

Spine Feature



Image created by RRY Publications, LLC

THE TEN BEST NEW SPINE TECHNOLOGIES OF 2012

Robin Young • Tue, November 6th, 2012

[Print this article](#)

The winners of the 2012 *Orthopedics This Week* Best Technology Award for Spine are Biomet, Inc., ISTO Technologies, Inc., Medtronic Spine and Biologics, Mighty Oak Medical, NuVasive, Inc., Safewire, LLC, Society for Minimally Invasive Surgery (SMISS) and TransCorp Spine.

A record number of companies submitted their new technologies for review. Not only were the odds of winning longer this year, but our esteemed panel of judges was particularly picky. High scores were few and far between. Still, a few new technologies did catch these discriminating surgeons' attention. And were there any patterns? Yes:

1. **Size doesn't matter.** Both Medtronic, the largest firm in spine, and Mighty Oak Medical, possibly the smallest firm in spine, were winners.
2. **Biomet, Biomet, Biomet.** For the first time ever, one company won three awards. And it was Biomet. It is very difficult to win even one award. Three is off the charts. Apparently Biomet launched a new product development program three or four years ago. Whoever got this going deserves a raise and a promotion.
3. **Biologics rule.** Two thirds of the biologics submissions won.

The *Orthopedics This Week* Spine Technology Award is meant to reward inventors, engineering teams and surgeons who create the most innovative, enduring and practical products to treat back pain or instability. To win the *Orthopedics This Week* Best New Technology Award for spine care, a new technology must meet the following criteria:

- Be creative and innovative.
- Have long term significance to the problem of treating the diseases of the spine. Does this technology have staying power?
- Solve a clinical problem. To what extent does this technology solve a current clinical problem or problem that is inadequately solved today?
- Does it have the potential to improve standard of care?
- Is it cost effective?
- I would use it.

Our panel of surgeons scored every submission on a scale of 1 to 5 (5 being the highest score) for each of the above criteria.

THANK YOU to all of the engineering teams, surgeon inventors and the companies for submitting their best ideas this year.

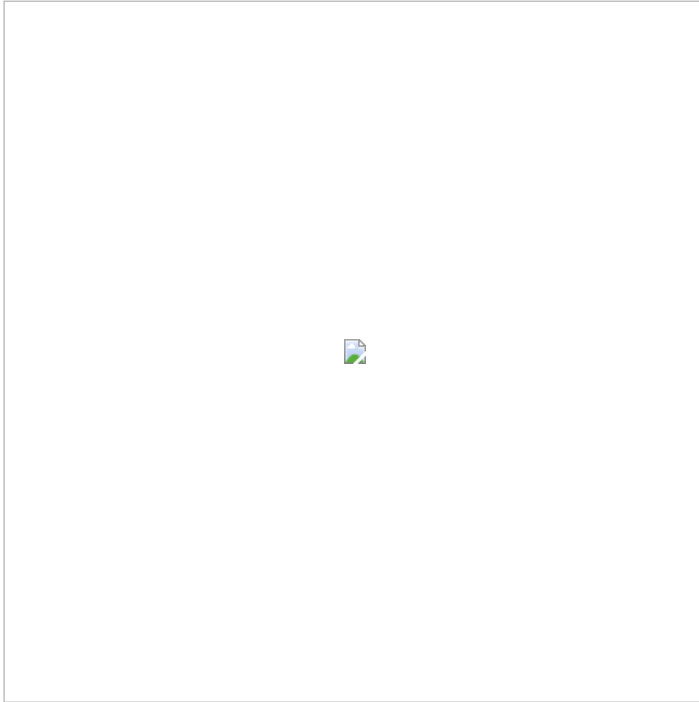
Our intrepid panel of surgeon judges was:

- **Dr. Thomas Zdeblick:** Dr. Zdeblick is the chair of the Department of Orthopedics and Rehabilitation and a member of the faculty at the University of Wisconsin School of Medicine and Public Health.

