$0.00001 par value - 50.0M Authorized / 32.0M Out. 12/31/2016	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Additional paid-in capital	40.84	94.80	106.17	150.50	185.96	194.02	197.01	199.72	223.29	217.00
Accumulated deficit	-43.15	-81.91	-100.26	-133.57	-157.01	-183.91	-188.69	-201.63	-204.81	-203.00
Total Stockholders Equity (Deficit)	-2.31	12.89	5.92	16.93	28.95	10.11	8.32	-1.91	18.48	14.00
Total Liabilities and Stockholders Equity	16.06	17.10	16.69	21.79	34.78	14.05	13.29	23.86	21.48	15.48

Source: Ladenburg Thalmann & Co. Inc., Company reports

Figure 15: Cash Flows

InVivo Therapeutics Holdings Corp. - Consolidated Statement of Cash Flows (\$MM)	2013 A Dec-13	2014 A Dec-14	2015 A Dec-15	2016 A Dec-16	2017 A Dec-17	Q1-18 A Mar-18	Q2-18 A Jun-18	Q3-18 A Sep-18	2018 E Dec-18
<i>All figures are denominated into U.S. Dollars (\$ in Millions)</i>									
Cash flows from operating activities									
Net loss	-38.76	-18.35	-33.31	-23.44	-26.75	-4.78	-17.72	-20.90	-23.63
Adjustments for reconciliation - operating activities									
Depreciation and amortization	0.74	0.75	0.69	0.55	0.40	0.04	0.06	0.08	0.60
Loss on impairment of fixed assets					0.04	0.05	0.05	0.05	
Non-cash derivative losses	18.87	0.38	10.80	-0.59	2.27	0.01	10.20	12.17	1.00
Non-cash interest expense					0.01	0.00	0.00	0.00	
Gain on sale of asset						-0.03			
Non-cash losses from modification of warrants	0.77								
Common stock issued to 401(k) plan	0.19	0.17	0.20	0.21	0.18	0.01	0.01	0.01	0.25
Common stock issued for services		0.48							
Gain on lease assignment							-0.60	-0.60	
Share-based compensation expense	3.14	2.73	4.67	5.06	4.11	0.31	0.46	0.54	3.50
Other non-cash investment activities				0.10					
Change in operating assets and liabilities									
Restricted cash		0.18	0.06						
Prepaid expenses	0.12	-0.36	0.89	-0.27	-0.09	-0.44	-0.70	-0.10	0.10
Insurance receivable		-0.69							
Other assets	0.01	0.00	0.00	-0.32	0.32	0.00	-0.01	-0.86	0.00
Accounts payable	-0.25	-0.33	-0.05	0.49	-0.02	0.24	-0.07	0.29	0.00
Accrued expenses	0.27	-0.25	-0.28	1.47	-0.14	0.91	1.57	0.01	0.20
Net cash and cash equivalents used in operating activities	<u>-14.91</u>	<u>-15.28</u>	<u>-16.33</u>	<u>-16.74</u>	<u>-19.68</u>	<u>-3.69</u>	<u>-6.77</u>	<u>-9.33</u>	<u>-17.98</u>
Cash flows from investing activities									
Purchases of marketable securities				-18.92	-8.26				
Sales of marketable securities				12.52	19.83				
Non-cash disposals of property and equipment		0.05							
Purchases of property and equipment	-0.75	-0.05	-0.01	-0.11	-0.07		-0.07	-0.07	-1.00
Disposals of property and equipment						0.03			
Net cash used in investing activities	<u>-0.75</u>	<u>0.00</u>	<u>-0.01</u>	<u>-6.51</u>	<u>11.51</u>	<u>0.03</u>	<u>-0.07</u>	<u>-0.07</u>	<u>-1.00</u>
Cash flows from financing activities									
Proceeds from exercise of stock options	0.46	0.21	1.07	0.19	0.03				0.20
Proceeds from issuance of stock under ESPP				0.09	0.05	0.00	0.00	0.00	
Proceeds from exercise of warrants	15.95	0.01	7.79		0.00		0.01	0.06	
Proceeds from issuance of note payable	0.15	0.00							
Repayment of note payable	-0.06	-0.06	-0.02	-0.40	-0.42		-0.52	-0.64	
Repurchase of warrants					-0.04	-0.01	-0.01	-0.01	
Principal payments of capital lease obligation	-0.03	-0.02							
Proceeds from loan payable	0.34								
Repayment of loans payable			-0.25			-0.11			
Proceeds from issuance of common stock and warrants		14.62	14.48	29.91		2.51	16.51	16.51	20.00
Net cash provided by financing activities	<u>16.81</u>	<u>14.77</u>	<u>23.07</u>	<u>29.79</u>	<u>-0.38</u>	<u>2.39</u>	<u>15.99</u>	<u>15.92</u>	<u>20.20</u>
Increase (decrease) in cash and cash equivalents	1.16	-0.52	6.74	6.54	-8.55	-1.28	9.15	6.53	1.23
Cash and Cash equivalents - beginning of period	<u>12.83</u>	<u>13.98</u>	<u>13.46</u>	<u>14.92</u>	<u>21.46</u>	<u>13.27</u>	<u>13.27</u>	<u>13.27</u>	<u>12.91</u>
Cash and Cash equivalents - end of period	<u>13.98</u>	<u>13.46</u>	<u>20.19</u>	<u>21.46</u>	<u>12.91</u>	<u>11.99</u>	<u>22.42</u>	<u>19.80</u>	<u>14.14</u>
Supplemental Disclosure for Cash Flow Information									
Cash paid for interest	0.13	0.13	0.12	0.10	0.07	0.01	0.03	0.04	0.10
Non-cash issuance of common stock for warrants					3.54	0.29	0.29	0.29	

