

# Orthopedics This Week

## WEEK IN REVIEW

**4 Spine Surgeon Calls Out Deadly Health Insurance Decisions >>** Health insurers, notably UnitedHealthcare, are out of control. Here a spine surgeon describes the deadly and tragic consequences of insurer delays and denial tactics.

**6 Optum's ASC Unit Buys OrthoAlliance for \$1.4 billion >>** Optum likely over paid, according to Wall Street analysts, but ASC operator OrthoAlliance was too attractive big to pass up—even at \$1.4 billion.

**7 Orthofix Reports \$5.9 Million Free Cash Flow for Q3 >>** Orthofix Medical Inc. reported \$197 million in sales and \$5.9 million in free cash flow for the quarter ending September 30, 2024, which met both Wall Street's expectations and management's guidance.



## BREAKING NEWS

- 10 **SurgiSTUD Named to 2024 Inc. 5000 Fastest-Growing Companies**

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- 11 **CONMED Grows in Q3 Despite Hurricanes**

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- 13 **Integra LifeSciences Puts Tough Third Quarter in Perspective**

---

- 15 **Reclaim Small Practice Power: Team Up!**

---

- 16 **Is Unicompartmental Knee Having a Moment?**

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- 19 **Interim Data From Catamaran SI Fusion Study Released**

**For all news that is ortho, read on.**

**CLICK HERE TO DOWNLOAD A PDF VERSION OF THIS WEEK'S NEWSLETTER**

# Orthopedic Power Rankings

## Robin Young's Entirely Subjective Ordering of Public Orthopedic Companies

**THIS WEEK:** Is this rally for real? Big rebound across ortho in the last week. But watch out. S&P 500 is 21.5x forward 12-month EPS, way higher than 5-year average of 19.7x. We haven't seen these valuations since the dot com bubble and the post-pandemic boom. We know what happened next. Fed rate cuts fueled 2024's rally. Excitement over digital, asset light companies driving this rally. My #1 worry is inflation. It's lurking in the background. Tarriffs, increased government spending...could end this rally in a New York minute.

RANK	LAST WEEK	COMPANY	TTM OP MARGIN	30-DAY PRICE CHANGE	COMMENT
1	1	Pacira BioSciences	13.02%	16.52%	When your business focus is relieving pain, you are playing in a notoriously inelastic business. Investors are catching on to PCRX's inherent value.
2	2	Globus Medical	17.67	11.03	GMED pre-announced decent revenue growth of 6.6%, but the key will be at the operating income line. Will profit margins keep rising? We think so.
3	4	Xtant	(12.29)	46.48	Montana-based Xtant, which has one of the most extensive portfolio of innovative regenerative medicine and spine products, is clearly Spine's favorite penny stock.
4	3	Medtronic	19.17	11.01	MDT added more than \$1 billion to its value in the last 30 days—in part because Jim Cramer said it was an AI stock. Actually, he discovered robotics and navigation.
5	8	Integra LifeSciences	6.60	8.75	IART is a beaten down stock, but not a beaten down company. Not even close. The recent buying is really toe-in-the-water testing. A lot is riding on 2025 performance.
6	7	Zimmer Biomet	20.70	3.73	Undervalued stock, but not a clear growth story. Hanging out with AHHNold won't cut it. Where will new growth come from? Products? New Distribution? M&A?
7	6	Alphatec	(20.35)	31.18	Twenty-seven percent. That's how fast ATEC grew in 2024. In an industry growing at 4-5% per year, that makes ATEC the #1 market share gainer for the 5th year.
8	9	Smith & Nephew	11.60	1.61	SNN is the 5th cheapest equity in all of orthopedics AND pays a 2.97% forward cash dividend yield. Ideal for value investors who like to buy and hold.
9	10	Axogen	(0.65)	26.15	Axogen not only pre-announced that sales rose 18% in 2024, but also hired a new VP of operations. Change is in the air and investors like what they see.
10	NR	Orthofix	(8.61)	3.42	With last week's rally and chronically low valuation, OFIX landed back on the Power Rankings this week. Wall Street's consensus is that sales grew north of 6% for Q4, 2024.

# Robin Young's Orthopedic Universe

## TOP PERFORMERS LAST 30 DAYS

	COMPANY	SYMBOL	PRICE	MKT CAP	30-DAY CHG
1	Xtant Medical Hldgs	XTNT	\$0.52	\$72	46.48%
2	Alphatec Holdings	ATEC	\$11.57	\$1,640	31.18%
3	AxoGen	AXGN	\$18.09	\$796	26.15%
4	SI-BONE, Inc	SIBN	\$16.69	\$700	23.26%
5	Nevro Corp	NVRO	\$4.57	\$171	22.19%
6	OrthoPediatrics Corp	KIDS	\$27.16	\$658	21.63%
7	Pacira Biosciences	PCRX	\$22.36	\$1,032	16.52%
8	Globus Medical	GMED	\$90.80	\$12,364	11.03%
9	Medtronic	MDT	\$88.08	\$112,944	11.01%
10	Integra LifeSciences	IART	\$24.10	\$1,860	8.75%

## WORST PERFORMERS LAST 30 DAYS

	COMPANY	SYMBOL	PRICE	MKT CAP	30-DAY CHG
1	Aclarion	ACON	\$0.04	\$2	-62.43%
2	SINTX Technologies	SINT	\$3.18	\$4	-18.25%
3	MicroPort Scientific	0853	\$0.71	\$1,305	-13.95%
4	Bioventus	BVS	\$10.04	\$815	-5.37%
5	ConMed	CNMD	\$67.69	\$2,091	-2.07%
6	Anika Therapeutics	ANIK	\$16.07	\$235	0.19%
7	Medacta	MOVE	\$121.79	\$2,436	0.68%
8	Aurora Spine	ASG.V	\$0.31	\$24	1.53%
9	Johnson & Johnson	JNJ	\$147.03	\$353,993	1.58%
10	Smith & Nephew	SNN	\$25.29	\$11,057	1.61%

## LOWEST PRICE / EARNINGS RATIO (TTM)

	COMPANY	SYMBOL	PRICE	MKT CAP	P/E
1	Pacira Biosciences	PCRX	\$22.36	\$1,032	16.10
2	Johnson & Johnson	JNJ	\$147.03	\$353,993	19.19
3	Zimmer Biomet	ZBH	\$109.56	\$21,811	20.10
4	Medtronic	MDT	\$88.08	\$112,944	21.11
5	ConMed	CNMD	\$67.69	\$2,091	22.92

## HIGHEST PRICE / EARNINGS RATIO (TTM)

	COMPANY	SYMBOL	PRICE	MKT CAP	P/E
1	Xtant Medical Hldgs	XTNT	\$0.52	\$72	109.52
2	Globus Medical	GMED	\$90.80	\$12,364	62.14
3	Smith & Nephew	SNN	\$25.29	\$11,057	42.04
4	Medacta	MOVE	\$121.79	\$2,436	39.92
5	Stryker	SYK	\$383.42	\$146,166	37.10