- **Dr. Daniel Riew:** Dr. Riew is the Mildred B. Simon Professor of Orthopedic Surgery, professor of neurological surgery and Chief of the Surgical Spine Center and Director of the Cervical Spine Institute at the Washington University School of Medicine.
- **Dr. Pierce Nunley:** Dr. Nunley is a board certified spine surgeon and director of the Spine Institute of Louisiana. He is also assistant professor in the Department of Orthopedic Surgery at Louisiana State University and is an executive member of numerous surgeon society advisory boards.
- **Dr. Alan Hillibrand:** Dr. Hillibrand is professor of orthopaedic surgery and neurosurgery as well as the Director of Medical Education for the Department of Orthopaedic Surgery at the Rothman Institute and Jefferson Medical College.
- **Dr. Chris Bono:** Dr. Bono is an orthopedic and spine surgeon and chief of spine service at Brigham and Women's Hospital in Boston. He's also an assistant professor of orthopedic surgery at the Harvard Medical School and co-director of the Massachusetts General Hospital-Brigham and Women's Hospital Spine Fellowship.

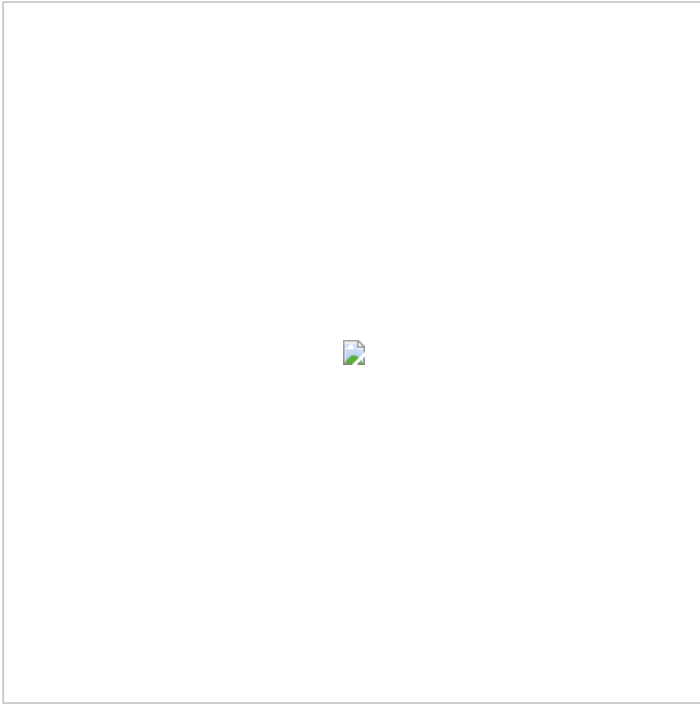
So, without further delay, here are the ten best new spine technologies for 2012 arranged in alphabetical order:

Bendini® System – NuVasive, Inc.