Source: Ladenburg Thalmann & Co. Inc., Company reports

Primary Risks

In addition to normal economic and market risk factors that impact most all equities, we believe that the primary risks to our recommendation and price target of an investment in InVivo Therapeutics Holdings Corp. shares include, but are not limited to:

Management and Board Stability

Significant loss of key personnel could prove to be damaging toward the operational efficiencies and further growth of the company. The departure of key personnel could materially affect the overall performance and strategy of the company going forward. The company is highly dependent on the services of its current management team and board.

Funding & Financing

The company's cash as of Q3-2018 was \$19.7 million coupled with \$0.2 million of debt. According to our financial models, we believe that the company will require approximately \$45.0 million, or an additional \$26.3 million to reach profitability, which is expected to occur during 2022. We estimate that current cash on hand should adequately fund operations for 12 to 18 months in addition to completion of INSPIRE 2.0.

On June 25, 2018 the company closed a public offering of 388,403 common shares with warrants to purchase 388,403 shares of common stock at a combined price of \$2.00 in addition to pre-funded warrants to purchase up to 6,241,811 shares of common stock. Each warrant is exercisable at \$2.00 and expires five years from its issuance date. Each pre-funded warrant has an exercise price of \$0.01 and expires in 20 years from date of issuance. The net proceeds to the company was approximately \$13.6 million.

Commercialization

There are no assurances that the company will be able to execute its current commercial strategy, and generate our estimated revenues. There is the possibility that superior products will be developed or sold which could compete with InVivo's current and anticipated offerings and take market share and revenues from current projections. International sales may account for a portion of the company's revenues, which will expose the company to certain operating risks. If they are unable to successfully manage their international activities, net sales, results of operations and financial condition could be adversely impacted.

Competition & Adoption

As the case within the healthcare industry, there exist various innovative and highly competitive corporations. The company could be negatively impacted if competitive products were to be available in the marketplace. Other entities may find that alternative solutions exist which could potentially offer better solutions. Potential current and future market share and market acceptance of the company's technologies will depend on its ability to demonstrate that its products represent an attractive alternative as compared with other offerings.

Intellectual Property

The company's current intellectual property estate is heavily reliant on patents which may be pending or issued as well as other technology arrangements and agreements with third-parties. It may be possible that the company's patents be called into question or determined to infringe on their portfolio. Likewise, the company could become engaged in legal disputes among other entities. Any potential litigation could negatively impact the company with regards to their freedom to operate, product limitations and/or could result in costly and lengthy litigation. Enforcing intellectual property rights in foreign nations for military technology may be more problematic than enforcement in other industries.

Regulatory / Development Risks

Potential products are subject to FDA and other regulatory body requirements in the United States and similar agencies in other countries. Products under current development may require extensive testing, studies, data submission and/or clinical evaluation prior to granting of proper licenses to sell in various geographies. If the company fails to comply with applicable regulatory requirements the FDA and other regulatory bodies could deny marketing clearance or approval, withdraw approvals, or impose civil penalties, including fines, product seizures or product recalls and, in extreme cases, criminal sanctions. There can be no assurances that the product will be available for sale or that anticipated revenues coincide with our current estimates. If or when approved there can be no assurances that patients or clinicians will adopt usage of the products as compared with our current estimates.

