Volume 27, Number 01

SCOPE THIS OUT

A Technical Pearls Newsletter for Orthopedists

Arthrex Elbow Fracture Portfolio

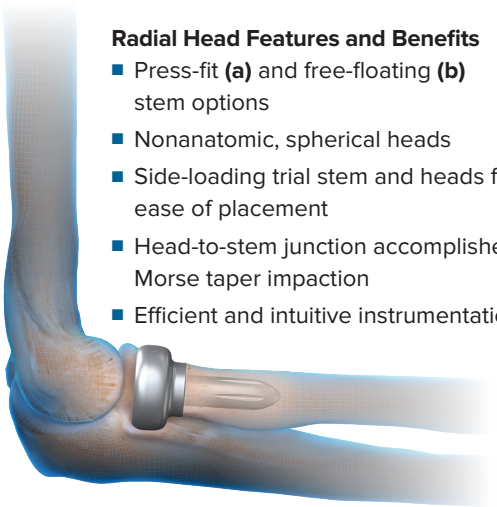
Following the 2025 launch of the Arthrex Elbow Plating System, the upcoming addition of radial head arthroplasty* will complete the elbow fracture portfolio. This portfolio integrates rigid bony stabilization with soft-tissue anchors, FiberTape® cerclage, and biologic solutions to support fixation, stability, and healing throughout the elbow fracture treatment continuum.

Elbow Fracture Features and Benefits

- 180° and 90°-90° distal humerus plating constructs
- Anatomic and low-profile design
- KreuLock™ screw technology for the elbow
- All plate screw holes accommodate 2.7 mm or 3.5 mm shaft hybrid screws
- Removable screw tabs allow for extra fixation

Radial Head Features and Benefits

- Press-fit **(a)** and free-floating **(b)** stem options
- Nonanatomic, spherical heads
- Side-loading trial stem and heads for ease of placement
- Head-to-stem junction accomplished by Morse taper impaction
- Efficient and intuitive instrumentation



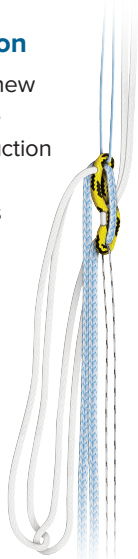
Grit-Blasted Press-Fit Radial Head (a)

Free-Floating Radial Head (b)

*Pending FDA clearance

Make Metal a Memory in ACL and PCL Fixation

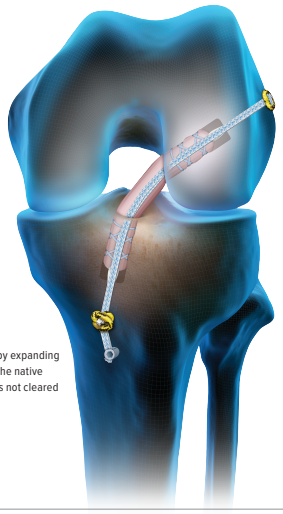
Combining strength[1] and suture-based innovation, the new TightRope® SB implant is the first radiopaque, all-suture suspensory fixation implant designed for ACL reconstruction (ACLR). Building on the clinical success of the original TightRope technology, the TightRope SB implant allows precise tensioning without the need for hard implants.



Key Features and Benefits

- Eliminates metal and PEEK and their associated complications from ACLR[2]
- Soft button can be unflipped and redeployed as needed[2]
- Radiopaque design allows for fluoroscopic confirmation of button deployment[2]
- Available with preloaded standard or radiopaque FiberTape® suture for the *Internal*Brace™ technique, which has been proven in peer-reviewed studies to support lower retear rates,[3-6] improved patient-reported outcomes,[7] and a faster and higher rate of return to sport[7]

The TightRope SB implant is compatible with all drilling techniques and graft types, including quad, BTB, hamstring and allograft, and is also available for ACL repair.



References

1. Arthrex, Inc. Data on file (APT-07399). Naples, FL; 2025.
2. Richman, EH, Hop JC, McGinley, BM. *Arthrosc. Tech.* Published online October 31, 2025.
3. Daniel AV, et al. *Orthop J Sports Med.*2023;11(7):23259671231178026.
4. Wilson WT, et al. *Am J Sports Med.* 2023;51(14):3658-3664.
5. Mackenzie C, et al. *Arthroscopy.* 2022;38(6):2073-2089.
6. Smith PA, et al. *Orthop J Sports Med.* 2024;12(4):23259671241239275.
7. Lu W, et al. *J Clin Med.* 2023;12(5):1999.

The *Internal*Brace surgical technique is intended only to augment the primary repair/reconstruction by expanding the area of tissue approximation during the healing period and is not intended as a replacement for the native ligament. The *Internal*Brace technique is for use during soft tissue-to-bone fixation procedures and is not cleared for bone-to-bone fixation.

Shoulder Arthroplasty

CeMend™ Premade Shoulder Spacers

Introducing CeMend premade shoulder spacers, designed for intraoperative convenience and time savings. These preformed shoulder spacers are delivered off-the-shelf and ready to use, eliminating the need for back-table fabrication and reducing OR delays. Available in 4 standardized sizes, they provide an accurate fit and predictable outcomes. Paired with a dedicated reamer tray, the system ensures a streamlined workflow.

Additionally, for complex 2-stage revision cases, CeMend shoulder spacer **molds** combined with Arthrex Bone Cement MV+G allow for complete customization, including creating a mono block spacer with antibiotic dilution.