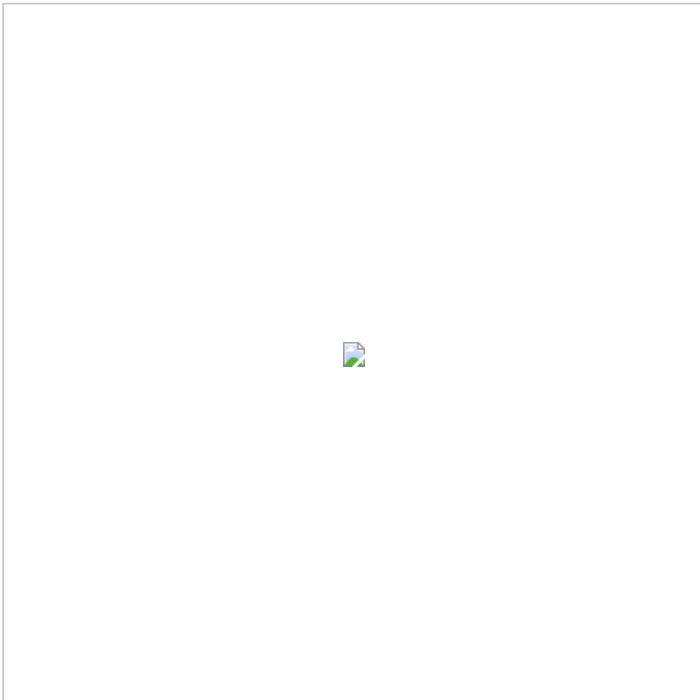
From left to right: Sean Parker, Director of Marketing, NuVasive, Inc.; Robert Isaacs, MD, Duke University Hospitals; Robin Young; Shannon White, Senior Product Manager; Thomas Scholl, Engineering Manager. NuVasive's Bendini system is a rod bending system which employs an NDI IR optical technology with specifically designed software to register screw tulips in 6 dimensions, precisely, via IR camera and a proprietary stylus that uses IR reflective spheres. The computer calculates bend angles between each screw head, accounting for rod diameter, material type, and smoothness of the bends throughout the curvature of the rod. Each bend's coordinates are displayed on the computer screen with a distance component, rod rotation component, and a bend angle component. The system reduces the time it takes to bend a rod and is especially well suited for longer fixation constructs. Think less OR time, less anesthesia time and less OR costs. Plus you can percutaneously place significantly longer constructs—procedures that would be nearly impossible any other way. NuVasive is located at 7475 Lusk Blvd, San Diego, CA 92121. Phone: 858-909-1879

DeReduction® System – Biomet Spine



From left to right: Rui Ferreira, Senior Director, Spine Development; Robin Young; Gary Thomas, Vice President R&D; Adam Johnson, President Biomet Spine & Bone Healing Technologies; Christian Barrett, Director of Market Development DeRoduction® Instrumentation allows derotation of the vertebral bodies by attaching directly to reduction instruments without first requiring any rods to be captured within the spinal implants. It facilitates the application of rotational forces to the vertebral body and accommodates derotation utilizing either segmental or en bloc methods. With DeRoduction rods can be secured before or after derotation. Other existing technologies require rod reduction, then derotation capabilities. By contrast this system efficiently combines independent rod reduction and vertebral body derotation while decoupling the sequence. Fewer surgical steps, shorter total intraoperative time. Biomet Spine is located at 100 Interpace Parkway, Parsipanny, NJ 07054. Phone: 973-299-9300 ext. 2312.

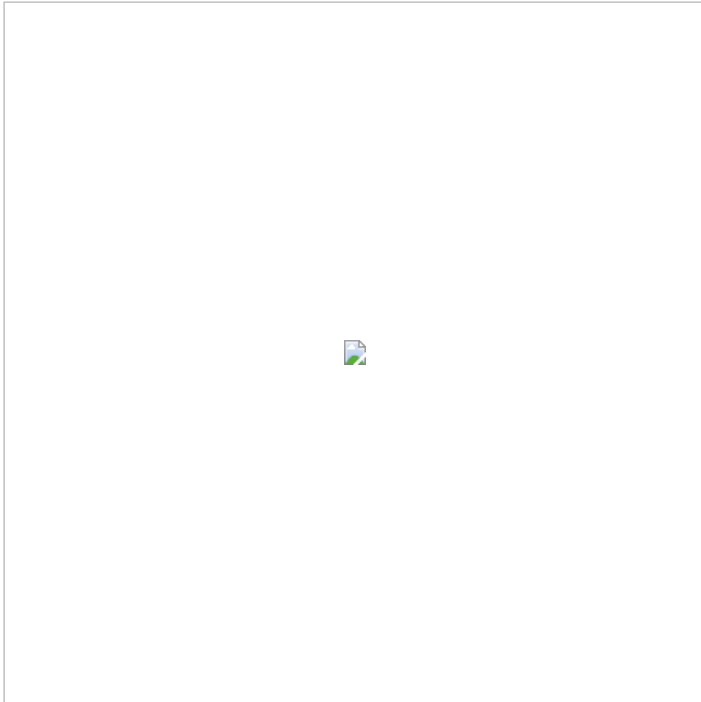
FIREFLY™ — Mighty Oak Medical, Inc.