The company has a limited operating history and has incurred significant losses since its inception.

There is substantial doubt about the company's ability to continue as a going concern, which will affect their ability to obtain future financing and may require the company to curtail operations.

The company depends heavily on the success of one product candidate, Neuro-Spinal Scaffold implant, which is currently being studied in a pivotal probable benefit study. Even if favorable clinical results are obtained, the company may not be able to obtain regulatory approval for, or successfully commercialize, its Neuro-Spinal Scaffold implant.

The company's products and operations are subject to extensive governmental regulation both in the United States and abroad, and failure to comply with applicable requirements could cause business to suffer.

The company is subject to a pending securities class action and derivative lawsuit, which could divert management's attention and harm business.

APPENDIX A: IMPORTANT RESEARCH DISCLOSURES

ANALYST CERTIFICATION

I, Jeffrey S. Cohen, attest that the views expressed in this research report accurately reflect my personal views about the subject security and issuer. Furthermore, no part of my compensation was, is, or will be directly or indirectly related to the specific recommendation or views expressed in this research report, provided, however, that:

The research analyst primarily responsible for the preparation of this research report has or will receive compensation based upon various factors, including the volume of trading at the firm in the subject security, as well as the firm's total revenues, a portion of which is generated by investment banking activities.

Additional information regarding the contents of this publication will be furnished upon request. Please contact Ladenburg Thalmann, Compliance Department, 277 Park Avenue, 26th floor, New York, New York 10172 (or call 212-409-2000) for any information regarding current disclosures, and where applicable, relevant price charts, in regard to companies that are the subject of this research report.

COMPANY BACKGROUND

InVivo Therapeutics Holdings Corp., a research and clinical-stage biomaterials and biotechnology company, focuses on developing and commercializing biopolymer scaffolding devices for the treatment of spinal cord injuries (SCI). It is developing Neuro-Spinal Scaffold implant, an investigational bioresorbable polymer scaffold for acute SCI; and Bioengineered Neural Trails injection program for the treatment of chronic SCI. Its proprietary technologies incorporate intellectual property licensed under an exclusive, worldwide license from Boston Children's Hospital and the Massachusetts Institute of Technology, as well as intellectual property that has been developed internally in collaboration with its advisors and partners. The company was founded in 2005 and is based in Cambridge, Massachusetts.

VALUATION METHODOLOGY

We continue to believe that the eventual approval in a number of groups of spinal cord injuries remains a question of "when" and not "if", and currently expect that approval for the first indication (complete-thoracic levels) could occur in 2021. We currently believe the company should be valued at 4.5 times (previously 5 times) our FY-2022 revenue of \$49.4 million discounted by 2.5 years (previously 3 years) at 15% (previously 14%), or \$6.00 with a BUY rating.

RISKS

In addition to normal economic and market risk factors that impact most all equities, we believe that the primary risks to our recommendation and price target of an investment in InVivo Therapeutics Holdings Corp. shares include, but are not limited to: Management and Board stability, funding & financing, competition & adoption, intellectual property, and regulatory / development risks.

STOCK RATING DEFINITIONS

Buy: The stock's return is expected to exceed 12.5% over the next twelve months.

Neutral: The stock's return is expected to be plus or minus 12.5% over the next twelve months.

Sell: The stock's return is expected to be negative 12.5% or more over the next twelve months.

Investment Ratings are determined by the ranges described above at the time of initiation of coverage, a change in risk, or a change in target price. At other times, the expected returns may fall outside of these ranges because of price movement and/or volatility. Such interim deviations from specified ranges will be permitted but will become subject to review.

RATINGS DISPERSION AND BANKING RELATIONSHIPS AS OF (November 9, 2018)

Rating	%	IB %
BUY	80.9	46.6
NEUTRAL	19.1	36.8
SELL	0.0	0.0

COMPANIES UNDER JEFFREY'S COVERAGE

Avinger, Inc. (AVGR)

Celsius Holdings, Inc. (CELH)

CryoLife, Inc. (CRY)

Dynatronics Corp. (DYNT)

Microbot Medical Inc. (MBOT)

Mazor Robotics Ltd. (MZOR)

ChromaDex Corporation (CDXC)

CHF Solutions, Inc. (CHFS)

Corindus Vascular Robotics, Inc. (CVRS)

Interpace Diagnostics Group, Inc. (IDXG)

Motus GI Holdings, Inc. (MOTS)

Neovasc, Inc. (NVCN)