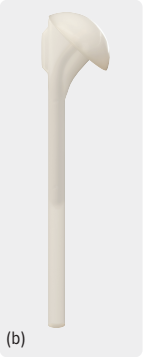
Table 1. Premade Spacers and Instruments

Part Number	Product Description
AR-902-0842	CeMend shoulder spacer, 8-42 mm **(a)**
AR-902-1042	CeMend shoulder spacer, 10-42 mm **(b)**
AR-902-1048	CeMend shoulder spacer, 10-48 mm **(c)**
AR-902-1248	CeMend shoulder spacer, 12-48 mm **(d)**
AR-902-SR	CeMend shoulder spacer reamer set
AR-902-13	Reamer T-handle
AR-902-14	CeMend reamer, 8 mm
AR-902-15	CeMend reamer, 10 mm
AR-902-16	CeMend reamer, 12 mm
AR-902-17	CeMend reamer, 14 mm
AR-902-20	CeMend shoulder spacer trial, 8-42 mm
AR-902-21	CeMend shoulder spacer trial, 10-42 mm
AR-902-22	CeMend shoulder spacer trial, 10-48 mm
AR-902-23	CeMend shoulder spacer trial, 12-48 mm

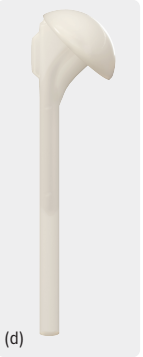
Table 2. Spacer Molds

AR-902-XXXXX	Stem (mm)	Head (mm)	Length (mm)
AR-902-0842M	8	42	90
AR-902-1042M	10	42	130
AR-902-1048M	10	48	90
AR-902-1242M	12	42	90-170
AR-902-1248M	12	48	130
AR-902-1448M	14	48	90-170


(a)


(b)


(c)


(d)

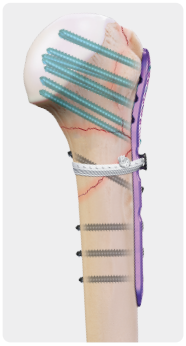
Introducing the Arthrex Proximal Humerus Lateral Plating System

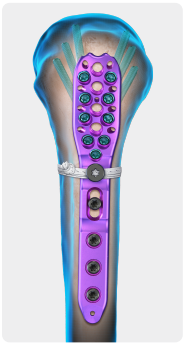
Arthrex is proud to announce the launch of its Proximal Humerus Lateral Plating System, designed to deliver versatile fixation options for complex proximal humerus fractures. This innovative system reflects our commitment to advancing orthopedic solutions that prioritize surgeon flexibility, patient outcomes, and procedural efficiency.

- **Versatile Fixation for Complex Fractures**
  Treat a wide range of proximal fracture patterns and patient anatomies with 13 variable-angle locking screws and 7 plate lengths from 90.5-309 mm.
- **KreuLock™ Compatibility**
  Integrates proven KreuLock technology into the proximal humerus and offers a comprehensive screw portfolio with locking and nonlocking options for secure fixation and adaptability during surgery.
- **FiberTape® Cerclage Button Integration**
  Threads directly into the distal portion of the plate, allowing up to 2 FiberTape passes for added control and flexibility. This new capability transforms challenging procedures into more efficient, reproducible, and surgeon-friendly experiences.
- **Streamlined Instrumentation**
  Designed to simplify the surgical workflow, reduce OR time, and enhance procedural confidence.

Proximal humerus fractures present unique challenges, particularly in osteopenic bone. The Arthrex Lateral Plating System addresses these challenges with precision-engineered plates that offer stability without compromising mobility, helping patients return to function faster.

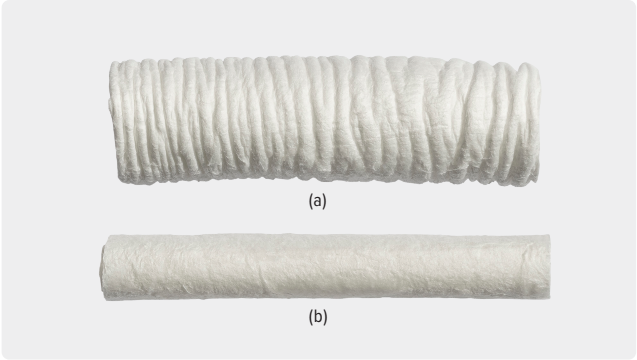
This launch underscores Arthrex dedication to innovation in trauma care, providing surgeons with tools that combine clinical versatility and biomechanical strength. With this system, Arthrex continues to set the standard for patient-focused solutions in upper extremity fracture management.





Upper Extremities

Arthrex Nerve Conduit and Arthrex Nerve Wrap

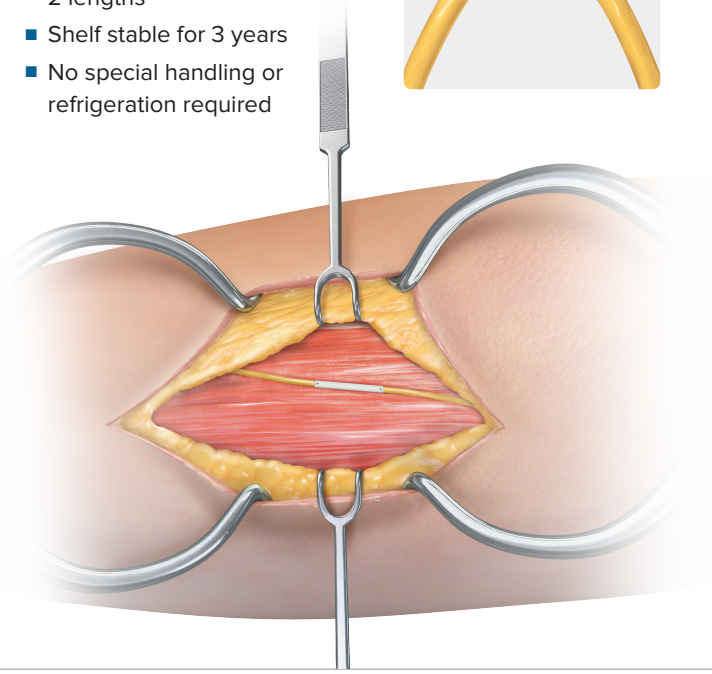


Arthrex now offers nerve conduit **(a)** and nerve wrap **(b)** for the treatment of peripheral nerve injuries, expanding our comprehensive soft-tissue portfolio. Both nerve products are made of type I bovine collagen, are completely resorbable in 8 months, and are semipermeable.

Arthrex Nerve Conduit **(a)** is flexible and kink-resistant, making it ideal for transected nerves with a gap under 1.5 cm. Arthrex Nerve Wrap **(b)** possesses self-curling properties and overlaps itself for protection of compressed or crushed nerves.