From left to right: Heidi Frey, President; George Frey, MD; Robin Young FIREFLY Technology is a series of patient matched pedicle screw trajectory guides that help create pilot and tapped holes specific to a particular patient's vertebrae. Using FIREFLY, surgeons submit each patient's image data in the form of an MRI, CT or X-ray to the system. Software then converts the patient's imaging data into a three-dimensional computer model of the spinal vertebrae that are to be instrumented with pedicle screws. The models are created by FIREFLY through a process of segmentation and surface enhancements. Once the boney models are complete, FIREFLY designs a number of guides (one for each vertebral level to be instrumented). These trajectory guides conform to each patient's vertebrae at defined pre-determined contact points and are aligned based on the patient's pedicle axis which is

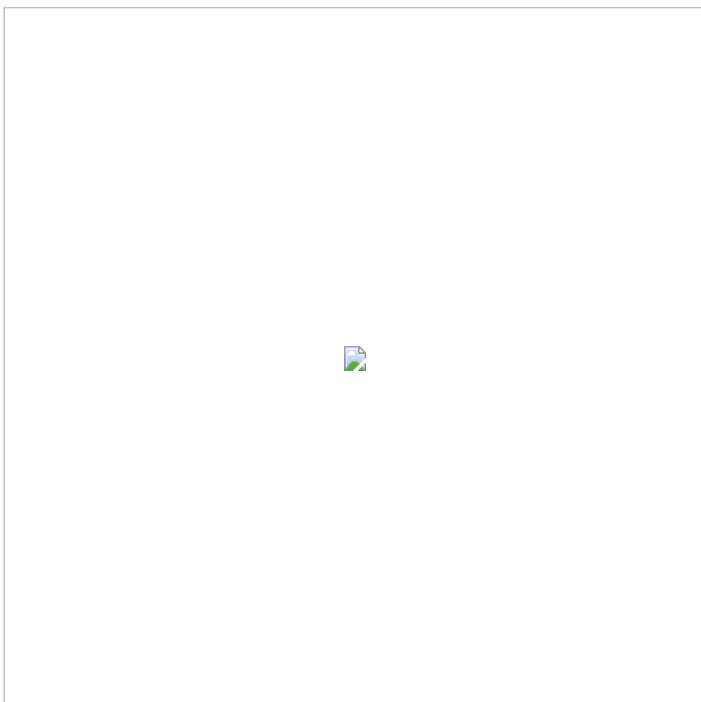
defined and chosen by the particular surgeon. Mighty Oak Medical is located at 777 E. Girard Avenue, Suite 150, Englewood, CO 80113. Phone: 720-398-9703.

Indux™ Cortical Strip – Biomet Spine



From left to right: Sean Stevenson, Field Marketing Manager, Biologics; Chas Sanders, Field Marketing Manager, Biologics; Hallie Murray, Manager, R&D Biologics and Electrical Stimulation; Jennifer Grasso, Senior Director of Marketing; Robin Young; Melissa Lehm, Associate Product Manager, Biologics and Cervical Spine The Indux™ Cortical Strip is a robust, single-piece cortical strip with a unique cross-hatch pattern that maintains structure, flexibility and increased surface area. The 100% cortical graft is demineralized which exposes inherent osteoinductive proteins and growth factors over the increased surface area. Indux's channels and thru-holes allow for vascularization and osteointegration. Traditionally, posterolateral lumbar fusions have been difficult procedures for which to select grafts. The Indux Cortical Strip can span transverse process to transverse process. It comes freeze-dried and must be rehydrated prior to use. When rehydrated, it conforms to patient anatomy. The Indux Cortical Strip is the only demineralized cortical strip available in the marketplace. Biomet Spine is located at 100 Interpace Parkway, Parsippany, NJ 07054. Phone: 973-299-9300 ext. 2312.