## LOWEST P/E TO GROWTH RATIO (EARNINGS ESTIMATES)

	COMPANY	SYMBOL	PRICE	MKT CAP	PEG
1	Integra LifeSciences	IART	\$24.10	\$1,860	-7.63
2	ConMed	CNMD	\$67.69	\$2,091	1.19
3	Medacta	MOVE	\$121.79	\$2,436	1.43
4	Pacira Biosciences	PCRX	\$22.36	\$1,032	1.49
5	Zimmer Biomet	ZBH	\$109.56	\$21,811	2.93

## HIGHEST P/E TO GROWTH RATIO (EARNINGS ESTIMATES)

	COMPANY	SYMBOL	PRICE	MKT CAP	PEG
1	Johnson & Johnson	JNJ	\$147.03	\$353,993	6.40
2	Xtant Medical Hldgs	XTNT	\$0.52	\$72	5.48
3	Medtronic	MDT	\$88.08	\$112,944	3.83
4	Smith & Nephew	SNN	\$25.29	\$11,057	3.72
5	Globus Medical	GMED	\$90.80	\$12,364	3.71

## LOWEST PRICE TO SALES RATIO (TTM)

	COMPANY	SYMBOL	PRICE	MKT CAP	PSR
1	Dynatronics Corp	DYNT	\$0.14	\$1	0.03
2	Nevro Corp	NVRO	\$4.57	\$171	0.40
3	Xtant Medical Hldgs	XTNT	\$0.52	\$72	0.79
4	Orthofix	OFIX	\$18.13	\$693	0.93
5	Integra LifeSciences	IART	\$24.10	\$1,860	1.21

## HIGHEST PRICE TO SALES RATIO (TTM)

	COMPANY	SYMBOL	PRICE	MKT CAP	PSR
1	Aclarion	ACON	\$0.04	\$2	24.81
2	Globus Medical	GMED	\$90.80	\$12,364	7.88
3	Stryker	SYK	\$383.42	\$146,166	7.13
4	SI-BONE, Inc	SIBN	\$16.69	\$700	5.04
5	AxoGen	AXGN	\$18.09	\$796	5.01

PSR: Aggregate current market capitalization divided by aggregate sales and the calculation excluded the companies for which sales figures are not available.

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# Spine Surgeon Calls Out Deadly Health Insurance Decisions

BY ELIZABETH HOFHEINZ, M.P.H., M.ED.



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**S**pine surgeon Adam J. Bruggeman, M.D., M.H.A., one of a hand full of “must read” surgeon-bloggers, recently posted a dramatic piece on LinkedIn, calling out the deadly consequences of insurance companies who deny care and override multiple physician diagnostic and treatment recommendations.

“Prior authorization, a tool used by insurers to improve profits, is frustrating for all patients and physicians but is particularly dangerous in patients facing life-threatening diseases like cancer,” writes Dr. Bruggeman.

Dr. Bruggeman, a previous recipient of Becker’s Healthcare’s “Spine Surgeon Leadership Award,” references an article in his blog where the patient outcome was tragic. Tracy Pike, a 45-year-old

father of three with Stage 4 stomach cancer, was denied the care recommended by his physician, namely, a combination of surgery and intensive chemotherapy. The insurance company’s peer reviewers disagreed with Pike’s physician team, calling the treatment “not medically necessary” because it was [“experimental, investigational and unproven.”](#)

Tracy Pike did not survive.

Dr. Bruggeman also points to a case where a required image to provide surveillance to look for metastatic disease in a patient with prior breast cancer was denied, being deemed “unnecessary.” The patient’s employer intervened paid for it directly, at which point it was determined that the previously denied surveillance scan had found new metastases that required intervention.

“Significant reform is needed to prevent profit from being prioritized over patients,” writes Dr. Bruggeman. “The stories in this [NBC article](#) are heartbreaking and reflect the real damage inflicted by faceless and nameless administrators and physicians, hiding behind computer screens and working to ensure that profits are maintained for shareholders at the largest insurers in the United States.”

*Dr. Bruggeman, a spine surgeon in San Antonio, Texas, was one of 22 surgeons to win Becker’s Healthcare’s “Spine Surgeon Leadership Award” this year. This honor is given based on a nominee’s entrepreneurship, professional leadership, community leadership, and overall role in advancing the field. ♦*

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## FROM OUR READERS

*"Spectacular book. Loved it!"* – Alexander R. Vaccaro, M.D., Ph.D., M.B.A., President Rothman Orthopedic Institute, Philadelphia, PA.

*"Robin Young has taken us on a splendid journey from the origins of orthopedic surgery as a specialty through its early development to the important and essential collaboration between orthopedic surgeons, engineers and industry that has produced a compendium of treatments that have enriched the lives of millions of patients. For those of us who love orthopedic surgery, the best part is that this is only volume 1 with more to come!"* – Joseph D. Zuckerman, M.D., Walter A.L. Thompson Professor of Orthopedic Surgery and Chair, Department of Orthopedic Surgery, NYU School of Medicine, New York, NY

*"Robin Young describes the early development of orthopedic medical devices and the intersection of surgeons, corporate, and engineering leaders. The manuscript is an easy read. Dr. Charnley who is most responsible for bringing innovation to orthopedic surgery, like Thomas Edison, failed at many techniques and materials before finding success. Ron Pickard built Danek into the industry leader Sofamor-Danek but more importantly withstood the attacks by plaintiff attorneys in their pedicle screw litigation. In both cases and as demonstrated in many other examples in the book, holding to what is best for patients and to basic core principles will result in the best outcomes. Robin shows convincingly how anyone who has the idea, commitment, can assemble a team and overcome the many hurdles and failures can produce dramatic results that can help patients and revolutionize an industry."* – Paul A. Anderson MD, Former Professor of Orthopedic Surgery, Neurologic Surgery and Biomedical Engineering, University of Wisconsin, Madison.

*"Anyone not knowing the history might think the currently available orthopedic devices either always existed or formed on their own, but each product needed the right people at the right place at the right time working with a company to develop, produce, and introduce to surgeons the new advance. This book chronicles the roots of today's orthopedic/spine industry and tells the untold story of often unknown people who by their actions ended up helping millions of orthopedic surgery patients around the world. "The book Robin Young wrote is Orthopedics This Last Century. I recommend all the OTW readers order a copy."* – Richard Treharne, Ph.D., Vice President Orthopedic Research, Active Implants, Inc., Memphis, TN

# Optum's ASC Unit Buys OrthoAlliance for \$1.4 billion

BY KIM DELMONICO



Source: SCA Health and OrthoAlliance

Specialty care management company SCA Health, the ASC division of Optum, has acquired orthopedic management company OrthoAlliance for an estimated \$1.4 billion.

OrthoAlliance, based in Sharonville, Ohio, has over 200 physician partners and is one of the largest orthopedic-focused management companies in the country. Founded in 2019, OrthoAlliance was originally a partnership between private equity firm Revelstoke Capital Partners and physician practices based in the Midwest.

OrthoAlliance physician partners offer a broad range of orthopedic and sports medicine specialties. Specialties include surgical and non-surgical orthopedics, sports medicine, orthobiologics, joint replacement, and spine care. OrthoAlliance also offers patients physical ther-

apy and imaging services. This ensures a comprehensive suite of services.

SCA Health has expanded beyond ASC management to a broader range of specialty care. Its broader business model will continue to include ASCs as well as physician specialists. SCA Health has more than 320 surgical facilities, 11,300 teammates, and 9,200 physicians. Additionally, SCA Health physicians serve more than 1.43 million patients each year.

