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Corporate Presentation 2026

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TRANSFORMING THE PROCESS AND PRODUCTS OF THE MULTI-BILLION DOLLAR SPINE SURGERY MARKET

Our Mission

To improve outcomes and lower the cost of healthcare for spine surgery and beyond.

What We Do

AI-enabled integrated pre-operative, intra-operative and post-operative technology platform designed to reduce patient reoperation for spine surgery.[1,2,3,4]

Business Profile

Rapidly scaling Medtech company with published clinical evidence, premium reimbursement, and pathway to profitability. [1,2,3,4]

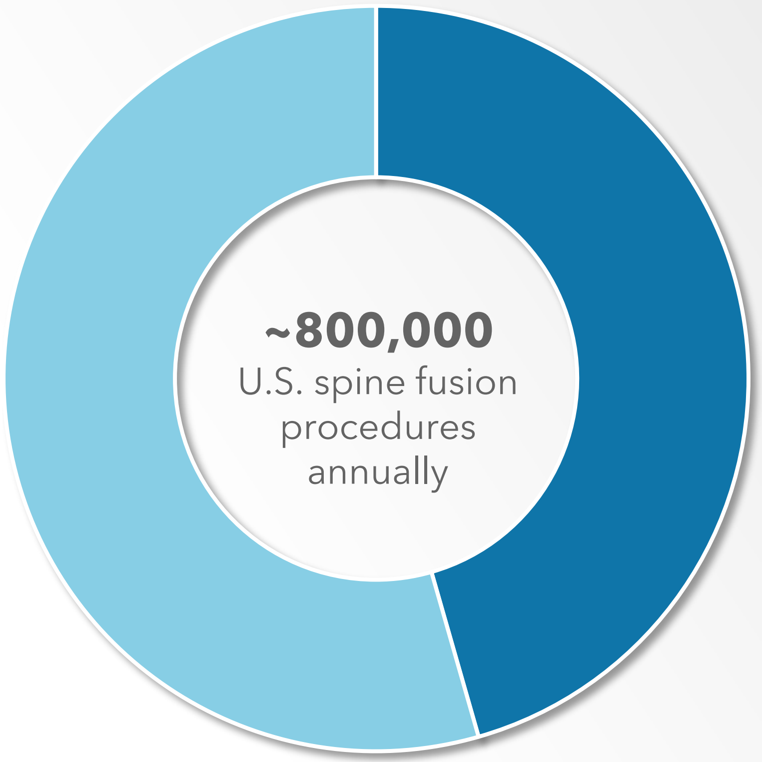
1. Sadrameli, et al. Intl. Journal of Spine Surgery. 18(S1) 2024
2. Kent R, Ames C, Asghar J, et al. Radiographic Alignment in Deformity Patients Treated with Personalized Interbody Devices: Early Experience from the COMPASS Registry. Intl. Journal of Spine Surgery. 2024
3. Smith JS, Yen CP, Kent R, Berven S, et al. Personalized Spine Surgery in Adult Deformity: Reoperation Rates and Mechanical Complications Following Customized Planning and Interbody Implant Use. Global Spine Journal. 2025;15(2):930-939. doi:10.1177/21925682251409696
4. Peer-reviewed data in Global Spine Journal. 74% reduction in revision rates over 2 years. n=115 patients observed.

Large Addressable U.S. Spine Fusion Market[1]

Lumbar

~445,000 lumbar spine fusion procedures in the U.S. annually

~$13B total addressable market for **aprevo lumbar**



Cervical

~373,000 cervical fusion procedures in the U.S. annually

~$6B total addressable market for **aprevo cervical**

1. U.S. data from SmartTrak 2025 estimated procedure volume

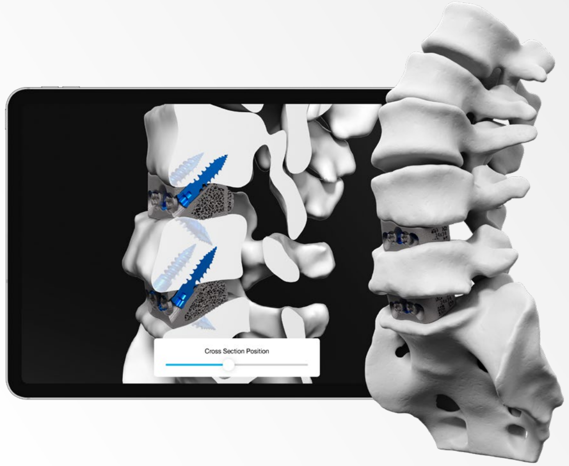
aprevo Technology Platform

POWERED BY THE myaprevo Ecosystem

PRE-OP

aprevo digital planning

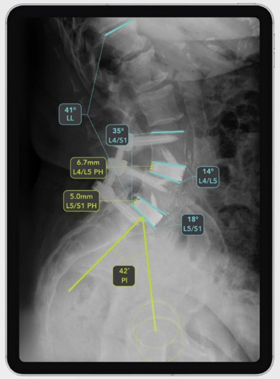
Advanced 3D Alignment
Planning & Visualization