InVivo Therapeutics Holdings Corp. (NVIV)
 Opsens Inc. (OPS)
 Tenax Therapeutics, Inc. (TENX)
 Vericel Corporation (VCEL)
 Zynex, Inc. (ZYXI)

Orthofix Medical Inc. (OFIX)
 SeaSpine Holdings Corporation (SPNE)
 TransEnterix, Inc. (TRXC)
 Viveve Medical, Inc. (VIVE)

COMPANY SPECIFIC DISCLOSURES

Ladenburg Thalmann & Co. Inc. makes a market in InVivo Therapeutics Holdings Corp. and Mazor Robotics Ltd..
 Ladenburg Thalmann & Co. Inc. has managed or co-managed a public offering for InVivo Therapeutics Holdings Corp. within the past 12 months.
 Ladenburg Thalmann & Co. Inc. intends to seek compensation for investment banking and/or advisory services from InVivo Therapeutics Holdings Corp. within the next 3 months.
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 Ladenburg Thalmann & Co. Inc had an investment banking relationship with InVivo Therapeutics Holdings Corp. within the last 12 months.

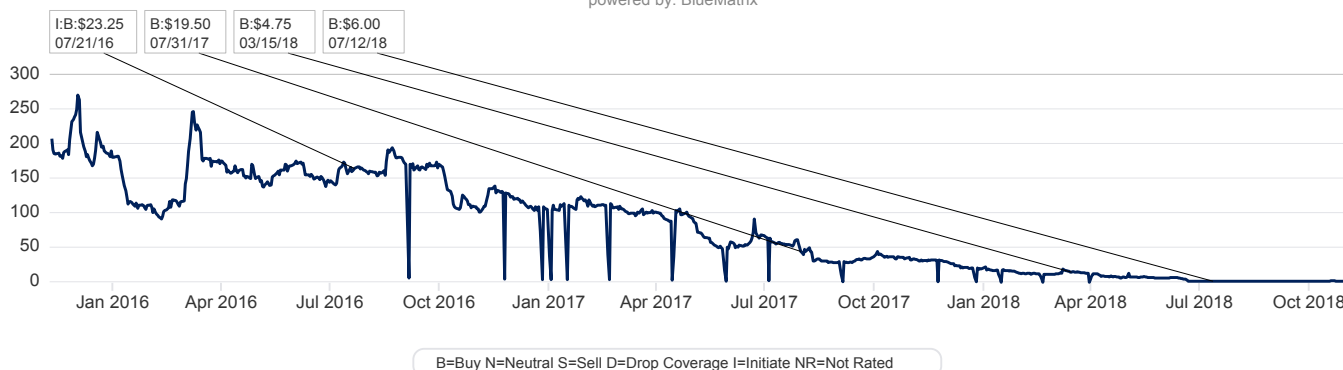
OTHER COMPANIES MENTIONED

Mazor Robotics Ltd. (MZOR, \$58.32, NEUTRAL)
 TransEnterix, Inc. (TRXC, \$3.42, BUY)

INVESTMENT RATING AND PRICE TARGET HISTORY

InVivo Therapeutics Holdings Corp. Rating History as of 11/08/2018

powered by: BlueMatrix



Mazor Robotics Ltd. Rating History as of 11/08/2018

powered by: BlueMatrix



TransEnterix, Inc. Rating History as of 11/08/2018



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been in continuous operational for (3) years; (ii) net tangible assets of \$5,000,000, if such issuer has been in continuous operation for less than (3) years; or (iii) average revenue of at least \$6,000,000 for the preceding three (3) years. Unless such exemption is available, regulations require delivery of a risk disclosure document explaining the penny stock market and the risks associated therewith prior to any transaction involving a penny stock. For stock not quoted on NASDAQ or at any time that the company has less than \$2,000,000 in net tangible assets, the trading in common stock is covered under Rule 15g-9 under the Securities Exchange Act of 1934 for non-NASDAQ and non-exchange listed securities. Under such rule, broker-dealers who recommend covered securities to persons other than established customers and accredited investors must make a written suitability determination for the purchaser and receive the purchaser's written agreement to a transaction prior to sale. Some securities may not be cleared for sale in all states or other jurisdictions and LTCo assumes no responsibility to apprise you of individual states and jurisdictions' regulatory restrictions. Stocks in the microcap segment of market have risks that are not as common in other segments of market. These risks include, but are not limited to, liquidity risk, which can lead to higher volatility and low trade volume, company specific risks that contribute to lower valuation, higher probability of financial default and distress.

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