SCA Health's business lines include PE GI Solutions, a GI-focused ASC business. Per its website, this business line delivers "high-quality, lower cost care with an exceptional patient and physician satisfaction scores." It also provides assistance to GI physicians to help them "develop and manage their practices and endoscopic ASCs."

SCA Health's business lines also include physician-led Optum Specialty Practices. Optum Specialty Practices, per the SCA Health website, "offers physicians a new business model that supports their independence and growth and shifts them to value."

SCA Health's other business line is Specialist Management Solutions. Specialist Management Solutions focuses on both employers and employees. Per its website, it helps both parties "navigate the challenges of healthcare by connecting them with local surgeons and facilities, saving up to 50% on their care."

SCA Health has been part of Optum since March 2017. Optum is a division of the largest healthcare company in the U.S., UnitedHealth Group. ♦

# Orthofix Reports \$5.9 Million Free Cash Flow for Q3

BY TRACEY ROMERO



Source: Orthofix Medical Inc. and AdobeStock

Orthofix Medical Inc. reported \$197 million in sales and \$5.9 million in free cash flow for the quarter ending September 30, 2024, which met both Wall Street’s expectations and management’s guidance.

## Spine Sales Lead Sales Growth

Julie Dewey, Orthofix’s Chief IR and Communications Officer, Massimo Calafiore, chief executive officer and Julie Andrews, chief financial officer, recently held the company’s 2024 third quarter [earnings call](#).

Calafiore said, “The third quarter represents an important inflection point in this new chapter for Orthofix,

including record performances in our U.S. sales orthopedic business and in the number of 7D earnout agreements. We also matched our record for the highest number of 7D unit placements in a quarter to date and keep seeing strong demand for our spine fixation products.”

He added, “The entire company is focusing on innovation and responsible growth. We had another quarter of strong adjusted EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) margin expansion with positive free class flow of \$5.9 million, reaching this significant milestone earlier than we expected.”

“Our third quarter net sales results of \$196.6 million represent year-over-year growth of 7% on a constant currency basis. Growth was led primarily by strength in our U.S. spine fixation and bone growth therapies or BGT business as well as continued market penetration in U.S. orthopedics.”

U.S. spine fixation grew 18% during the quarter across all three franchises, driven largely by the launch of Reed and Wave Form interbody product and new distribution changes.

Calafiore added that they are setting 2027 financial goals to include “leveraging our 7D flash navigation system to drive surgeon engagement and build

brand loyalty” and growth of biologics portfolio.”

He explained, “We are a market leader with a number 2 share position in biologics with solutions to enhance

the fusion process and promote bone repair and growth in each of the major bone grafting categories.”

Andrews offered a snapshot of the third quarter performance. Orthofix

reported a net sales of \$196.6 million or 7% constant currency top line growth. Adjusted EBITDA was \$19.2 million, with adjusted EBITDA margin expansion of approximately \$6 million or approximately 250 basis points.

Bone Growth Therapies revenue grew 9% to \$57.9 million in Q3 and 13% in the BGT fracture market.

“We do expect BGT growth to remain above market growth rates but should moderate somewhat as we move forward in the fourth quarter and beyond,” Andrews confirmed.

She said that their full-year guidance would remain the same with an expected full year net sales of \$795 million to \$800 million.

Orthofix Medical Inc. Quarterly Report (\$000s): 3 and 9 Months Ended 9/30/24					
3 Month SALES			9 Month Sales		
2023	2024	% Change	2023	2024	% Change
\$184,006	\$196,606	6.85%	\$546,226	\$583,834	6.89%
Op Profit			Op Profit		
2023	2024	% Change	2023	2024	% Change
-\$28,857	-\$27,388	-5.09%	-\$129,211	-\$96,851	-25.04%
-16%	-14%		-24%	-17%	
EPS			EPS		
2023	2024	% Change	2023	2024	% Change
-\$1	-\$1	-7.8%	-\$3.53	-\$2.55	-27.76%
2024 Sales Estimate			2025 Sales Estimates		
Consensus		Change	Consensus		Change
\$796,610		6.69%	\$846,930		6.32%

Source: RRY Publications

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### Analysts Concerned About Sustainability of Current Growth Rate

Matthew Blackman from Stifel asked what their greatest concerns about meeting their 2027 goals.

Andrews emphasized that the company was confident in its ability to hit the targets set, adding, “Of course, we’ve always got to look within the market we’re working within. So, market growth and what the market is doing will be a key thing that we’ll keep our eyes on. But we are confident in our ability to deliver our mid-teens adjusted EBITDA and positive free cash flow.”

Black also asked if the mid-teens EBITDA by 2027 is a milepost or a final goal

post. Andrews reassured that it is just a milestone.

Iseult McMahon from BTIG asked for further clarification about how they plan to sustain the current above market growth rates.

Andrews said, “So, I think if you think about where we stand, I’m going to start with spine from a market share perspective in the U.S., we are a 3% market share player with the strength of our portfolio and our enabling technologies, we believe that we have an opportunity to outgrow—outpace market growth at an accelerated rate. So that’s one key.”

She added, “Then as we move to the orthopedic business, we are in a simi-

lar position in the U.S. where the split of the business between international and U.S. is approximately 70% of our business is outside the U.S. And again, we see an opportunity to focus on limited construction, really creating a segment and take outsized share and create a market within that—within the U.S. Orthopedics business. So, I would point to those as two of our key drivers in terms of outgrowth in the market in our long-range plan.”

Jason Wittes asked for further detail on who are the main customers of 7D and how they are using it.

Calafiore explained that 7D can be used both in brain and spine, but that most of their customers are utilizing it in spine. ♦



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COMPANY

## SurgiSTUD Named to 2024 Inc. 5000 Fastest-Growing Companies

SurgiSTUD, a Tempe, Arizona-based company focused on biofidelic, customizable training platforms of real human pathology, has been named to the Inc. 5000 list of fastest-growing companies for 2024.

Companies that make the list are ranked according to percentage revenue growth over the last three years. SurgiSTUD, where “STUD” stands for Surgical Training and Utility Device, offers tailored solutions and a large array of spine and orthopedic models.

“SurgiSTUD is grateful to be included in the Inc. 5000 list, as we strive to provide the best synthetic surgical training models to the medical device industry,” notes John Brambert, company executive vice president. “This award motivates us to continue developing world class models that are used across the globe.”

“We offer excellent customer service and exceptional products that provide the specific pathology and deformity medical device companies are looking for as they train surgeons and internal staff across the globe,” stated Brambert to OTW when asked what is responsible for this growth. “Both customization around new product launches and enabling technologies have contributed to our growth in 2024. We anticipated significant growth and have been pleasantly surprised as

we continue to scale out globally with our services.”

As for how they separate themselves from their competitors in the realm of customization, Brambert noted, “The SurgiSTUD models are far more comprehensive on the spine and orthopedics side than our competition.”



Source: SurgiSTUD



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“We continue to evolve and find opportunities to develop exciting new products, all based on customer requests that allow us to advance our offerings and distance ourselves from our competition. Our attention has always been customer focused, and it allows us to deliver the best products and solutions at an affordable price that exceed our clients’ expectations.”