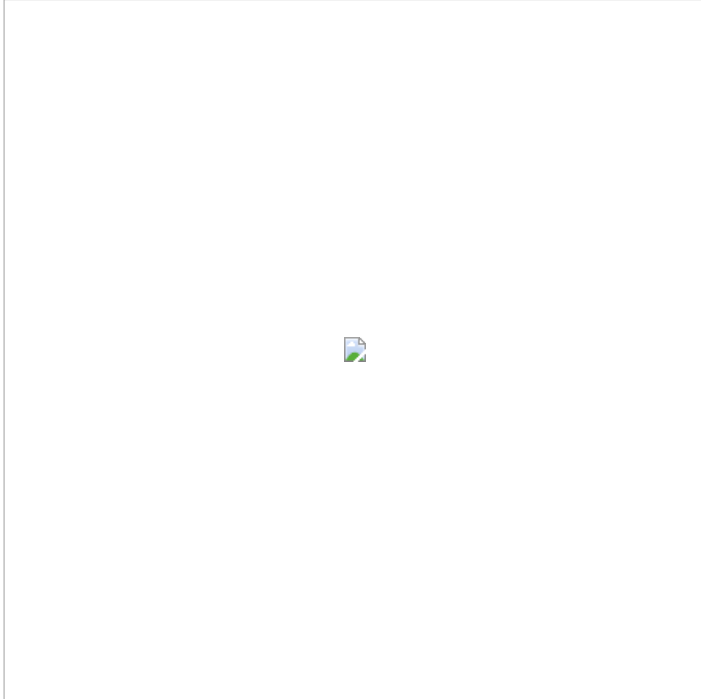
MAST® MIDLF™ Procedure—Medtronic, Inc., Spinal Business Unit



From left to right: Aaron Sullivan, Product Manager, Medtronic Spinal; Jonathan Blackwell, Director Product Development, Medtronic Spinal; Tommy Vollmar, Director Marketing, Medtronic Spinal; Dr. Stephen Rittland; Dr. Richard Hynes; Chris Landon, Sr. Director Marketing, Medtronic Spinal The MAST® MIDLF™ Procedure is a gateway procedure for surgeons who are ready to bring MIS (minimally invasive surgery) into their practice. MIDLF

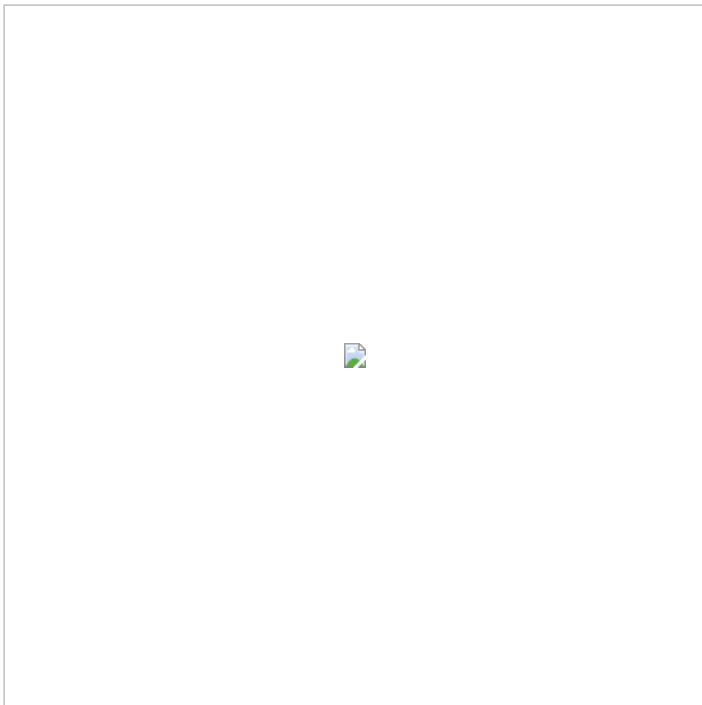
stands for Midline Lumbar Fusion. It is a midline anatomic approach to lumbar decompression and fusion. MAST's unique instrumentation provides direct visualization of the anatomy and does not require fluoroscopic imaging. This approach starts with the very familiar laminectomy spine incision. But medializing screw placement shifts screw entry to a point along the pars interarticularis or joint surface places the construct medial and deep to the segmental back muscles. Basically, the surgeon uses the MIDLF retractors to engage segmental back muscles and thereby open up exposure over the lamina and articular processes. The MAST approach results in less muscle trauma, less blood loss, better rod placement, faster closure time and less exposure time. With MAST MIDLF, surgeons no longer fight with soft tissue. Medtronic Spine is located at 1800 Pyramid Place, Memphis, TN 38132. Phone: 901-396-3133.