Product Features

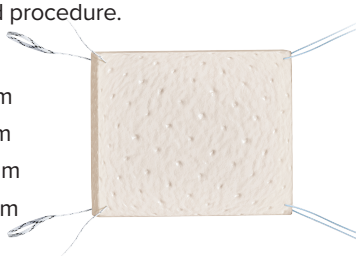
- Type I bovine collagen
- Biocompatible and semipermeable
- Arthrex Nerve Conduit: 6 diameters, 1 length
- Arthrex Nerve Wrap: 3 expandable diameters, 2 lengths
- Shelf stable for 3 years
- No special handling or refrigeration required



CuffMend™ Efficiency Improvements: SpeedFLEX™ Implant and CuffMend System Kits

To make the CuffMend rotator cuff augmentation technique faster and simpler, two new solutions are now available.

The SpeedFLEX implant leverages the benefits of ArthroFlex® technology with added convenience for a streamlined procedure. Preloaded with 4 sutures, the new SpeedFLEX implant is ready to use in a CuffMend procedure.



Available in 4 sizes:

- ABS-4402: 20 mm × 25 mm × 1 mm
- ABS-4403: 25 mm × 30 mm × 1 mm
- ABS-2202: 20 mm × 25 mm × 2 mm
- ABS-2203: 25 mm × 30 mm × 2 mm

Additionally, two new kits provide all the instrumentation and implants needed for CuffMend augmentation:

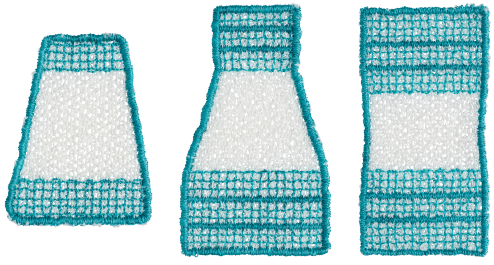
- AR-19042: Includes Autograft Tissue Compression System plates and sutures for biceps autograft preparation
- AR-19043: Designed for use with the SpeedFLEX implant

Both kits contain two FiberStitch® RC (curved) anchors and two 3.5 Self-Punching PushLock® anchors, as well as a graft spreader, MegaLoader, tensioner/cutter, and portal skid.

ArthroFlex is a registered trademark of LifeNet Health.

SuturePatch Tissue Reinforcement

The SuturePatch tissue reinforcement implant is an all-polyester, embroidered patch designed for versatile tendon reinforcement. SuturePatch is ideal for applications such as superior capsular reconstruction, subscapularis repair, and augmentation of the quadriceps tendon, patellar tendon, Achilles tendon, pectoralis major, triceps, or latissimus dorsi. Available in 3 sizes, SuturePatch can be trimmed along stitched cutting lines for easy customization.



Foot & Ankle and Trauma

The Next Generation of Ankle Fracture Treatment: FibuLock® PRO Fibular Nail and Syndesmosis TightRope® PRO

The FibuLock PRO* builds on the proven clinical success of the FibuLock nail[1] with enhanced functionality and easier implantation:

- Modular targeting arm for streamlined technique and intraoperative flexibility
- Three syndesmotic fixation options for TightRope stabilization or supplemental proximal fixation
- Proximal talons deploy up to 12% wider for secure fixation[2]
- Integrated pull-to-length technique for obtaining and maintaining fracture reduction

The TightRope PRO system leverages 20+ years of innovation with game-changing instrumentation and lower-profile implants:

- Lower-profile medial and lateral buttons reduce prominence and implant material
- Integrated tensioning handles simplify surgical steps and improve suture management
- Smaller 3.2 mm drill reduces bone tunnel size by 25%

Built on the trusted legacy of previous-generation implants, the new FibuLock PRO and TightRope PRO are redefining ankle fracture surgery.

*Pending FDA clearance

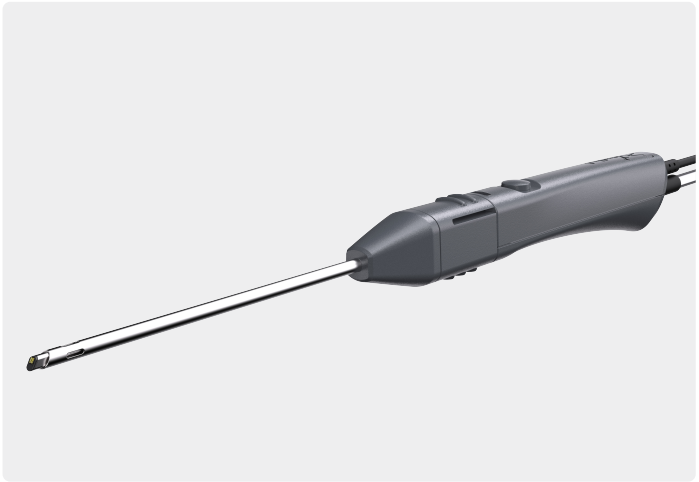
Reference

1. Arthrex, Inc. DOC1-000974-en-US_B. Naples, FL; 2022.
2. Arthrex, Inc. Data on file (APT-06396). Naples, FL; 2024.

Imaging and Resection

NanoNeedle™ Scope HD30: Breaking the Limits of Tradition

Step into the next era of arthroscopy with the NanoNeedle scope HD30.* Designed for ultra-minimally invasive procedures, the NanoNeedle scope HD30 delivers breathtaking visual clarity powered by advanced chip-on-a-wire technology. Its true 30° angled view remains horizontal throughout a full 360° rotation, giving surgeons unmatched visualization from every angle. Illumination and irrigation lines exit through the rear of the handle, eliminating side cables and freeing your surgical field for effortless maneuverability. Lightweight and ergonomically engineered, the NanoNeedle scope HD30 integrates image capture controls and on-demand horizon reorientation for uninterrupted focus and control. Experience precision, comfort, and control—redefined. The NanoNeedle scope HD30 is coming soon.

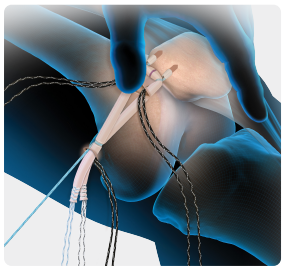


*Pending FDA submission

Onlay MPFL Implant Kits

Onlay MPFL Implant Kits with three femoral fixation options for efficient, reproducible MPFL reconstruction are now available. Each system features Hybrid Knee FiberTak® anchors for onlay patellar fixation loaded on optimized tapered inserters for smooth, consistent implantation. An innovative ratcheting patella drill guide stabilizes the patella during drilling and anchor placement, streamlining the procedure and improving control.