When OTW asked for an example of an internal process that they have refined that has contributed to growth, Brambert stated, “We’re Six Sigma based within our organization and continually measure every aspect of our business. This allows us to minimize errors and maximize our operations. Our R&D department is an example where we take concepts and bring them to reality in a very short period. This is due to an internal manufacturing process that is continually being measured and refined. It has allowed our talented engineers and production staff the ability to deliver products quickly and efficiently.”

“Our business culture is focused on building strong relationships with our clients and drawing upon our experience in both the spine and orthopedic space. This allows us to share best in class practices within and deliver solutions that solve our clients’ needs. Each day we continue to develop new products that impact the medical device industry. We’re excited and proud to deliver a technology that has disrupted the seven-hundred-year-old history of using cadavers by offering a safe solution that can be used anywhere and anytime, while driving down costs. I believe it’s safe to say that we’re positively impacting each customer’s bottom line and providing a safe environment for training withing the spine and orthopedic community.” — EH

## CONMED Grows in Q3 Despite Hurricanes

CONMED Corporation reported \$316.7 million in sales and \$113.38 million in operating profit for the quarter ending September 30, 2024, which was below Wall Street’s expectations, but the company beat expectations with an earnings per share of 1.59.

Curt Hartman, CONMED Corporation’s Board Chairman, President and CEO, Todd Garner, EVP and CFO, and Patrick Beyer, COO met with Wall Street’s analysts and investors and reported CONMED’s third quarter sales

and earnings performance, while also putting it into context given the hurricanes that swept through the southeast in the September quarter.

Hartman reported that the total sales for the September quarter were \$316.7 million, which was a 4% increase from the previous year and 4.3% in constant currency.

He also noted that the company and its employees faced unusual difficulties in the quarter. “We also acknowledge that many are still facing local hardships, and our thoughts are with our impacted employees and those across the Southeast impacted by the hurricanes.”



Source: CONMED Corporation and AdobeStock

CONMED Corporation Quarterly Report (\$ in 000s): 3 and 9 Months Ended 9/30/24					
3 Month SALES			9 Month Sales		
2023	2024	% Change	2023	2024	% Change
\$304,578	\$316,701	3.98%	\$917,699	\$961,071	4.73%
Op Profit			Op Profit		
2023	2024	% Change	2023	2024	% Change
\$137,759	\$113,388	-17.69%	\$423,654	\$386,861	-8.68%
45%	36%		46%	40%	
EPS			EPS		
2023	2024	% Change	2023	2024	% Change
\$0.52	\$1.59	205.77%	\$1.02	\$3.20	213.73%
2024 Sales Estimate			2025 Sales Estimates		
Consensus		Change	Consensus		Change
\$1,300,000		8.30%	\$1,400,000		7.70%

Source: RRY Publications LLC

“From an earnings perspective, during the third quarter, our GAAP net income totaled \$49 million. This compares to net income of \$15.8 million in the third quarter of 2023.

“Overall, our top line finished below our capabilities, but we again had several areas of strong financial performance in the quarter to include adjusted EPS growth, cash flow, and our leverage ratio. I remain confident in the setup for CONMED and our ability to return accelerated top line growth while continuing our leveraged earnings growth.”

CONMED’s COO Beyer shared more details, reporting that during the third quarter, AirSeal continued to have strong growth in the U.S. “We have not seen any slowdown in AirSeal capital orders in the U.S. nor have we seen any

slowdown in the demand for disposables,” he said.

“We are continuing to monitor locations where new robots are in use as some of these robots are now moving past their initial trial periods. We continue to see surgeons returning to using AirSeal for precision clinical insufflation with a new robot, especially in the longer and more complex procedures that we talked about last quarter.”

Beyer emphasized the benefits of using AirSeal for clinical insufflation: shortened length of stay, reduced postsurgical pain, and quicker postoperative recovery.

He added that CONMED’s orthopedic business continues to grow during the third quarter as they improve the supply chain.

“At the end of the third quarter, we communicated that our Largo facility, where many of our orthopedic products are manufactured, had suffered some manufacturing slowdown at the very end of the quarter as a result of Hurricane Helene. Then, about two weeks later, Hurricane Milton hit the Largo area, resulting in a shutdown of our headquarters and manufacturing plant in Largo for four additional days,” Beyer explained.

“While we work to quickly reopen our facilities, it took several more days for attendance to fully ramp up as many of our employees were dealing with the impact that the hurricane had on their personal life.”

#### Sales and Earnings Details

CFO Todd Garner then gave some more specific financial details. For the third



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quarter of 2024, CONMED's U.S. sales increased 7.4% from the same quarter in 2023 and international sales was essentially flat, growing just 0.2%.

U.S. orthopedic sales increased 7.4% and 3.9% internationally.

"As Pat said, we remain focused on improving our service levels in the sports medicine space. The hurricanes affecting the Southeastern part of the United States delaying that progress a bit at the end of September and for a longer period in early October."

He emphasized that while they are working hard to make up the lost hours of production, that it will likely take more than just the fourth quarter to catch up.

Garner said keeping that in mind they expect fourth quarter revenues to be in the range of \$339 million to \$344 million.

### Analysts Press for Clarifications on Adjustments Made to Guidance

Kristin Stewart, an analyst with CL King, asked for clarification on the lower numbers for general surgery and capital equipment revenues.

Garner said that it was because of last year's results. He explained, "If you remember, a year ago, we were getting out of back order in kind of big swaths which provided a large improvement for third quarter last year. And so as I said in my prepared remarks, international was really strong last year. And in the general surgery specifically, we had some big capital products released from back order in last year's third quarter."

Vik Chopra from Wells Fargo asked Beyer, who will take over as CEO when Hartman retires, what his top priorities for 2025 are.

"Taking over for Curt, my focus is to spend time with customers, spend time with our employees and connect with our shareholders and then continue to advance the cause and be part of a growth company. And I'm super excited about taking over for Curt and continuing the story of success that CONMED has had for the last 10 years."

Chopra also asked about the impact of the IV fluid shortages.

Garner said that there has been deferring of procedures because of that and that their guidance does factor in this impact. Right now, they can't say decisively if things are going to get better or worse.

CL King's analyst, Stewart, also asked for more detail on adjustments being made in CONMED's foot and ankle business. Garner explained that the foot and ankle business has been slower this year than they wanted it to be.

"We're working hard to get that back on offense. But, being slower than expected is part of that adjustment. BioBrace is doing really well currently. We have adjusted our timing of when we expect the trial to read out, and that's adjusted out a little bit. We're really happy with the robust nature of the trial that we have designed," he said. — TR

## Integra LifeSciences Puts Tough Third Quarter in Perspective

Integra LifeSciences Holdings Corporation reported \$380.8 million in sales and \$8.15 million in operating loss for the quarter ending Sep-

tember 30, 2024, which beat both Wall Street's expectations and management's guidance.

Stuart Essig, Integra LifeSciences' executive chairman, Jan De Witte, president and CEO and Lea Knight, CFO presented Integra's third quarter earnings report to Wall Street analysts.

Essig started the call announcing that Mojdeh Poul has been selected to be Integra's next CEO as Jan De Witte retires.

"I'd like to start by thanking Jan for his leadership and contributions over the last three years and for his commitment to ensuring a seamless transition. During his tenure, Jan made a number of significant contributions and faced several difficult challenges. His hard work, dedication, and professionalism have been constant throughout."

"Under his leadership, we grew our international business significantly and added digital innovations to our product pipeline. We executed two important acquisitions, DuraSorb, which added an important synthetic product to our breast reconstruction pipeline and more recently, Acclarent, cementing our entry into the ear, nose, and throat market."

Essig also praised De Witte's ability to build strong teams that will ensure the lasting impact of Integra.



Source: Integra LifeSciences Holdings Corporation and AdobeStock

Integra LifeSciences Holdings Corporation Quarterly Report (\$ in 000s): 3 and 9 Months Ended 9/30/24					
3 Month SALES			9 Month Sales		
2023	2024	% Change	2023	2024	% Change
\$382,421	\$380,834	-0.41%	\$1,144,534	\$1,167,881	2.04%
Op Profit			Op Profit		
2023	2024	% Change	2023	2024	% Change
\$26,593	(\$8,150)	-130.65%	\$75,479	(\$7,216)	-109.56%
7%	-2%		7%	-1%	
EPS			EPS		
2023	2024	% Change	2023	2024	% Change
\$0.24	(\$0.14)	-158.33%	\$0.59	(\$0.34)	-157.63%
2024 Sales Estimate			2025 Sales Estimates		
Consensus	Change		Consensus	Change	
\$1,610,000	328.00%		\$1,710,000	6.20%	

Source: RRY Publications LLC

Poul joins Integra from 3M Company. She has also held leadership roles at Medtronic and Boston Scientific.

“She joins us at a critical juncture in the company’s history and is the right leader to drive improvements, Integra’s quality, resilience, and capacity building upon strong customer demand for our products and ensuring our portfolio is well positioned for continued growth. I know Mojdeh is looking forward to introducing herself to you when she officially joins us in January.”

De Witte then went into the third quarter numbers. Integra’s third quarter revenues were \$381 million. Organic revenue decreased by 8.6% year-over-year, and the company delivered adjusted EPS of \$0.41.

He explained while there continues to be a strong demand for their products, ongoing supply challenges continue to present obstacles to meet that demand.

He referred to Integra’s compliance master plan which was implemented to improve quality management systems (QMS) compliance across all their business units.

“We continue to work diligently to identify and resolve gaps in our QMS

across our sites. As we told you last quarter, we expect the assessments and corrective actions to continue through 2025. We’re also investing in facility and equipment upgrades to improve quality, resilience, and capacity to ensure we meet the long-term customer demand. We remain fully committed to doing what’s right for our customers, patients, employees, and shareholders.”

He pointed to the strong growth in DuraSorb and the UBM portfolio, including MicroMatrix and Cytal and to the progress being made with the Braintree facility.

“We have largely completed construction and have begun installing equipment within the facility as we continue to work towards bringing the Braintree facility online and resuming production of SurgiMend and PriMatrix in the first half of 2026,” he said.

Due to all these factors, Integra has updated its full year 2024 revenue and adjusted EPS guidance to a range of \$1.609 billion to \$1.619 billion and \$2.41 to \$2.49, respectively.

### Wall Street Questions Duration of Supply Chain Issues

Steve Lichtman, an analyst with Oppenheimer, raised questions about custom-

er stability throughout these supply issues.

De Witte reassured him that the management team had been very proactive in protecting Integra’s customer relationships and that he was confident that the affected customers will retain their existing strong relationships with Integra.

Vikramjeet Chopra of Wells Fargo asked how much the shipping hold is expected to affect fourth quarter’s sales and profit results and Knight reiterated that management expects an effect of about \$10 million in sales.

Ryan Zimmerman with BTIG asked if they could expect some improvement in margins in 2025. Knight said in 2025 they expect improved profitability in quarter four of 2024 and full year 2025.

Zimmerman pushed harder and asked if analysts should consider 2025 a lost year for Integra given that full recovery isn’t expected until 2026.

Essing said that when Mojdeh joins the company in early January, she will take the time to meet with the company’s leadership, employees, and customers to understand all the opportunities and challenges the company faces and then will update the company’s long-term plans.

Craig Bijou with Bank of America Securities asked for more details on the strong performance of Acclarent.

Knight responded that because Acclarent had such a strong performance in the second and third quarters they are increasing guidance for Acclarent by about \$10 million from their earlier expectations. — TR

LEGAL

## Reclaim Small Practice Power: Team Up!

Dutch Rojas, one of the most widely-read orthopedic practice commentators, says that when 3,000 physicians in Dallas or 2,500 in Charlotte united, they not only negotiated better rates—they also *reclaimed time to think*. About medicine. About patients. About the future.

“In cities across the U.S.,” says Rojas, “thousands of brilliant doctors are hemorrhaging money on things they shouldn’t be—insurance, benefits, even property coverage. It’s like watching Toyota owners gleefully pay Rolls-Royce prices for unleaded and then congratulate the gas station on the markup.”

“When 1,000 or 5,000 physicians in a metro area join forces, they create something even the most prominent hospital systems can’t replicate—a massive network in scale and personalized services.”

According to Rojas, when a dozen or so surgical hospitals, a couple dozen ambulatory surgery centers, and dozens of clinics combine under one umbrella, their risks are spread, and expenses drop.

“The result? Every member of the coalition pays less. It’s not magic—it’s math.”

Rojas goes on to highlight other areas positively affected when doctors band together, namely, workers’ comp premiums, malpractice coverage, and retirement plans, Rojas says physicians are no longer desperate to sign bad-payer contracts or partner with hospital systems they don’t trust. The sentiment? Freedom.

“2025 isn’t about surviving the system—it’s about flipping it on its head,” claims Rojas. “The revolution isn’t coming; it’s already here. The only question is whether you’ll be watching it or leading it.”

*Dutch Rojas is a healthcare entrepreneur and founder of Bliksem Innovations and Physician Capital.*

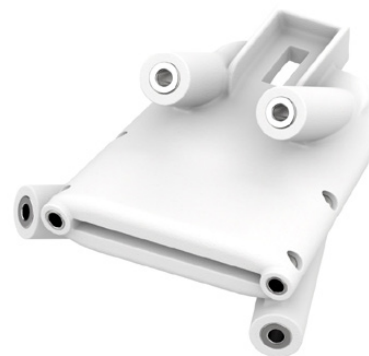
Please share your thoughts in the [comment section](#) of Rojas’s commentary. —EH



Dutch Rojas / Courtesy of Dutch Rojas

## 510(k) Clearance Expands Cadence and Ankle System Indications

The U.S. Food and Drug Administration (FDA) has granted 510(k) clearance for the combined use of two surgical planning and patient specific instrument sets for ankle surgery.



Cadence Optech Talus Guide / Source: Smith+Nephew

3D Systems, Inc., based in Littleton, Colorado, submitted the devices for 510(k) clearance. The ankle arthroplasty implantation systems were cleared for use with certain Smith+Nephew systems.

According to the FDA’s summary document, the Cadence Ankle PSI System is “intended to be used as patient specific surgical planning and instrumentation to assist in the positioning of total ankle replacement components intraoperatively, and in guiding bone cutting.”

Furthermore, the Cadence Ankle PSI System is “intended for use with Smith+Nephew’s Cadence Total Ankle System and its cleared indications for use.” The combination of the surgical guides and instruments “facilitate the positioning of Cadence Total Ankle Prostheses.”

Moving to the Salto Talaris PSI System, according to the FDA's summary document, it is "intended to be used as patient specific surgical planning and instrumentation to assist in the positioning of total ankle replacement components intraoperatively, and in guiding bone cutting."

The Salto Talaris PSI System is also "intended for use with Smith+Nephew's Salto Talaris Total Ankle System and its cleared indications for use." When used in combination, the surgical guides and total ankle system, "facilitate the positioning of Salto Talaris Total Ankle Prostheses"

In order to qualify for the shorter and earlier 510(k) clearance medical devices must be substantially equivalent to a predicate device. Here, both systems have the same indications for use as the predicate device, Vantage® PSI System, an ankle arthroplasty implantation system. According to FDA document, the only change is "the orthopedic implant that the patient-specific instrumentation is guiding."

Mark McMahan, the vice president of marketing, global orthopaedics at Smith+Nephew, expressed excitement about the partnership, saying, "We are excited to partner with 3D Systems and unveil our new TOTAL ANKLE Patient-Matched Guides for total ankle replacement—a breakthrough to help transform the way healthcare professionals approach surgical precision and improved patient outcomes."

McMahan continued, "This advanced system is designed to offer unparalleled efficiency and accuracy, ultimately enhancing the overall experience for both surgeons and patients." — KD

## LARGE JOINTS

### Is Unicompartmental Knee Having a Moment?

Apparently so, according to a new review of epidemiological trends and outcomes among knee arthroplasty patients in the United States. This new study out of Case Western Reserve, titled "[Epidemiological Trends and Outcomes of Unicompartmental Knee Arthroplasty Among 104 Million Patients in the United States](#)," appears in the December 2024 edition of *The Journal of Arthroplasty*.

"Our primary motivation for examining trends in unicompartmental knee arthroplasty utilization stemmed from the relatively recent relaxation of patient selection criteria, which now accommodate for younger individuals (patients as young as 50) and those with higher BMIs [body mass index] (patients with BMIs as high as 40)," explained lead author Parshava Sanghvi, an M.D. candidate at Case Western Reserve University School of Medicine in Cleveland, Ohio.

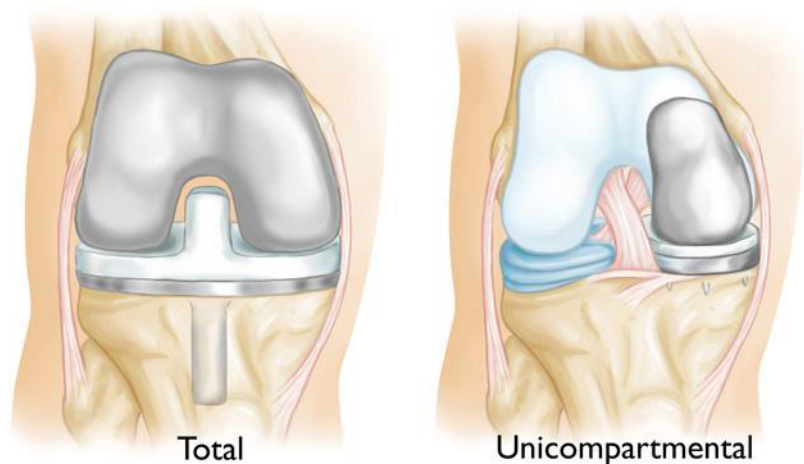
"We hypothesized that these changes may have led to an increase in unicompartmental knee arthroplasty utilization, and we were also interested in seeing how the characteristics of a typical unicompartmental knee arthroplasty patient have evolved over time.

"Furthermore, with the increasing adoption of robotics in orthopedic surgery, we wanted to determine whether the proportion of unicompartmental knee arthroplasties performed robotically has risen as well."

"The classic criteria for unicompartmental knee arthroplasty, established by Scott and Kozinn, identified the ideal patient as being over 60 years old and weighing less than 82 kg [180.78 pounds]," explained Sanghvi to OTW.

"However, these guidelines are largely unsupported, as current studies have shown that only 5% of unicompartmental knee arthroplasty procedures align with these parameters."

"In practice, current unicompartmental knee arthroplasty criteria are much more expansive, often including patients in their 50s and with higher BMIs. Furthermore, in comparison to total knee



Source: OrthoInfo, AAOS

arthroplasty [TKA], unicompartmental knee arthroplasty is generally preferred in cases where osteoarthritis is confined to a single compartment and the anterior cruciate ligament is intact.”

### Still a Small Percentage of Knee Arthroplasty Cases

“While the use of unicompartmental knee arthroplasty has increased over the past decade, the relatively low number of cases performed annually has made it challenging to accurately characterize national trends.”

“We were fortunate to have access to one of the largest medical databases allowing us to better capture trends in the U.S. and conduct a sub-analysis on the use of robotic-assisted unicompartmental knee arthroplasty. We hope this study encourages further research into patient selection criteria and procedural techniques to enhance outcomes and support the broader adoption of unicompartmental knee arthroplasty.”

### Study Results

The Case Western Reserve research team pulled data from multiple sites within one healthcare network. They found:

1. The number of unicompartmental knee arthroplasty cases increased 590% from 2012 to 2022, from an admittedly low base (241 to 1,662).
2. The incidence rate unicompartmental knee cases vs other knee arthroplasty cases increased on an average annual basis by 50%, again, from a low base.
3. The statistical prevalence, also from a low base, increased 51.3%.

4. The most common complication associated with unicompartmental knee arthroplasty was conversion to total knee arthroplasty (TKA)—and that occurred in 39.9% of the cases.

5. As of 2022, there were 68 robotic unicompartmental knee arthroplasties performed within the dataset studied, a 518% increase from the 11 performed in 2012.

### Will more surgeries drive outcomes research?

“Our most important result lies in the projected prevalence of unicompartmental knee arthroplasty reaching 0.30% by 2035 if current trends persist.”

“This substantial anticipated growth underscores the rising popularity of unicompartmental knee arthroplasty, likely driven by its less invasive nature, superior preservation of bone stock, and faster recovery time.”

“While unicompartmental knee arthroplasty remains less commonly performed than total knee arthroplasty due to higher long-term revision rates, the projected increase in utilization may encourage further research aimed at improving long-term outcomes for unicompartmental knee arthroplasty patients.”

“Unicompartmental knee arthroplasty has become an increasingly viable option for many more patients, offering advantages over total knee arthroplasty, such as being less invasive and allowing for faster recovery. While further research is needed to address the higher conversion rates to TKA, advancements like robotic-assisted unicompartmental knee arthroplasty may help mitigate some of the long-term complications currently observed, improving outcomes for future patients.” — EH

## New Study: Nerve Stim Lowers Post Op TKA Pain ≥50%

Approximately 10% to 20% of total knee arthroplasty (TKA) patients have persistent postoperative pain. Data from a new multicenter, randomized, double-blind, placebo-controlled study trial concluded that percutaneous peripheral nerve stimulation can reduce average post-op TKA pain ≥50% and improve function.



The SPRINT PNS System / Courtesy of SPR Therapeutics

Their work, “[Randomized Placebo-Controlled Trial of 60-Day Percutaneous Peripheral Nerve Stimulation Treatment Indicates Relief of Persistent Postoperative Pain, and Improved Function After Knee Replacement](#),” appears in the July 2024 edition of *Neuromodulation*.