INTRA-OP

aprevo personalized devices

Personalized Anatomically
Designed Devices



POST-OP

aprevo intelligence

Postoperative Data Insights &
Precision Analytics

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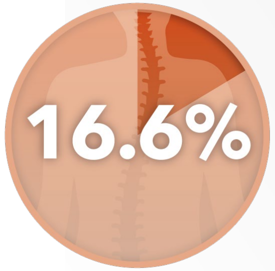
74% Reduction in Revision Rates at 2-years vs. Stock Devices[1]

PEER REVIEWED DATA IN *THE GLOBAL SPINE JOURNAL* OF 115 PATIENTS OBSERVED

stock

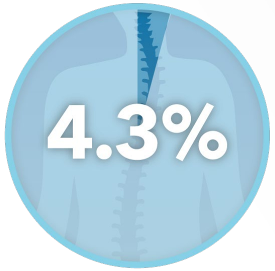
Revision rate with stock devices



2-year revision rate resulting from mechanical complications in ASD patients [2]

aprevo lumbar

Revision rate with aprevo® devices



2-year revision rate for aprevo® ASD patients [2]

Original Research

Global Spine Journal
2025, Vol. 0(0) 1-15

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Personalized Spine Surgery in Adult Deformity: Reoperation Rates and Mechanical Complications Following Customized Planning and Interbody Implant Use

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Abstract
Study Design: Retrospective cohort study.
Objectives: Prior studies have shown that adult spinal deformity (ASD) patients undergoing revision surgery due to mechanical complications had less radiographic improvement and worsening patient-reported outcomes scores. The combination of customized 3D planning and personalized implants has been shown to contribute to improved achievement of alignment goals. This study aimed to determine whether such improved correction also results in a correspondingly lower revision surgery rate due to mechanical complications.
Methods: Pre- and postoperative radiographic alignment measures, including lumbar lordosis (LL), distal lumbar lordosis (DLL), pelvic incidence (PI) – LL mismatch, and L1 pelvic angle (L1PA), as well as data on mechanical complications leading to reoperation were collected on 115 ASD patients with personalized interbody implants and minimum 2-year follow-up. This

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1. Outcome data from115 adult spinal deformity patients implanted with aprevo as compared to previously published results from matched cohort of 997 patients using stock implants

1.2. Smith JS, Yen CP, Kent R, Berven S, et al. Personalized Spine Surgery in Adult Deformity: Reoperation Rates and Mechanical Complications Following Customized Planning and Interbody Implant Use. Global Spine Journal. 2025;15(2):930–939. doi:10.1177/21925682251409696

Reimbursement that Aligns with Reduced Reoperations

100% OF **aprevo® lumbar** PROCEDURES HAVE INCREMENTAL HOSPITAL REIMBURSMENT COMPARED TO STOCK PROCEDURES

MS-DRG	Description	**Average** national MS-DRG Reimbursement*
523	Extensive or Complex Spinal Fusion Procedures Except Cervical with MCC	~$99k
524	Extensive or Complex Spinal Fusion Procedures Except Cervical with CC	~$74k
525	Extensive or Complex Spinal Fusion Procedures Except Cervical without CC/MCC	~$55k

We anticipate on average approximately $30k per procedure incremental reimbursement

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*Based upon CMS FY27 IPPS national unadjusted payment estimates.

1. These projections do not reflect case severity or provider charging practices. Amounts shown represent DRG base payments only and do not include outlier payments or post-acute care transfer payment policy adjustments.

Challenges in Cervical Fusion Today

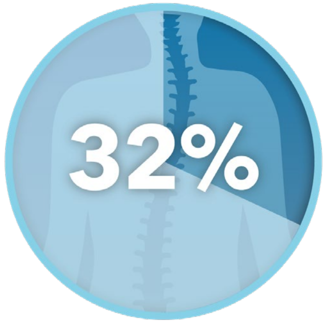
HIGH VARIABILITY IN OUTCOMES ACROSS ACDF PROCEDURES, PARTICULARLY IN PATIENTS WITH POOR BONE QUALITY, LONG-CONSTRUCT FUSIONS, AND CERVICAL DEFORMITY.

POOR BONE QUALITY

ACDF patients have high rates of osteopenia/osteoporosis[1]

5x higher risk of pseudarthrosis[2] and >4x greater rates of revision for adjacent segment disease[3]

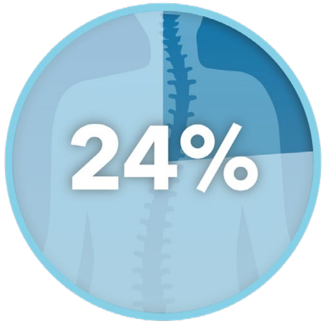
MALALIGNMENT



32.2% of cervical deformity cases exceeded 20° from target T1S–CL[4]

No difference in segmental sagittal alignment between stock parallel and lordotic graphs[5]

LONG-CONSTRUCT REVISION



1 in 3 ACDF patients receive 3-4 level fusions

~46% pseudarthrosis and ~24% revision within 2 years[6]

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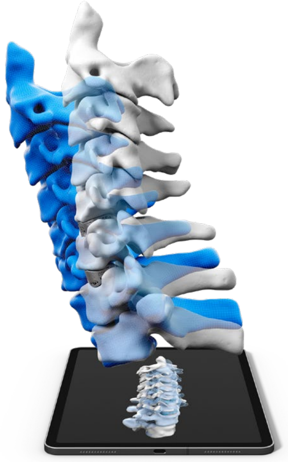
1. Fan Z-Q, Yan X-A, Li B-F, Shen E, Xu X, Wang H, Zhuang Y, et al. (2023) Prevalence of osteoporosis in spinal surgery patients older than 50 years: A systematic review and meta-analysis. PLoS ONE 18(5): e0286110. doi:10.1371/journal.pone.0286110.
2. Bergin SM, Wang TY, Park C, et al. Pseudarthrosis rate following anterior cervical discectomy with fusion using an allograft cellular bone matrix: a multi-institutional analysis. Neurosurg Focus. 2021;50(6):E6. doi:10.3171/2021.3.FOCUS2166
3. Wei Z, Yang S, Zhang Y, Ye J, Chu T. Prevalence and risk factors for cervical adjacent segment disease and analysis of the clinical effect of revision surgery: A minimum of 5 years' follow-up. Global Spine Journal. 2023. doi:10.1177/21925682231185332
4. Smith JS, Ben-Israel D, Kelly MP, et al. The gap between surgeon goal and achieved sagittal alignment in adult cervical spine deformity surgery. J Neurosurg Spine. 2025; 42(3):309–319. doi:10.3171/2024.8.SPINE24703.
5. Villavicencio AT, Babuska JM, Ashton A, et al. Prospective, randomized, double-blind clinical study evaluating the correlation of clinical outcomes and cervical sagittal alignment. Neurosurgery. 2011;68(5):1309–1316.
6. Wewel JT, Kasliwal MK, Adogwa O, et al. Fusion rate following three- and four-level ACDF using allograft and segmental instrumentation: a radiographic study. J Clin Neurosci. 2019;62:142–146. doi:10.1016/j.jocn.2018.11.040.

aprevo® Technology Platform

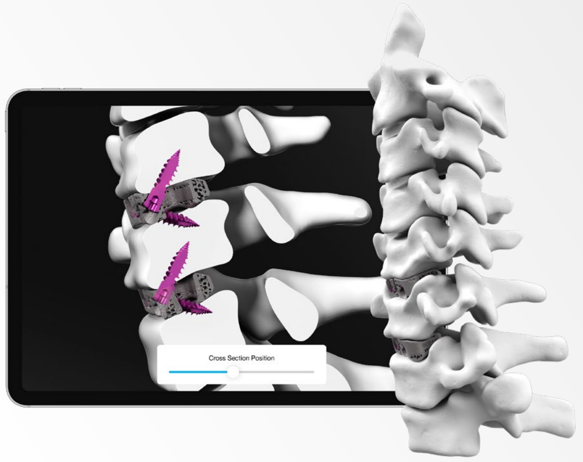
POWERED BY THE **myaprevo**® Ecosystem



PRE-OP

aprevo® digital planning

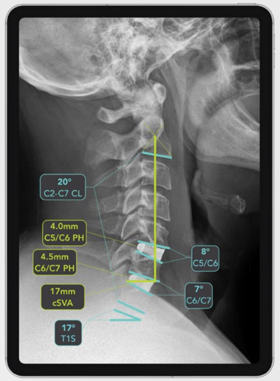
Advanced 3D Alignment Planning & Visualization