Surgeons can select from three femoral fixation options: a 6 mm × 20 mm BioComposite FastThread™ interference screw with included disposable FastThread driver; a FiberTag® TightRope® II PF implant for precise, tensionable fixation; or a third Hybrid Knee FiberTak anchor for an all-onlay technique. Each kit includes all required drills, reamers, and sutures to simplify setup and enhance surgical efficiency from start to finish.



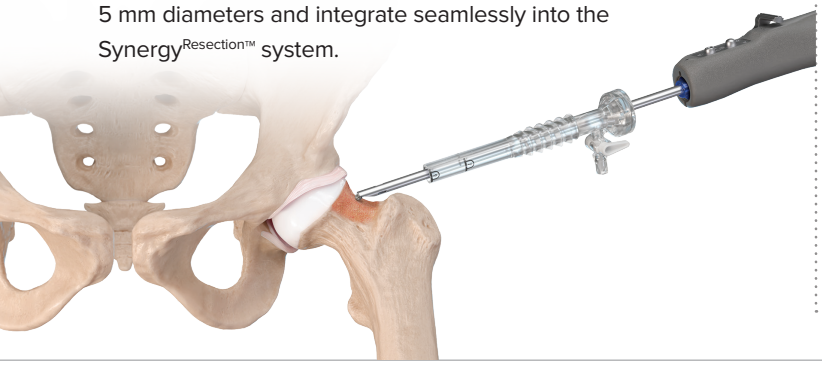
DiamondCut™ Hip Burr for Bony Resection

Achieve precise control during arthroscopic pincer and cam resection with Hip DiamondCut™ burrs designed specifically for treating femoroacetabular impingement (FAI). The round head on these finishing burrs is covered with a diamond coating that has been uniquely engineered to elevate precision and efficiency during hip arthroscopy procedures.

Key Features and Benefits

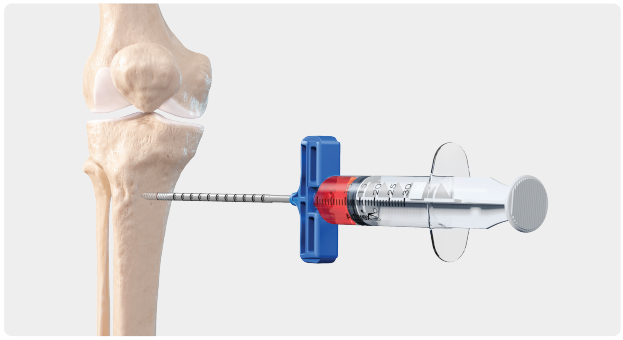
- Designed to minimize soft-tissue wrapping on the burr head
- Engineered to reduce skipping and provide optimal control
- Consistent cutting in both forward and reverse

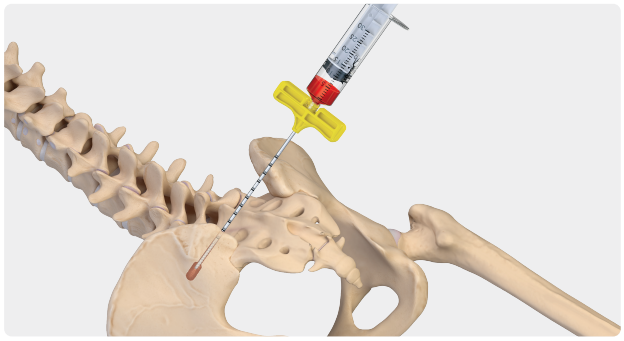
Hip-length DiamondCut burrs are available in 4 mm and 5 mm diameters and integrate seamlessly into the Synergy[Resection™] system.

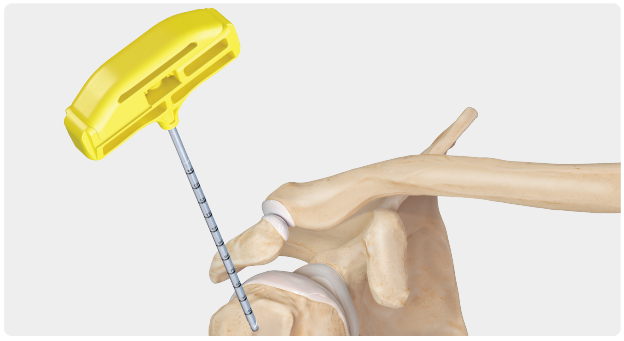


Vortex™ Threaded Bone Marrow Recovery Needle

The Vortex needle provides precise depth and directional control of aspiration due to its unique threaded tip. Each full turn advances the needle 0.5 cm, enabling consistent depth adjustments. Available in 8- and 13-ga diameters, the Vortex needle can accommodate harvesting from a variety of anatomical sites, such as the iliac crest, proximal tibia, proximal humerus, and calcaneus. The addition of both open- and closed-tip options allows for optimal aspiration to maximize osteoprogenitor cell recovery. There are three approaches for needle insertion: manual, mallet, or power assisted. Pairing the Vortex needle with the Angel® system provides an efficient method for concentrating BMA and maximizing osteoprogenitor cell yield.[1]







Reference

1. McLain RF, Boehm CA, Rufo-Smith C, Muschler GF. Transpedicular aspiration of osteoprogenitor cells from the vertebral body: progenitor cell concentrations affected by serial aspiration. *Spine J.* 2009;9(12):995-1002. doi:10.1016/j.spinee.2009.08.455