For the study, the 11 separate research teams randomized their post-op TKA patients to receive either active percutaneous peripheral nerve stimulation or placebo stimulation. Both patient groups received ultrasound-guided percutaneous placements of fine-wire coiled leads. The control group’s leads were “live” and the placebo group’s did not convey any electrical stimulation.

Both group's implants targeted femoral and sciatic nerves in each patient's most postoperatively painful leg; leads were left in for eight weeks.

Co-author Yashar Eshraghi, M.D., program director of the Pain Medicine Fellowship Training Program at Ochsner Health System in New Orleans, Louisiana, told *OTW*, "Orthopedic surgeons may not fully appreciate that percutaneous peripheral nerve stimulation offers a novel, nonopioid treatment for managing chronic postoperative pain, particularly following procedures like TKA."

"Unlike traditional approaches that rely heavily on opioids or more invasive interventions, peripheral nerve stimulation is a minimally invasive option that doesn't require long-term implants or destructive techniques like radiofrequency ablation or cryoneurolysis."

"Peripheral nerve stimulation works by engaging both peripheral and central mechanisms of pain relief, a significant departure from the more common modalities such as physical therapy or opioid therapy, which primarily target peripheral symptoms."

Dr. Eshraghi, who is also associate professor, University of Queensland - Ochsner Clinical School of Medicine and clinical assistant professor at the Louisiana State University School of Medicine, noted, "Previous small-scale trials and case series had indicated that peripheral nerve stimulation might be effective in the immediate postoperative period, especially for acute pain management. However, these studies lacked the robust evidence needed to confirm its effectiveness in chronic pain scenarios, where pain persists months or even years after surgery."

"This study sought to close that gap by conducting a double-blind, placebo-

controlled trial aimed specifically at patients with chronic postoperative pain following TKA."

"By focusing on patients with ongoing moderate-to-severe pain months after surgery, this research provides stronger evidence that the benefits of peripheral nerve stimulation extend beyond the acute recovery phase."

"The placebo control, rigorous blinding, and longitudinal follow-up helped differentiate the effects of active peripheral nerve stimulation from natural healing processes, offering a clearer picture of the true efficacy of the treatment for long-term pain management."

"The team found that a greater proportion of subjects in the peripheral nerve stimulation groups than in the placebo group responded with  $\geq 50\%$  pain relief from baseline by week 5-8, which was the study's primary endpoint."

Functionally, the research group reported that treated subjects walked a significantly greater distance at the end of the treatment period than did those in the placebo group.

### Potential Downsides

"While peripheral nerve stimulation is generally considered safe and well-tolerated, there are some potential downsides to consider," said Dr. Eshraghi to *OTW*. "The most commonly reported adverse events are mild to moderate and include skin irritation due to the bandaging used at the lead insertion sites, as well as occasional discomfort from wearing the external components of the device. These side effects are typically manageable and transient."

"A less frequent but notable downside is the risk of lead fractures dur-

ing removal. Although rare, when the fine-wire lead used in peripheral nerve stimulation fractures during extraction, it may leave behind a small fragment in the patient's body."

"Fortunately, these remnants are considered safe and do not pose long-term risks, including during future MRI scans, as they are MRI-conditional. Recent technological advancements, including the introduction of strengthened leads, have significantly reduced the occurrence of lead fractures, further improving the safety profile of peripheral nerve stimulation."

### An Option Too Often Overlooked

"This study provides a great option for patients besides continuing to watch and wait for years for patients to recover from their persistent post replacement knee pain," stated co-author David Dickerson, M.D., an assistant professor in the Department of Anesthesia and Critical Care, and director of the Acute Pain Service at The University of Chicago Pritzker School of Medicine in Illinois.

"Watching and waiting for persistent pain to resolve after 12 months post replacement doesn't commonly lead to further patient improvement. Hopefully, a study like this will raise awareness and generate practice changes that enable patients with persistent knee pain after replacement to be evaluated by pain medicine specialists in a timely fashion for definitive treatment."

"Beyond TKA, peripheral nerve stimulation can be applied to a range of other orthopedic procedures, including hip and shoulder arthroplasty, as well as other surgeries that often result in chronic postoperative pain," commented Dr. Eshraghi to *OTW*.

“The adaptability of peripheral nerve stimulation to target specific peripheral nerves related to various joints makes it a valuable and underutilized tool in orthopedic pain management. By not only alleviating pain but also enhancing functional recovery, peripheral nerve stimulation offers benefits that extend beyond mere analgesia, which could significantly impact patient outcomes across a wide spectrum of orthopedic surgeries.” — *EH*

**SPINE**

**Interim Data From Catamaran SI Fusion Study Released**

Los Gatos, California-based Tenon Medical, Inc. has released initial, interim data from its Catamaran SI Joint Fusion System® MAINSAIL™ study. The study is a single arm, ongoing prospective multicenter, post-market evaluation of the clinical and radiographic outcomes of adult patients with sacroiliac joint disruptions or degenerative sacroiliitis treated with the Catamaran SI Joint Fusion System.

The interim data is from 33 consecutive patients treated with the Catamaran SI Joint Fusion System in six U.S. clinical sites. The device is a titanium implant comprised of two pontoons, connected by an osteotome bridge, which is designed to transfix the SI joint along its longitudinal axis providing immediate fixation and stabilization of the joint, with the aim of achieving a successful long-term fusion.

The interim data contained evidence of fusion at 12 months, with 6 patients

reaching 12-month follow-up with CT radiographic imaging; 4 of the 6 patients showed unequivocal evidence of fusion with bridging bone.

The researchers said that 55% of procedures were completed in under 45 minutes, with the shortest procedural time recorded as 24 minutes. In addition 50% of the Catamaran procedures required < 1 minute of fluoroscopy time and all procedures were performed in an outpatient setting.

The research team reported statistically significant reduction in sacroiliac joint pain and disability scores at six months, with no serious adverse events, no reoperations, and no reinterventions reported. There were no vascular or nerve injuries associated with the inferior-posterior surgical approach used to deliver the Catamaran implant. High patient satisfaction was reported throughout all timepoints, with 93.3% of patients reporting high satisfaction with their treatment at six months.

Tenon Medical President and CEO Steve M. Foster told *OTW*, “Tenon Medical launched the Catamaran SI Joint Fusion System in early 2023. Since that time, we’ve been enrolling in a post-market, prospective, multicenter trial designed to assess this system/approach.”

According to Foster, the system was designed according to AO principles of arthrodesis, specifically:

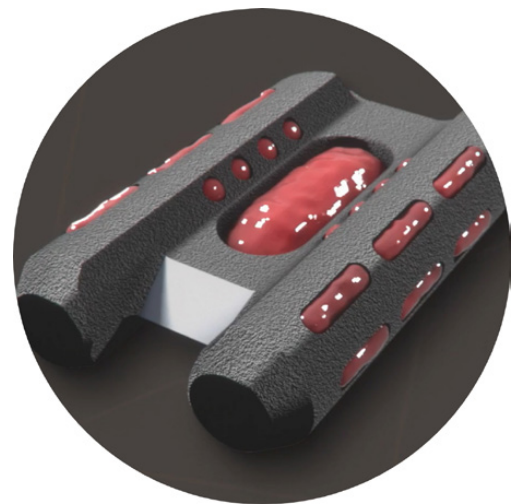
1. adequate joint preparation,
2. rigid fixation and stabilization, and
3. adequate bone graft augmentation.

According to the company, the Catamaran can be implanted using a minimally invasive inferior-posterior approach. It is meant to be placed within the dense cortical bone of the sacrum and ilium, to transfix and stabilize the SI joint.

The primary indication for use is for treatment of SI Joint dysfunction. To date, there have been 700 Catamaran fixation devices implanted to treat primary SI Joint dysfunction and sacroiliitis, as well as to revise previously treated SI joints with failed alternative SI joint implants.

Foster also told *OTW* that the surgical approach is inferior/posterior—similar to how physicians treat SI Joint pain therapeutically and/or diagnostically with injections. The imaging process is similar. Foster also pointed out that the recommended approach trajectory for Catamaran is away from neural and vascular structures and, thereby, allows for a safer joint prep/defect creation, fixation and grafting.

For more information: <https://tenonmed.com/catamaran/> — *EH*



Catamaran SI Joint Fusion System® MAINSAIL™ / Courtesy of Tenon Medical, Inc.

## Poor Pain Management Has a LONG TERM Effect

New work from the University of Calgary, has found evidence from a 1,294 patient study that poor postoperative pain control is an independent risk factor for longer term (two years or more) sub-optimal surgical outcomes.

The study, "[Poor postoperative pain control is associated with poor long-term patient-reported outcomes after elective spine surgery: an observational cohort study](#)," was published in the September 2024 edition of *The Spine Journal*.

"We have been looking for better post spine surgery pain management for many years," said co-author Michael M.H. Yang, M.D., M.Sc., M. Biotech, Department of Clinical Neurosciences, University of Calgary, to *OTW*.

"We know that a large proportion of patients have poorly controlled pain after spinal surgery (around 57%). In fact, spinal surgery is the second most painful operation a person can receive. Unfortunately, helping patients achieve better pain control after spinal surgery is not one of the top priorities among spine surgeons."

"Many spine surgeons feel patients having pain after surgery is normal. As such properly managing patients' postoperative pain is often an afterthought (e.g., pain is managed reactively instead of proactively). However, spine surgeons are very interested in whether their patients

experience an improvement in their quality of life after surgery."

"In this study," says Dr. Yang, "we found that patients having poorly controlled pain after spinal surgery (pain scale of >4/10) in the first 24-hours was significantly associated with patients not having meaningful clinical improvement in their quality up to two years after surgery."

"To our knowledge, this is the first time an association between poor postoperative pain control and poor surgical outcome at long-term follow up has been made. We hope this association between poor pain control and poor long term surgical outcomes provides an impetus for surgeons to think more actively about better managing postoperative pain, since poor pain control can lead to poor surgical outcomes for their patients in the future."

The Calgary Postoperative Pain After Spine Surgery score was found to be independently predictive of poor surgical outcome.

*OTW* asked Dr. Yang why, in his opinion, the subject had not been adequately explored before and he said, "This is tough to answer, but one guess is that it is can be hard to imagine that an event that happened within the first 24 hours after surgery (poor postoperative pain control) can have an impact on outcomes two years after surgery."

"In our study, we adjusted for factors that are known to affect long term patient reported outcome measures, so we are quite certain that poor pain control after spine surgery is an independent risk factor for poorer outcomes at long term follow-up. The mechanism of this association is yet to be elucidated."



Source: Shutterstock

Of 1,294 patients who were treated with inpatient elective cervical or thoracolumbar spine surgery, the incidence of poor pain control was 56.9%.

Multivariable analyses showed poor pain control after spine surgery was independently associated with failure to achieve the minimal clinically important difference after adjusting for age, female sex, nicotine products, American Society of Anesthesiologists physical status >2, ≥3 motion segment surgery, revision surgery, follow-up time, and thoracolumbar surgery compared to cervical surgery.

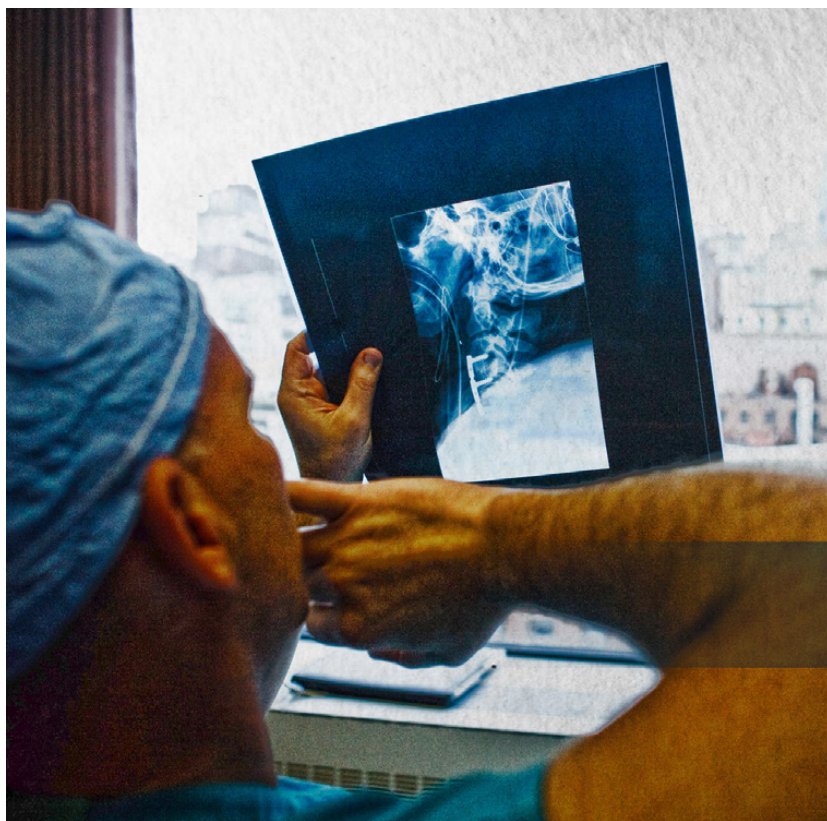
When OTW asked how he might lead an effort to improve postopera-

tive pain control, Dr. Yang noted, “I think taking a personalized approach to pain management is key. We previously developed and validated the Calgary Poor Postoperative Pain After Spine Surgery score that is able to accurately predict which patients are going to develop poor pain control after spinal surgery.”

“We also developed a web-based [risk](#) calculator where clinicians and patients can input their risk factors and the software will generate a probability of this patient developing poor pain control after surgery. This score can risk stratify patients to extreme-risk, high-risk, and low-risk.”

“The ability to risk stratify patients creates an opportunity to develop anticipatory therapies and personalized clinical care pathways.”

“For example, patients identified as extreme-risk may be better candidates for resource-intensive therapies such as preoperative opioid deprescribing programs and involvement of acute pain services teams. On the other hand, less resource-intensive therapies may be appropriate for patients identified as high risk (e.g., preemptive analgesia and intrathecal morphine injections). At the minimum, all spine surgery patients should be receiving multimodal analgesia therapy in the postoperative period.” — EH



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