NuQu® – ISTO Technologies, Inc.



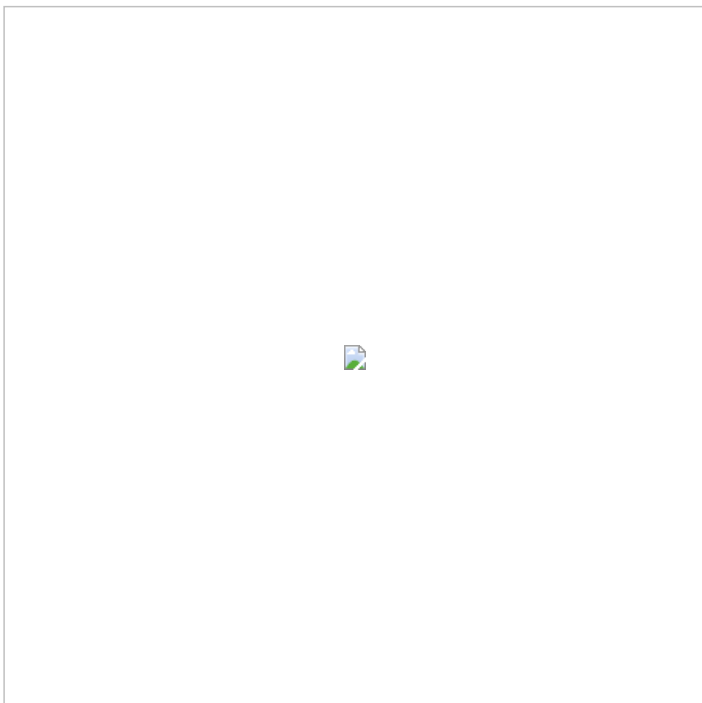
From left to right: H. Davis Adkisson, IV, PhD; Robin Young; Mitchell Seyedin, PhD, President and CEO; and Michaela Purcell, Manager NuQu Clinical Program. NuQu® is a minimally invasive, single administration, allogeneic cellular treatment for degenerative lumbar discs. NuQu consists of juvenile, human cadaveric, articular chondrocytes. The fully characterized chondrocyte cells are cryopreserved and then, after thawing in surgery, combined with commercial fibrin and administered percutaneously into the intervertebral nucleus under 2D fluoroscopic guidance. NuQu's chondrocytes originate from the same precursor cells as disc nucleus, annulus and endplate. Furthermore, juvenile cells are capable of producing regenerative cartilaginous tissue. Further, NuQu chondrocytes do not induce an immune response from host cells and are uniquely equipped with transcription factors to regulate both aggrecan and type II collagen gene expression in the avascular and low oxygen environments. NuQu is not yet FDA cleared for sale in the U.S.. ISTO is located at 1155 Olivette, St. Louis, MO 63132. Phone: 314-995-6049.