Feature Article

Expanding Scope: My Endoscopic Spine Surgery Progression

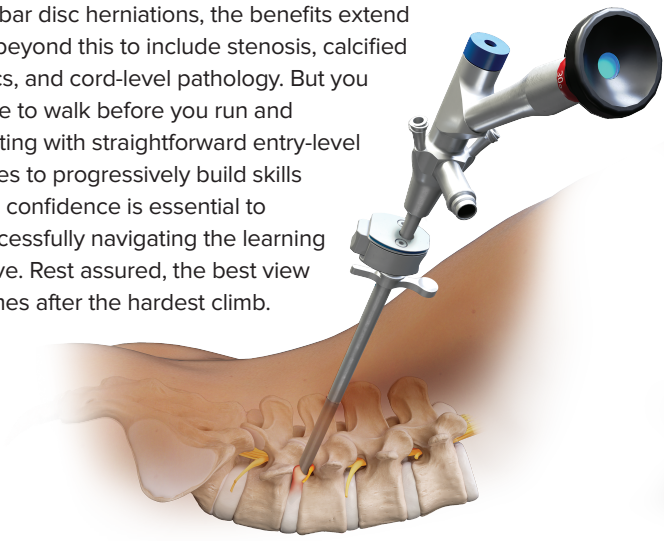
Peter Derman, MD
Dallas, TX

My introduction to endoscopy began early in practice when I attended a weekend cadaveric lab. I approached the course with cautious optimism and was totally blown away by the possibilities. Upon returning home, I had a series of meetings with my hospital administrators in which I successfully convinced them that an increase in surgical volume would more than offset the capital and disposable costs. Maybe it was wishful thinking, but the investment paid off in spades.

I was extremely selective when I first started, focusing on "chip-shot" cases. It was slow going initially, but my patients did astoundingly well, and my skills, efficiency, and volume rapidly increased. I left those early cases physically and mentally exhausted but simultaneously exhilarated and looking forward to the next so that I could act on the lessons I had learned.

At the conclusion of each case, I took my endoscope on a tour of the surrounding anatomy, exploring how far I could see and where I could safely reach. That way I knew what I could tackle next when presented with more difficult pathology. I would also use the drill during otherwise "easy" cases to see what avenues it would open and thereby built the skills to use it when I really needed it. There was always a next step, something new to tackle. I was never satisfied doing the same things, and I'm still not.

Endoscopic spine surgery is a platform, not a procedure. And while it is a phenomenal means of addressing lumbar disc herniations, the benefits extend far beyond this to include stenosis, calcified discs, and cord-level pathology. But you have to walk before you run and starting with straightforward entry-level cases to progressively build skills and confidence is essential to successfully navigating the learning curve. Rest assured, the best view comes after the hardest climb.



Regulatory Roundup

NEW

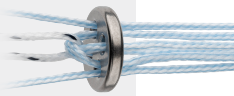
Each issue, Regulatory Roundup spotlights recent noteworthy regulatory approvals, keeping you informed on Arthrex products and innovations that meet the highest global standards of safety and efficacy.

Europe

- FibuLock® Nail
- DualCompression Hindfoot Nail
- Synergy Exoscope

Japan

- 1.1 mm Knotless TightRope® Implant
- Mini TightRope Implant System, 2.7 mm
- Univers Revers™ Revision Stems
- DEX SutureTape

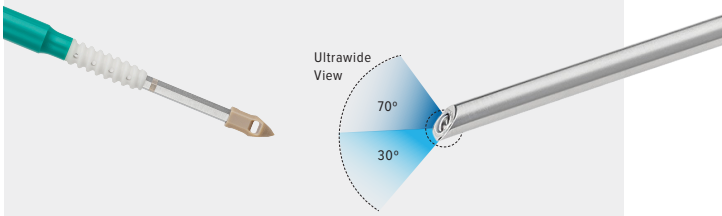


Southeast Asia

- Synergy Vision (Vietnam and Indonesia)
- FiberStitch™ 1.5 Implant (Singapore and Philippines)
- FiberStitch RC Implant (Singapore and Philippines)

Korea

- Pano™ Scope and Sheaths
- Self-Punching Biocomposite SwiveLock® Anchor



New Consolidated Eclipse™ Instrument Set

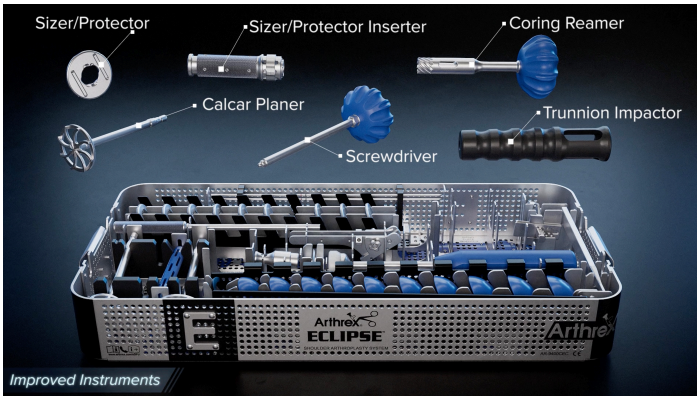
Justin Griffin, MD
Virginia Beach, VA

The Eclipse anatomic arthroplasty system has been in use worldwide for 20 years with very few changes. When designing the new Eclipse instrumentation, the goals were clear: improve ergonomics, streamline the workflow, and reduce the number of instruments required. Equally important was preserving the simplicity and reliability that have made the Eclipse system successful for thousands of patients.

Justin Griffin, MD, has used the new set of instruments in several Eclipse shoulder arthroplasty cases and shared his early impressions.

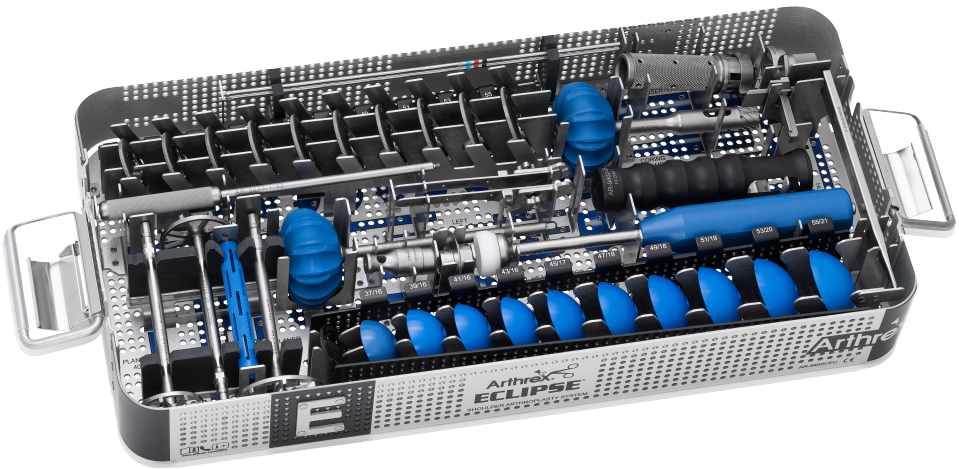
Has the new Eclipse instrument set been well received by your OR staff?
Sometimes less is more, and simplifying an arthroplasty case is welcomed by the hospital staff. The new set is a single-level tray, which improves efficiency on the back table and also reduces the cleaning and sterilization processes. These efficiencies are particularly important when performing arthroplasty cases at the surgery center, where space is limited.