INTRA-OP

aprevo® personalized devices

Personalized Anatomically Designed Devices



POST-OP

aprevo® intelligence™

Postoperative Data Insights & Precision Analytics

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aprevo® cervical Eligible for $21,125 Incremental Payment

aprevo® cervical PROCEDURES ARE ELIGIBLE FOR NEW TECHNOLOGY ADD-ON PAYMENT (NTAP)

ICD-10-PCS Codes for aprevo® Cervical Custom-Made Anatomically Designed Interbody Fusion Devices (CMADIFD)

ICD-10-PCS	Description
XRG10RB	Fusion of cervical vertebral joint using CMADIFD, open approach, new technology group 11
XRG13RB	Fusion of cervical vertebral joint using CMADIFD, percutaneous approach, new technology group 11
XRG14RB	Fusion of cervical vertebral joint using CMADIFD, percutaneous endoscopic approach, new technology group 11
XRG20RB	Fusion of 2 or more cervical vertebral joints using CMADIFD, open approach, new technology group 11
XRG23RB	Fusion of 2 or more cervical vertebral joints using CMADIFD, percutaneous approach, new technology group 11
XRG24RB	Fusion of 2 or more cervical vertebral joints using CMADIFD, percutaneous endoscopic approach, new technology group 11
XRG40RB	Fusion of cervicothoracic vertebral joint using CMADIFD, open approach, new technology group 11
XRG43RB	Fusion of cervicothoracic vertebral joint using CMADIFD, percutaneous approach, new technology group 11
XRG44RB	Fusion of cervicothoracic vertebral joint using CMADIFD, percutaneous endoscopic approach, new technology group 11

Applicable Cervical MS-DRGs May Include:

MS-DRG	Description	National Average MS-DRG Payment*
429	Combined Anterior and Posterior Cervical Spinal Fusion with MCC	$65,561
430	Combined Anterior and Posterior Cervical Spinal Fusion without MCC	$41,966
471	Cervical Spinal Fusion with MCC	$35,137
472	Cervical Spinal Fusion with CC	$21,438
473	Cervical Spinal Fusion without CC/MCC	$17,765

FDA Designated Breakthrough Technology with New Technology Add-on Payment (NTAP)

Up to $21,125 *incremental* CMS reimbursement to hospitals for qualifying inpatient aprevo® procedures mapping to these MS-DRG's

The aprevo® procedure is currently covered by Medicare, Medicare Advantage, and Commercial Payors

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*FY 2026 CMS rates, effective October 1, 2025.

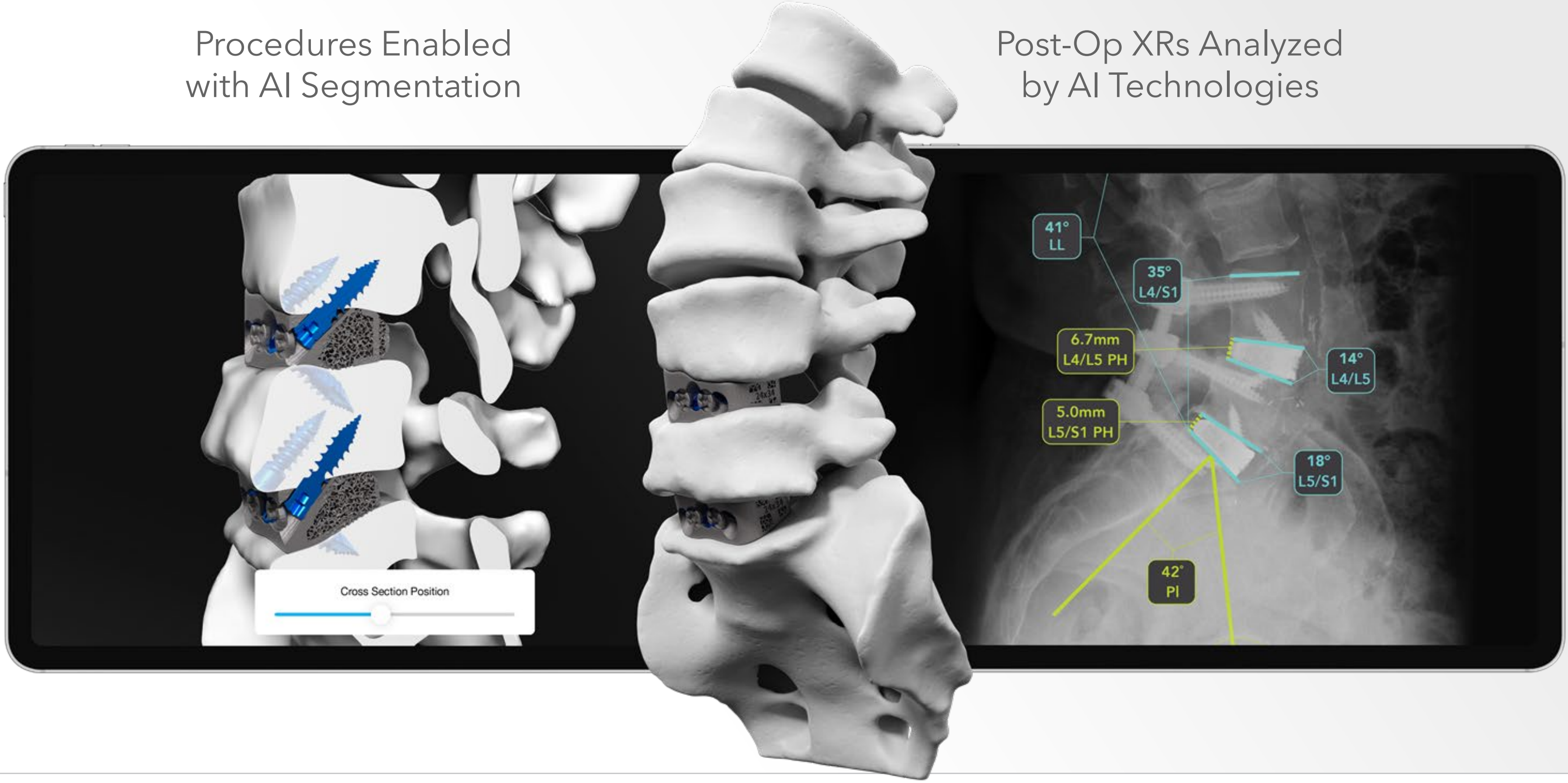
Payment rates assume the hospital has a wage index of 1, is an electronic health record user and reports quality data, and do not account for other payment adjustments such as IME, DSH, uncompensated care, outlier or new-technology add-on amounts or other adjustments. Payment rates do not take into consideration any payment cuts from sequestration or PAYGO (where applicable).

aprevo Personalized Surgery Powered by AI-Enabled Planning & Analytics

aprevo digital planning → **aprevo intelligence**

Procedures Enabled with AI Segmentation

Post-Op XRs Analyzed by AI Technologies



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Carlsmed's aprevo® Patient-Specific Product Portfolio

aprevo® lumbar

aprevo® lateral

- Lordosis from 0° to 30°
- Coronal angulation up to 15°

aprevo® posterior

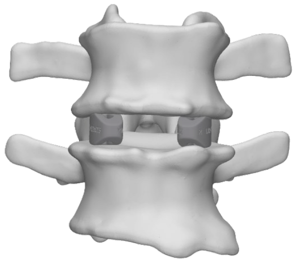
- Lordosis from 0° to 15°
- Coronal angulation up to 15°

aprevo® anterior

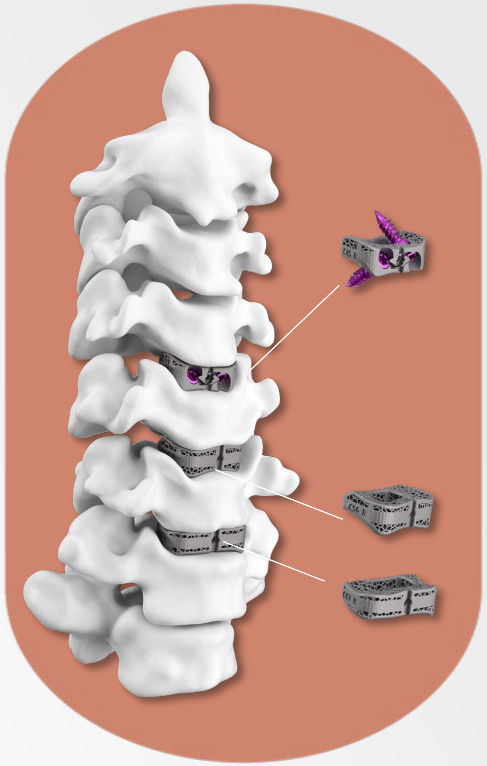
- Lordosis from 0° to 30°
- Coronal angulation up to 15°

aprevo® bi-lateral

- Lordosis from 0° to 15°
- Coronal angulation up to 15°



aprevo® cervical



ACDF Interfixated

- Lordosis from 0° to 30°
- Coronal angulation up to 5°
- ML width up to 30mm

ACDF

- Lordosis from 0° to 30°
- Coronal angulation up to 5°
- ML width up to 30mm

Porous titanium surface lattice designed to promote bone on-growth and in-growth, with optimized endplate matching designed for improved fit and load distribution.

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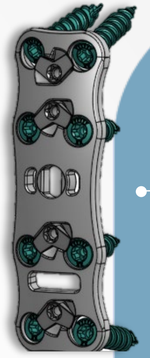
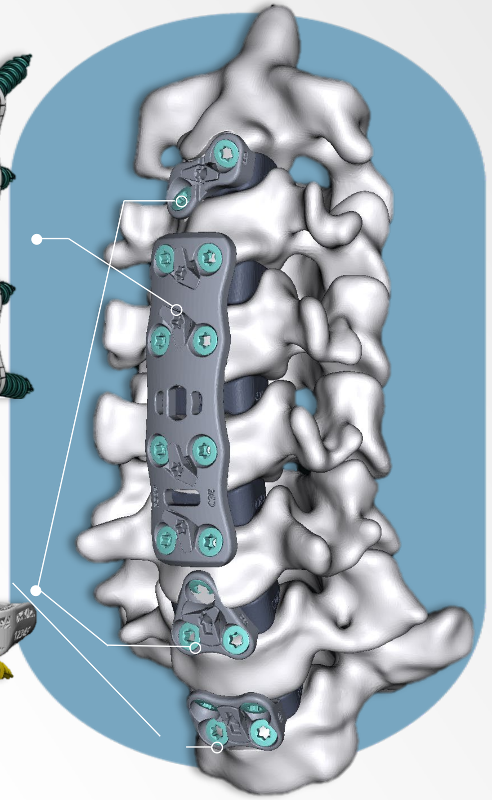
Carlsmed's corra™ Patient-Specific Product Portfolio

corra™ Cervical Plating System

corra™ multilevel plating system

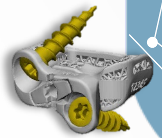
- Precision plate sizing and contouring
- Pre-planned screw hole position and trajectories
- 4.0 & 4.3 variable screws





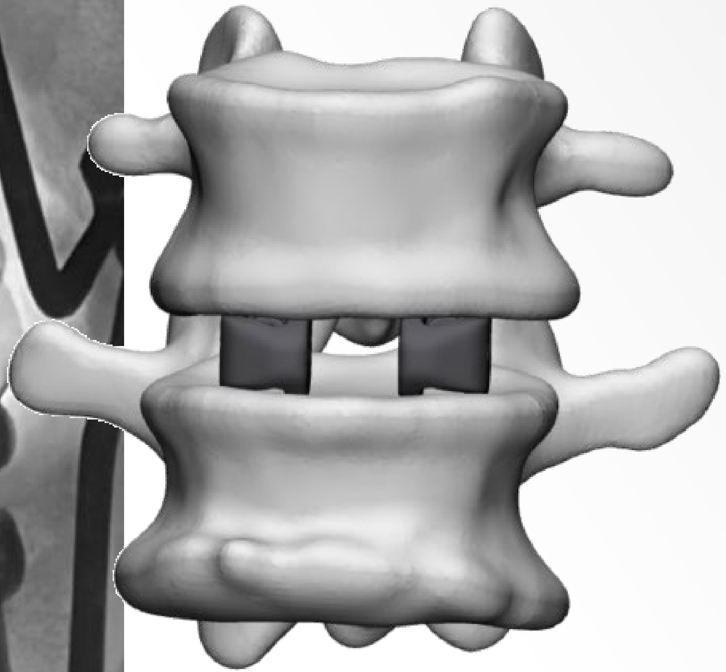
corra™ segmental plating system

- 2-, 3-, or 4-hole plate configurations
- Integrated single-step insertion
- 4.0 & 4.3 variable screws



aprevo® Bi-lateral Posterior

EXTENDING PERSONALIZATION TO BILATERAL POSTERIOR LUMBAR INTERBODY FUSION PROCEDURES



~30,000 bi-lateral procedures annually in the U.S. (8.0% of total TL IBD procedural volume)*

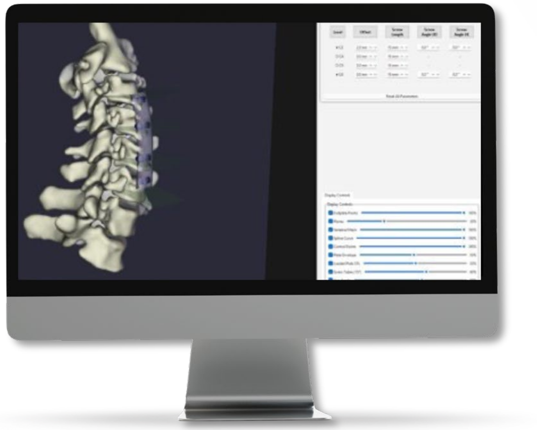
Powered by the **aprevo® Technology Platform**, extends 3D-planning and personalization to bi-lateral posterior procedures

Designed to maximize total device footprint and endplate coverage to support implant stability and improved surgical outcomes

*Source: SmartTRAK Business Intelligence 2026

corra™ Personalized Cervical Plating

POWERED BY THE myaprevo® Ecosystem

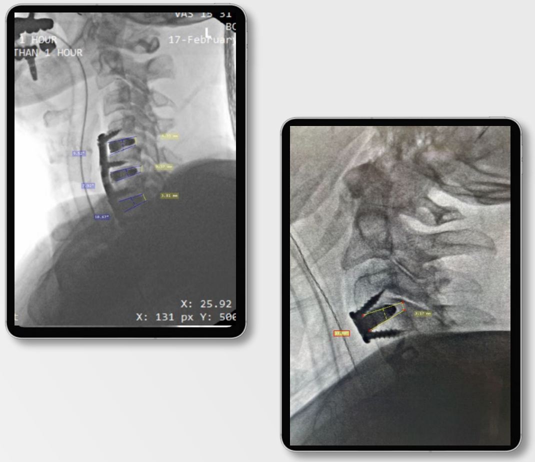


PRE-OP

aprevo® digital planning

INTRA-OP

corra™ personalized devices



POST-OP

aprevo® intelligence™

Patient-centric Innovation

2020

aprevo® Lumbar
FDA Breakthrough Device Designation

2021

aprevo® ALIF/LLIF
FDA 510(k) Clearance

aprevo® Lumbar
First In-person aprevo® Lumbar Procedure

2022

aprevo® TLIF
FDA 510(k) Clearance

aprevo® ALIF-X
FDA 510(k) Clearance

2023

aprevo® Cervical
FDA Breakthrough Device Designation

aprevo® AI Digital Segmentation
FDA 510(k) Clearance

2024

aprevo® TLIF-C Articulating
FDA 510(k) Clearance

aprevo® Cervical
FDA 510(k) Clearance

2025

aprevo® Cervical Interbody
First In-person aprevo® Cervical Procedure

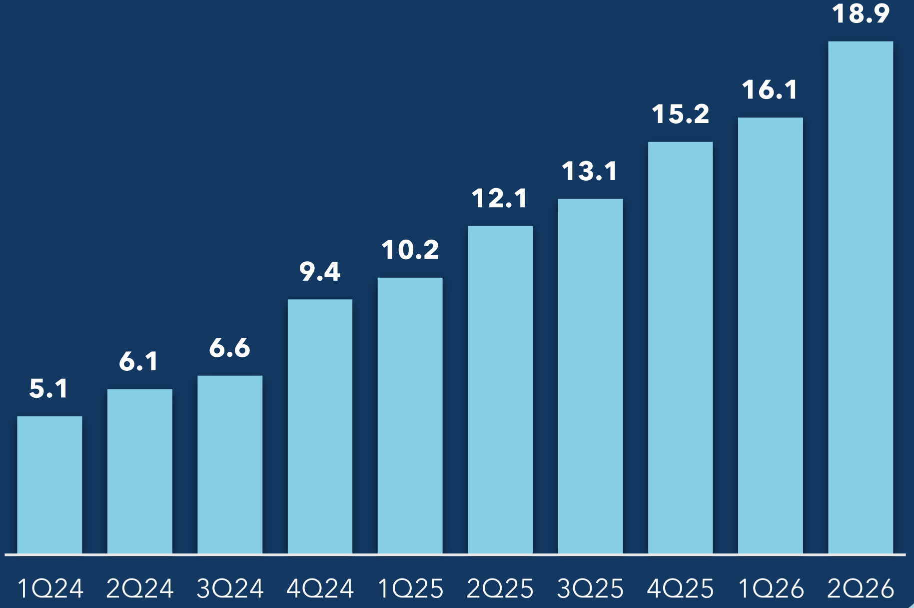
corra™ Cervical Plating System
FDA 510(k) Clearance

2026

aprevo® Lumbar
First In-person aprevo® Bi-lateral Posterior Procedure

Financial Highlights

Revenue (USD, millions)[1]



$18.9M
2Q26 REVENUE[1]

76.8%
2Q26 GROSS MARGIN[1]

($8.6M)
2Q26 ADJUSTED EBITDA[2]

$123.7M
CASH & ACCESS TO CASH[3]

$74M – $78M

2026 Full Year Revenue Guidance

50% YOY Growth at Midpoint of Range

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1. Presented quarterly revenue and gross margin are unaudited.
2. For a reconciliation of Adjusted EBITDA to the nearest GAAP financial measure, see the table at the end of this presentation.
3. Includes $89.3M cash, cash equivalents, and investments and $34.4M of debt available for immediate draw as of June 30, 2026.

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Forward Looking Statements

Any statements in this presentation about future expectations, plans and prospects, including statements about Carlsmed’s ability to advance its personalized spine surgery platform to transform patient outcomes and drive long-term growth, Carlsmed’s estimates regarding total addressable market, the potential of Carlsmed's products, the number ranges presented in Carlsmed’s 2026 revenue guidance, Carlsmed's ability to successfully develop and commercialize future products and other statements containing the words “anticipate,” “believe,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “target,” “potential,” “likely,” “will,” “would,” “could,” “should,” “continue,” and similar expressions, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including such important factors as are set forth under the caption “Risk Factors” in Carlsmed’s Annual Report on Form 10-K on file with the U.S. Securities and Exchange Commission. The forward-looking statements included in this presentation represent Carlsmed’s views as of the date of this presentation. Carlsmed anticipates that subsequent events and developments will cause its views to change. However, while Carlsmed may elect to update these forward-looking statements at some point in the future, it specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing Carlsmed’s views as of any date subsequent to the date of this presentation.

This presentation contains estimates and other statistical data made by independent parties and by Carlsmed relating to market size and growth and other data. This data involves several assumptions and limitations, and you are cautioned not to give undue weight to such estimates. No representation as to the accuracy or completeness of such data is made, and Carlsmed does not undertake any obligation to update such data. In addition, projections, assumptions and estimates of Carlsmed's future performance and the future performance of the markets in which it operates are necessarily subject to a high degree of uncertainty and risk.

Reconciliation of GAAP Net Loss to Adjusted EBITDA

(UNAUDITED)

(in thousands, except percentages)	Three Months Ended June 30, 2026	Three Months Ended June 30, 2025	$ Change	% Change
Net loss	$ (10,510)	$ (6,766)	$ (3,744)	55.3 %
Interest (income) expense	(526)	27	(553)	
Income taxes	–	–	–	–
Depreciation and amortization	130	61	69	113.1 %
EBITDA	(10,906)	(6,678)	(4,228)	63.3 %
Stock-based compensation	2,271	258	2,013	780.2 %
Change in fair value of warrant liabilities	–	237	(237)	(100.0) %
Adjusted EBITDA	$ (8,635)	$ (6,183)	$ (2,452)	39.7 %

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** Change not meaningful

Reconciliation of GAAP Net Loss to Adjusted EBITDA

(UNAUDITED)

(in thousands, except percentages)	Six Months Ended June 30, 2026	Six Months Ended June 30, 2025	$ Change	% Change
Net loss	$ (19,206)	$ (12,495)	$ (6,711)	53.7 %
Interest (income) expense	(1,106)	4	(1,110)	**
Income taxes	–	–	–	–
Depreciation and amortization	229	101	128	126.7 %
EBITDA	(20,083)	(12,390)	(7,693)	62.1 %
Stock-based compensation	3,900	433	3,467	800.7 %
Change in fair value of warrant liabilities	–	270	(270)	(100.0) %
Adjusted EBITDA	$ (16,183)	$ (11,687)	$ (4,496)	38.5 %

** Change not meaningful