SMISS Core Curriculum – Society for Minimally Invasive Spine Surgery



From left to right: Bill Taylor, MD, Robin Young, Amy Johnson, CEO; Ethan Ash, VP Business Development
The SMISS Core Curriculum is a free web-based interactive video lecture series to help surgeons develop a fundamental understanding of minimally invasive spine surgery. The program includes an introduction to the fundamentals of minimally invasive spine surgery as well as five custom technique tracks including Minimally Invasive Lumbar Microdiscectomy, MIS Pedicle Screw Instrumentation, MIS TLIF, MIS Lateral, and Pre-Sacral Approach for Discectomy and Interbody Fusion. Each track lecture includes detailed information on patient selection; operative pre-planning; OR setup; intra-operative imaging and monitoring; detailed procedural steps to decompression, fusion and fixation; and case and literature discussions. The program allows physicians to enroll for free, participate in lectures, and monitor their own progress toward completion of five SMISS Core Curriculum tracks. SMISS is located at 8880 Rio San Diego Drive, Suite 260, San Diego, CA 92108 Phone: 619-265-5222.

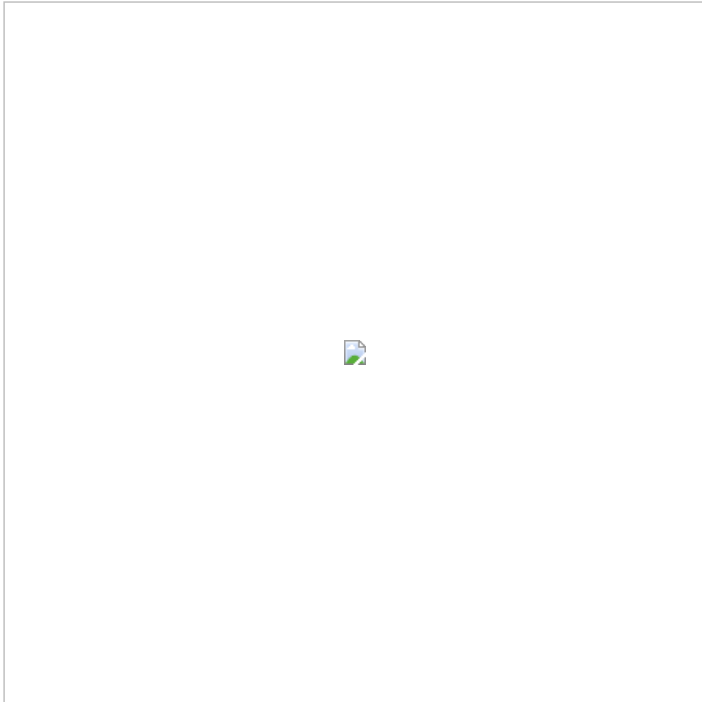
SpinePort™ MIS Access System – TransCorp Spine



Front row: Robin Young; Chris Welch, President and CEO; Christine Moley, VP Marketing. Back row: Des O'Farrell, CTO; Scot Tuinstra, Co-Founder and PA; Charles Warne, Sales Director
The SpinePort™ System provides anterior approach access to, and decompression of, cervical spinal elements in a minimally invasive manner by using the SpinePort guide system to create a 6mm channel along a precisely controlled trajectory within and across a single vertebral body from the anterior to the posterior surface of that body, without violating endplates or the disc and thereby retaining all natural motion within the spine and minimizing disruption of natural anatomy overall. SpinePort automatically harvests 100% of the autograft tissue from the channel for re-implantation after decompression. It is compatible with all surgical instruments and techniques, making training and use easy for