How have the new instruments increased workflow efficiency for your Eclipse cases?
The new instruments streamline the process of selecting the trunnion and cage screw implants with the help of a multipurpose trunnion sizer. When I move from the humerus to prepare the glenoid, I simply leave the sizer in place, where it is secured nicely and protects the humeral metaphysis while it is retracted for visualization.



What features of the new instruments are most critical for improving the technique?
I really appreciate the new handles for coring and tightening the cage screw. They are comfortable and readily provide the required torque. In addition, the overall size of the new instruments makes it easier to firmly hold the trunnion down while tightening the cage screw. How those implants are seated is important both for the anatomical reconstruction and the long-term fixation of the Eclipse implant.

In closing, Dr. Griffin pointed out a finer detail of the new set: though not always necessary, the calcar planers help quickly smooth the surface of the resection, which allows the trunnion to sit perfectly in place. He noted his appreciation for how Arthrex introduces new solutions while thoughtfully enhancing mature product lines.

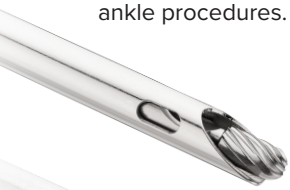


What's in My Bag?

Revolutionizing Ankle Arthroscopy Using the NanoNeedle™ Scope 2.0 and NanoResection™ Devices

John G. Kennedy, MD
New York, NY

What specific advantages have you observed with the bendable design of the NanoNeedle scope 2.0 when visualizing and accessing the posterior ankle joint?
The bendable design of the NanoNeedle Scope 2.0 allows for precise navigation in the tight posterior ankle space, providing direct, real-time visualization of critical structures like the FHL tendon. Its small diameter and flexibility enable access to areas that are challenging or impossible with traditional rigid scopes, minimizing soft-tissue disruption and reducing the risk of iatrogenic injury. The enhanced 720 × 720 resolution and 120° field of view further improve visualization, especially for identifying and protecting neurovascular structures during posterior ankle procedures.



2.8 mm × 11 cm
Nano Oval Burr

2.8 mm × 11 cm
Nano Sabre Shaver

NanoProbe

Apollo[RF®] SJ50 Probe

How do the NanoResection devices, such as the Nano Sabre shaver, Nano oval burr, and NanoBiter, help you efficiently resect tissue in confined spaces during posterior ankle arthroscopy?
NanoResection devices are specifically designed for efficiency in small joint spaces. The Nano Sabre shaver (2.8 mm × 11 mm) and NanoBiters allow for aggressive yet controlled tissue resection, while their ergonomic, lightweight handpiece provides exceptional control and precision. These instruments can be used through sutureless (<3.5 mm) portals, making them ideal for confined areas like the posterior ankle. The Nano Sabre shaver and 2 mm biter/grasper facilitate the removal of scar tissue, loose bodies, and impinging tissue with minimal collateral damage.

Can you describe your technique for portal placement and how the profile of the NanoNeedle scope influences your approach?
Standard portal placement is anteromedial and anterolateral, using 2-3 mm incisions with a beveled trocar. The ultra-low profile of the NanoNeedle scope 2.0 allows for these small, sutureless portals, minimizing soft-tissue trauma and expediting recovery. The scope's flexibility and size enable easy switching between portals for optimal visualization and instrument access, and the beveled trocar facilitates smooth entry without the need for sutures.

What pearls or tips do you have for minimizing clogging and optimizing suction when using NanoResection devices in the posterior ankle?
To minimize clogging, use the Nano Sabre shaver in conjunction with NanoBiters for sequential tissue removal. Employ a working cannula for resection devices, maintain adequate irrigation, and use the Apollo[RF®] SJ50 probe in short bursts to break up scar tissue before shaver cleanup. Regularly clear the shaver and avoid overloading the device with large tissue bites to keep suction and resection efficient.

How does the use of these Nano instruments impact your postoperative protocol or patient recovery compared to traditional arthroscopy?

Nano instruments allow for minimally invasive, sutureless procedures, often performed in-office under local anesthesia. This results in less pain,[1] lower narcotic use,[2] and a fast return to activity[1]—often within a couple of weeks. The smaller incisions and minimal soft-tissue disruption also reduce complication rates and infection risk,[3] making recovery quicker and more comfortable for patients.

In your experience, how does the unique design of the Apollo[RF] SJ50 probe support resection during posterior ankle arthroscopy? In what applications do you find it particularly helpful?

The curved design and integrated suction of the Apollo[RF] SJ50 probe make it easy to access and precisely ablate scar tissue in the tight posterior ankle space. It's especially helpful for breaking up and removing scar tissue or synovitis with short, controlled bursts, followed by shaver cleanup. This improves visualization and efficiency during posterior ankle arthroscopy.

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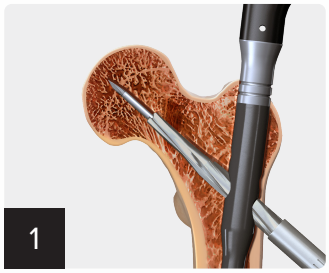
IN THE Loop...

Arthrex Trochanteric Nail Biologic Augmentation System

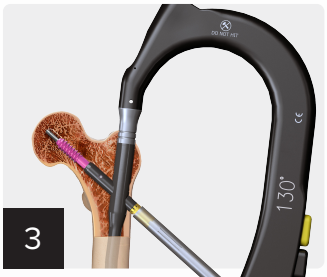
Optimizing the ability to augment procedures with biologics, the Arthrex Trochanteric Nail Augmentation System enables streamlined delivery of any flowable Arthrex bone graft around the lag screw threads within the trochanteric nail construct. Arthrex offers multiple flowable bone grafts, such as allograft or synthetic bone void fillers, to best support bone remodeling and repair. The augmentation steps fit seamlessly into the existing workflow of the Trochanteric Nail System.



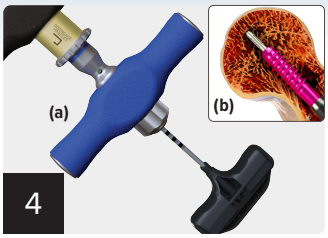
After nail placement, insert the 3.2 mm guide pin from the augmentation system. Follow the standard steps for measuring reaming depth and determining lag screw length, along with the usual reaming procedure.

Note: After reaming, verify that the 3.2 mm guide pin has not perforated the femoral head before proceeding with augmentation.

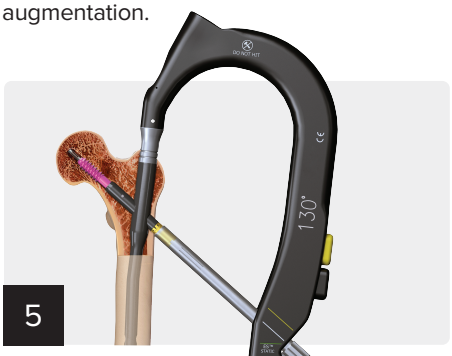
Once the appropriate lag screw size has been selected, begin insertion, but stop advancing 10 mm before the final insertion point.



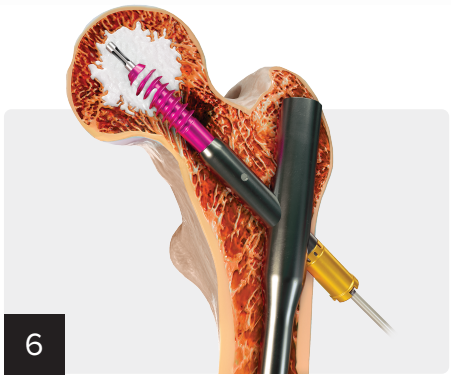
Remove the 3.2 mm guide pin and insert the delivery cannula.



Match the cannula measurement mark to the selected lag screw size **(a)**. This will determine the injection depth **(b)**, which is 10 mm past the tip of the lag screw. Therefore, the cannula tip will protrude 10 mm beyond the incompletely inserted lag screw. This position must be confirmed on fluoroscopy.



Remove the inner trocar from the delivery cannula. Attach the 1 cc syringe filled with the bone graft and inject. Repeat until all of the graft material is injected.



Insert the inner trocar to deliver all the graft to the surrounding bone under fluoroscopic guidance. Fenestrations at the tip of the cannula ensure the graft is delivered uniformly around the entire periphery.

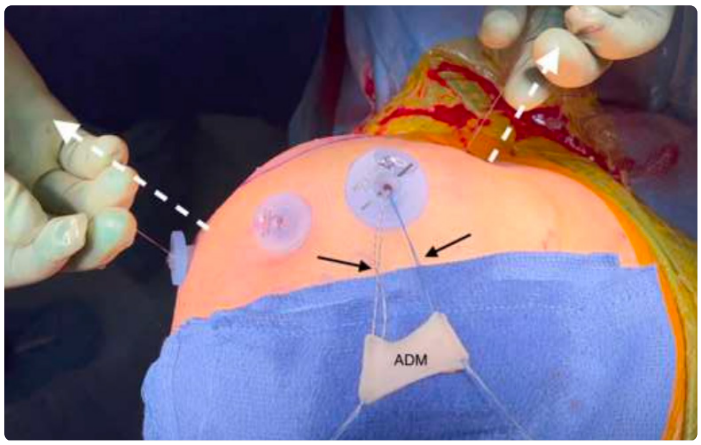
With the delivery cannula inside the inserter handle, advance the lag screw until its desired final position. Confirm the bone void filler surrounds the screw threads and flows into the surrounding bone.

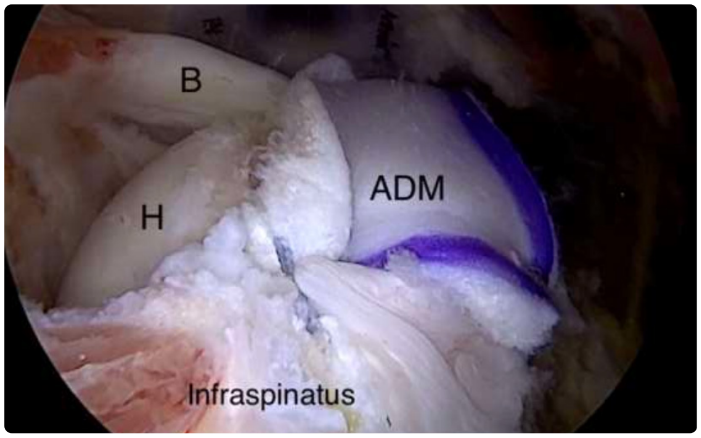
Biologic Tuberoplasty Leads to Significant Improvement in Functional Outcomes in Patients With Massive Irreparable Rotator Cuff Tears

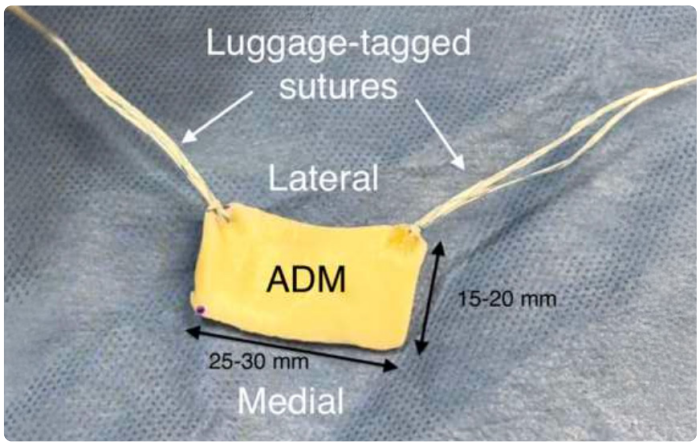
A multicenter case series by Mirzayan et al (2026)[1], which was conducted from 8 centers in the US, evaluated 1-year functional outcomes (ASES, VAS, and SANE scores) of 50 patients who underwent biologic tuberoplasty. The study also examined differences in sex, Hamada grade, concomitant procedures, and length of follow-up.

Biologic tuberoplasty is a recently developed technique for treating massive irreparable rotator cuff tears. It employs an ArthroFlex® acellular dermal allograft to cover the tuberosity footprint using knotless fixation. Compared to traditional superior capsular reconstruction (SCR), biologic tuberoplasty is a quicker, more efficient procedure.[2,3]

Patients in this retrospective study had massive, irreparable rotator cuff tears, defined as a 2-tendon tear, at least 4 cm, with retraction to the glenoid. Additionally, patients had active forward elevation over 90°, an intact or reparable subscapularis tear, Hamada grade ≤3, and no evidence of arthritis.







The procedure was performed with a 3 mm ArthroFlex graft, using the previously published technique.[3-5] Patients were kept in a sling for 3 weeks and then allowed to move to active and active-assisted range-of-motion exercises without restrictions. Once full range of motion was achieved, strengthening exercises began with resistance bands and weights as tolerated.

Overall, there was significant improvement in ASES (37.4 ± 14.1 to 85.8 ± 10.5, P <.0001), SANE (36.3 ±16.7 to 83.5 ±1 0.1, P < .0001), and VAS for pain (7.2 ± 1.8 to 1.4 ± 1.9, P <.0001). No differences were noted based on sex, Hamada grade, isolated tuberoplasty vs those with concomitant procedures, or length of follow-up.

Additionally, one surgeon performed MRI evaluation on a subset of patients and noted graft healing and incorporation to the tuberosity in 100% (14/14) at a mean of 7.2 months.

The study reported no revisions, infections, or inflammatory reactions. One patient converted to a reverse shoulder arthroplasty. Histology of the removed graft showed the graft had incorporated onto the greater tuberosity and developed highly aligned fibrous tissue with blood vessel formation. Also, the graft had maintained its 3 mm original thickness at 26-months.

While further research is ongoing, this retrospective, multisite study demonstrates excellent clinical outcomes with biologic tuberoplasty, maintained beyond 1 year.

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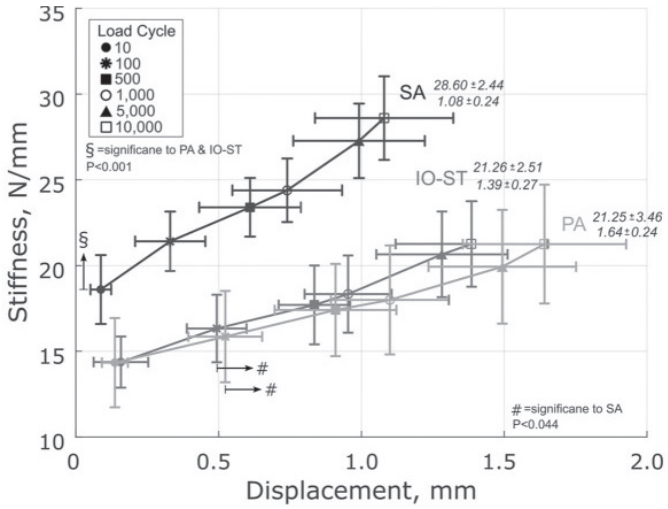
Research Corner

FiberStitch™ 1.5 Implant Outperforms Competitors in *OJSM* Biomechanical Study

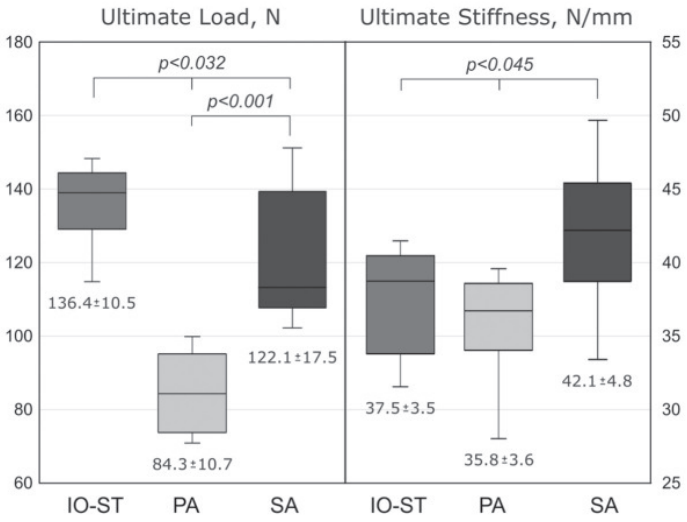
A cadaveric study[1] published in the *Orthopaedic Journal of Sports Medicine* compared 6 types of meniscal repair: 2 traditional inside-out suture tape, or IO-ST, repairs with either Mini SutureTape or 2.0 FiberWire® suture (both Arthrex); 3 all-inside repairs with PEEK anchors, or PA (including Fast-Fix Flex [Smith + Nephew]); and 1 all-inside repair with suture anchors, or SA (FiberStitch 1.5 implant [Arthrex]). All repairs were subjected to cyclic loading up to 10,000 cycles and load-to-failure testing.



Results

The SA group demonstrated significantly less gap formation after 100 cycles and maintained superior stiffness throughout testing.

The ultimate load of the PA device was significantly lower than that of the SA and IO-ST devices and failed due to loss of anchor fixation (breakage). The SA group failed due to either the tearing of the repair suture or the rupture of the anchor-connecting suture.



Takeaway

Overall, the SA device's compact, conforming design provided greater resistance to microtrauma under tension, achieving lower displacement and higher structural integrity compared to the PA group. These findings suggest the FiberStitch 1.5 implant offers improved durability and stability for vertical longitudinal meniscal tear repair under repetitive loading and is therefore a biomechanically superior construct.

Reference

1. Bachmaier S, Krych AJ, Seil R, et al. Primary fixation of single stitch all-inside and inside-out meniscal devices for repairing vertical longitudinal meniscal tears: a human microscopic imaging and biomechanical study. *Orthop J Sports Med*. 2025;13(10):23259671251371295. doi:10.1177/23259671251371295

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