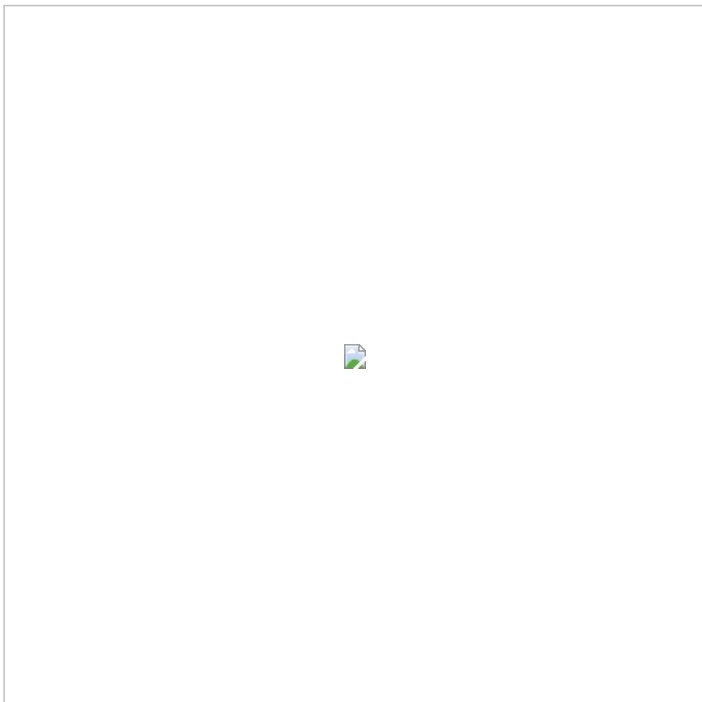
all surgeons. SpinePort facilitates surgical access to medial and lateral pathologies, removal of herniated disc material and osteophytes and a lateral foraminotomies. SpinePort is located at 1000 100th Street, Suite F, Bryon Center, MI 49315. Phone: 616-855-5375.

Translation™ Screw – Biomet Spine



From left to right: Rui Ferreira, Senior Director Spine Development; Robin Young; Gretchen Dougherty-Shah, Senior Development Manager, Cervical; Mike Consilvio, Product Director, Cervical and Biologics; Michael Reilly, Senior Product Manager, Cervical. Biomet's Translation™ Screw allows the screw head to translate up to 3mm medial/lateral (1.5mm in each direction) relative to the screw shaft. Not only does the screw head translate 3mm in the medial/lateral direction, the Translation Screw shaft also offers 10 degrees of angulation in the non-preferred angle, 40 degrees of angulation in the preferred angle, and 36 degrees of medial/lateral angulation. Three screw innovations have changed spine surgery. The fixed head screw in the 1980s, the multi-axial screw in the 1990s and, now, Biomet's 3mm medial/lateral screw head translation as well as screw shaft angulation of the Translation Screw is the next game changing screw technology. Biomet Spine is located at 100 Interpace Parkway, Parsippany, NJ 07054 Phone: 973-299-9300 ext. 2312

Y-Wire – Safewire, LLC



From left to right: Robin Young, Carlos Rodriquez, President, Wyatt Geist, CEO. Y-Wire is a bifurcating guidewire made of Nitinol. It replaces traditional guidewires for implanting percutaneous pedicle screws. Y-Wire greatly resists accidental guidewire migration while placing instruments and implants. It is designed to specifically address the need for guidewire management while placing MIS pedicle screws. No more inadvertent anterior or posterior

migration. Said one Y-Wire user; "Y-Wire has enhanced my ability to perform MIS procedures with canulated pedicle screws. I have seen a 50% reduction in fluoroscopy since switching from a standard guidewire. I have implanted approximately 750 screws while utilizing Y-Wire without any breaching of the anterior cortex." Safewire is located at 8963 Stirling Road, Suite 7, Cooper City, Florida 33328 Phone: 800-286-9155.

[Comments \(0\)](#) | [Share](#)

Leave a Reply

Name

Email Address (will not be published)

Website

Comment: