Arthrex Presents:

Breakthroughs in Foot and Ankle Technology

ACFAS 2026

Welcome to the 2026 ACFAS Annual Meeting in Las Vegas! We are proud to continue our long-standing tradition of supporting foot and ankle surgeons at this premier event. For more than 20 years, Arthrex has partnered with ACFAS, and we've recently realigned our internal team to better prioritize your needs and drive surgical innovation.

Our commitment to innovation is reflected in several groundbreaking products, including the launch of the highly anticipated Syndesmosis TightRope® PRO and FibuLock® PRO*. These next-generation technologies are transforming the treatment of ankle fractures and syndesmosis injuries.

For hallux valgus correction, we're showcasing two new offerings: the Lapidus I-Beam plate, a low-profile plate with an integrated internal beam spanning the 1st TMT joint for enhanced strength across the fusion site, and the BunionBrace™ system, designed to reinforce direct repair of the medial capsule during hallux valgus correction and strengthen the primary repair when used with the Lapidus I-Beam plate.

At Arthrex, education remains at the core of everything we do. Our robust Medical Education program delivers hands-on training, interactive courses, and cutting-edge resources to empower surgeons worldwide.

Looking ahead to the remainder of 2026, we're excited to offer 15 Foot & Ankle-specific courses, including Solutions: Addressing Challenges for Foot and Ankle Surgeons. These high-level medical education events feature world-renowned faculty and immersive, hands-on lab experiences.

We invite you to explore these new surgical solutions and experience them hands-on with our 3DAnatomy™ technology during our lunchtime Industry Sessions on Tuesday, February 24, and Wednesday, February 25, from 12:15 - 1:15 PM PST in Room 4105/4106.

*FDA clearance pending

Workshops:

- Innovating Stability: Hands-On Lab Featuring TightRope PRO Implant and FibuLock PRO Fibular Nail
  - Justin J. Fleming, DPM
  - Spencer J. Monaco, DPM
- Advancing First-Ray Corrections With MIS and Lapidus Solutions
  - Matthew Doyle, DPM
  - Anish R. Kadakia, MD

As we look ahead, our mission remains focused on delivering innovative solutions and world-class education to help you achieve the best possible outcomes for your patients. Visit our booth to connect with our team, explore the latest advancements, and experience hands-on demonstrations that bring these technologies to life. Together, we'll continue advancing foot and ankle patient care.

Michael Karnes
Director, Product Management
Foot & Ankle and Trauma

Arthrex®

New Product Launch

Syndesmosis TightRope® PRO Implant

"Combine engineering, design, with level 1 evidence... you've got the TightRope PRO."

Ryan Rigby, DPM
Logan, UT

The Foot & Ankle and Trauma team is excited to announce the launch of the latest generation in syndesmotic fixation:

The Syndesmosis TightRope PRO Implant
Arthrex pioneered dynamic syndesmotic fixation over 20 years ago, and the TightRope PRO Implant builds on that legacy by leveraging the clinical success[1] of the current iterations and incorporating advancements that increase usability, simplicity, and consistency.

Designed to improve on the market-leading syndesmotic device, the TightRope PRO Implant features several key improvements on the lateral based, TightRope XP:

- Reduced medial and lateral button prominence
- Self-centering lateral button
- Less-invasive 3.2 mm drill tunnel
- Increased intraoperative flexibility for implant placement
- Integrated tensioning handles
- Auto-reduction suture for consistent suture management

Reference

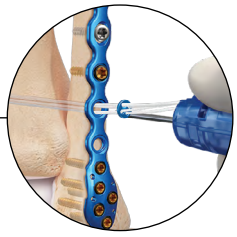
1. 1. Arthrex, Inc. LL1-0401-en-US_J. Naples, FL; 2021.

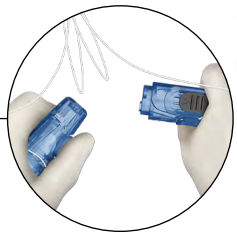
Key Features and Benefits

Advancing Lateral Button

› Reduces surgical steps

› Protects the suture mechanism

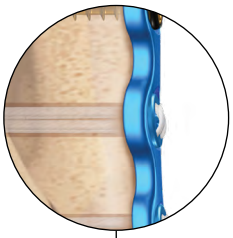




Integrated Tensioning Handles

› Reduces surgical steps

› Improves consistency and reproducibility

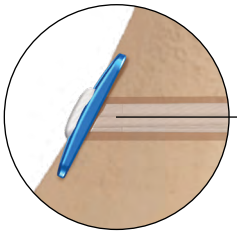


Lower-Profile Lateral Button

› 25% decrease in prominence

› Centering feature for use with plates

› Sits flush with lateral plates



Lower-Profile Medial Button

› 25% less material

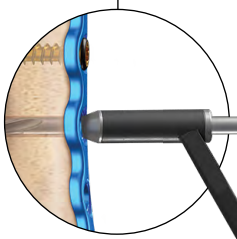
› Increased surface area on bone

› Identical suture bridge to TightRope® XP implant

3.2 mm Drill and Drill Guide

› 25% reduction in bone tunnel size

› 50% increase in drill trajectory options



Clinically Proven Knotless Construct

› #5 UHMWPE knotless suture

› Leverages 40+ clinical studies[1]

Reference

1. 1. Arthrex, Inc. LL1-0401-en-US_J. Naples, FL; 2021.

Surgeon Perspective

MIS FiberTak® Achilles SpeedBridge™ Technique

Nicholas A. Campitelli, DPM
Akron, OH

Since incorporating the MIS FiberTak Achilles SpeedBridge technique into my practice, I've seen a noticeable increase in patients seeking surgical treatment—largely because the recovery time has been dramatically reduced. Previously, I would counsel patients that it could take 6-8 weeks before transitioning back into a regular shoe. Now, many of my MIS patients are comfortably back in a shoe by 3 weeks.

After performing several cases, I've been able to refine my technique even further. The procedure is performed through 4 tiny stab incisions using a #67 Beaver-style blade. I have been able to address intratendinous calcifications by carefully inserting the burr directly into the tendon and operating at low RPMs to gently morselize the calcified tissue. Even larger bony fragments can be removed when necessary using a pituitary rongeur through the same minimal incisions.

These refinements have truly improved patient outcomes and transformed what was once a notoriously painful and prolonged recovery into a much smoother, more manageable postoperative experience for my patients.

I have patients I had previously operated on one side with an open approach who have now come back for their other side and I was able to offer the MIS approach. This is an example of the patient experience comparing open vs MIS pathology debridement and tendon repair.

Left Foot Open

MIS Post-op

Patient Presentation

A 50-year-old female previously underwent bunion correction on the left foot using a traditional open approach combined with a 4.75 mm Achilles Speedbridge repair. The outcome was good but recovery was prolonged, requiring 6 weeks in a cast. The incision healed slowly, with pain and swelling preventing a return to normal footwear and walking.

The patient needed surgery on the right foot, but was concerned about the recovery time. After discussing options, she elected to proceed with the new minimally invasive (MIS) FiberTak Achilles SpeedBridge technique.

In her words, the experience has been "Night and day different. There is no comparison. I was back walking and in regular shoes at 4 weeks, when previously I was still in a cast. I had less pain and swelling after surgery and everything was better much faster. I felt much more mobile in a much shorter period of time!"

Pre-op

MIS Post-op

What's in My Bag?

MaxForce™ Revision Plate

Steven M. Douthett, DPM

Fort Wayne, IN

When you see revision cases of the MTP joint in your practice, what types of cases are they?
I perform a fair amount of revision work. The most common case that I use this plate for is revision of a failed hemi or total 1st MTP arthroplasty. The implants used are often associated with a large amount of bone loss, resulting in shortening—often requiring bone grafting—and the robust MaxForce revision plate is perfect for these situations.

The MaxForce plating system offers a unique solution through its gear mechanism that allows for up to 4 mm of manual compression,[1] enabling surgeons to be in control of compression. How have you found value in this, specifically in your revision cases?
I have found this feature quite useful in revision cases. The compression mechanism is a perfect solution for cases you may not be able to drill across with traditional lag technique compression or if you have a case where you are concerned about over-compressing your graft. The mechanism allows you to dial in your desired compression without crushing graft or losing valuable length.

The MaxForce revision plate features a reversed screw hole pattern from the primary plate, with the cluster now proximally and straight dorsal to plantar screws in the phalanx. How do you find this helpful in these cases?
The unique screw pattern is useful in finding solid bone. The distal screw pattern is linear, thereby avoiding the typical oblong drill tunnels that can result from removed hardware.

The proximal cluster allows for the same idea—avoiding previous, typical straight pattern tunnels from primary hardware.

Additionally, the hybrid screws in the system feature a 3.0 mm head and a 3.5 mm shaft, designed to aid in solid fixation in areas where bone quality may be poor.

Joint Prepped and Graft Inserted

Reference

1. Arthrex, Inc. Data on file (APT-04668), Naples, FL; 2020.

These revision cases can be challenging with concerns of bone loss, shortening, etc. How do you address these issues?

I have had great success using AlloSync™ wedges soaked in bone marrow concentrate (BMC). The wedges allow for various volumes of graft to fill large bone voids, while the BMC prepared with the Angel® system concentrates cells for signaling.

Additionally, in cases where the host is less than ideal physiologically, ArthroCell™ brings live viable cells into the fusion site.

In cases involving smaller, synthetic cartilage implants, the Arthrex cannulated bone dowels soaked in BMC work well for a precontoured graft that requires minimal back-table fashioning.

Better with BIO™

Are there any technique pearls you could share from your experience with the MaxForce™ system?

- Be sure to remove the dorsal eminence of the metatarsal so the metatarsal and phalanx are flush. This will help ensure a proper fit of the plate on the metatarsal.
- Make sure you check the toe position before you apply the plate. Contour the plate to the bone if necessary.
- When using the compression mechanism, don't be overzealous. It is easy to crank on the compression driver and overdo it, which may change your final toe position. Dialing it in is key.
- I like to position my plate slightly lateral to avoid any chance of shoe rubbing on the proximal-medial metatarsal region.
- In cases where the patient has a higher arched foot structure, the 5° plates typically fit quite well.

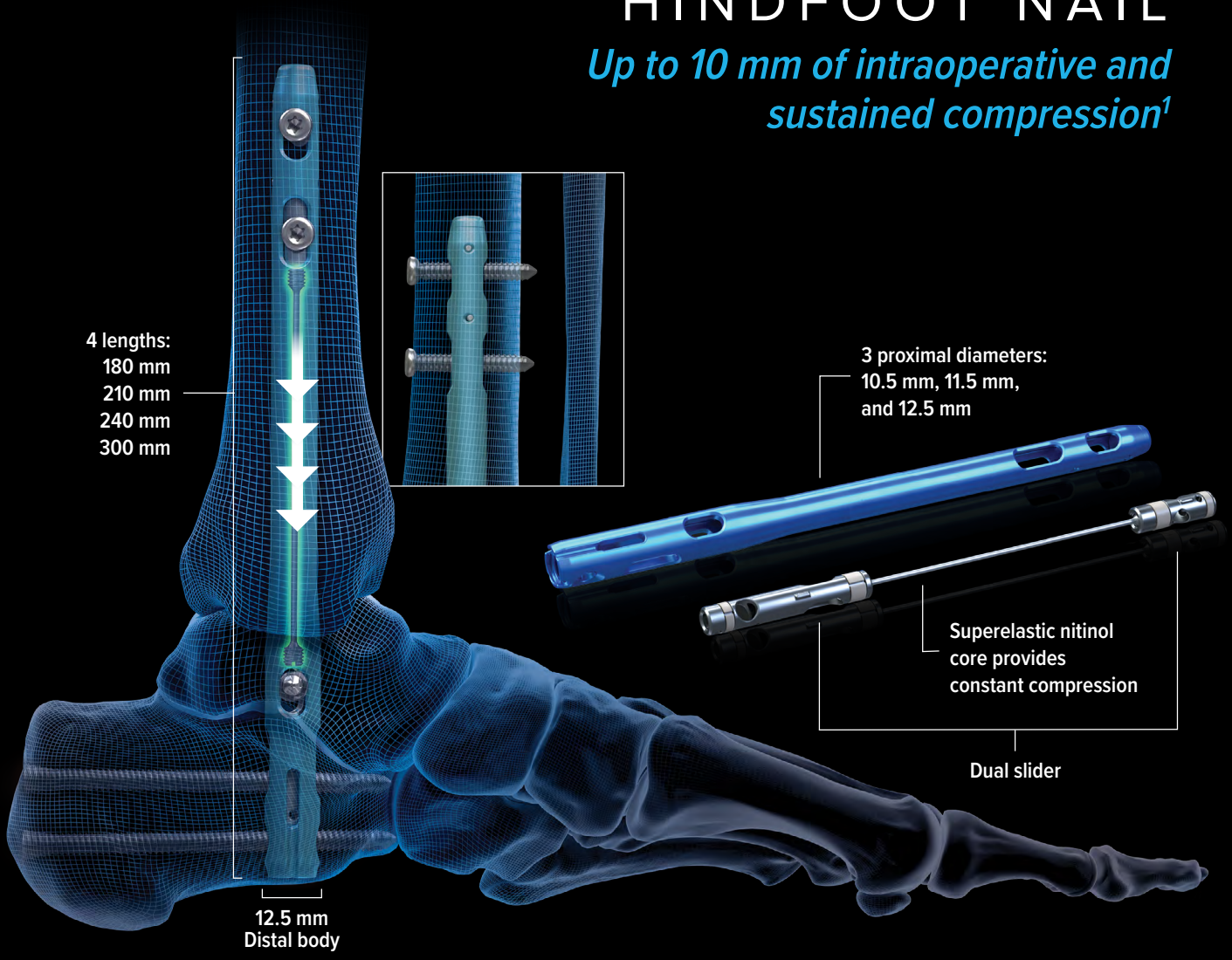
Pre-op

Intra-op

Immediate Post-op

DualCompression
HINDFOOT NAIL

Up to 10 mm of intraoperative and sustained compression[1]



Better with BIO™

Scan to learn more about Arthrex Orthobiologics

ArthroCell™ Viable Bone Matrices

Learn more about DualCompression Hindfoot Nail

Arthrex®

Reference
1. Arthrex, Inc. Data on file (APT-04782G). Naples, FL; 2020.

Treatment Rationale

Ankle Instability

Joseph K. Park, DPM

Burbank, CA

How often are you scoping your ankle instability patients?
Every ankle instability patient. This allows not only for appropriate debridement but also provides accurate and direct visualization of the pathology. Nothing beats seeing it firsthand.

What are the benefits of scoping from your experience?
Some pathologies may not be visualized on imaging but can be seen clearly and accurately arthroscopically; therefore, the ankle joint should be scoped if there is any suspicion for underlying pathology.

How often does your intraoperative pathology differ from what you expected based on your pre-op scans?
What I find relatively often is misdiagnosed injuries to the lateral collateral ligaments in addition to subtle deltoid and syndesmotic pathologies. This may be due to irregular scar tissue buildup, ghosting artifacts, or skipped frames. An ankle MRI typically takes 20-40 minutes to complete on average. It's hard for patients to lie completely still for 40 minutes. Smaller areas of cartilage damage can also be missed on MRI and better examined arthroscopically.

What is your typical scope setup?
Typically, I start with the patient supine in a leg holder. I use 2 main portals: the anteromedial portal at the ankle joint level just medial to the anterior tibialis, and the anterolateral portal just distal to the joint line between the lateral ankle joint gutter and superficial peroneal nerve branch. Portal positions can be modified depending on access to certain areas of the joint due to pathology, field of view, and surgical repair. I prefer to use the NanoNeedle 2.0 visualization system. Intraoperative arthroscopic direct assessment of the ankle joint ligaments can be achieved much more easily, accurately, and effectively with the NanoNeedle camera. This has revolutionized arthroscopy with its ease of use and enhanced intra-articular mobility.

What is your typical algorithm and treatment for cartilage injuries in these cases?
I am an advocate of using biologics for cartilage injuries and avoiding synthetic materials. Lesions and defects up to 1.5 cm are typically treated with BioCartilage® allograft mixed with PRP or BMC. Lesions >2 cm will typically be treated with an allograft OATS procedure. The grey area, 1.5-2 cm, can be treated with either option depending on the depth and location of the defect.

What is your preferred method for ankle ligament repair and augmentation?
I am an advocate for an MIS/percutaneous direct repair of the deltoid, lateral ligaments, and syndesmosis. *Internal*Brace™ repair is my standard for augmentation and should be used in all of these areas, including the often-neglected AITFL.

What are your thoughts on ligament augmentation with *Internal*Brace repair and how often are you augmenting?
The strength of the *Internal*Brace technique as an augmentation changed everything in my treatment plan. Intraoperative technique has completely changed to incorporate *Internal*Brace ligament augmentation in all my instability patients.

My postoperative recovery has drastically improved. The ease of placement and reduction in the postoperative healing phase have made implementation of *Internal*Brace augmentation a mandatory step in my surgical repairs.

I believe the ATFL is the ACL of the ankle—not only in the importance of function and activity, but also in the progression of repair and recovery. Today, ACL injuries are rarely repaired with an open approach and without *Internal*Brace augmentation. As a result, ACL injuries are no longer the death sentence to sports and strenuous activities they once were. I believe that we will look back in 10 years and have a similar progression and retrospective outlook for *Internal*Brace augmentation in the ankle, not just for ATFL but all ankle ligaments.

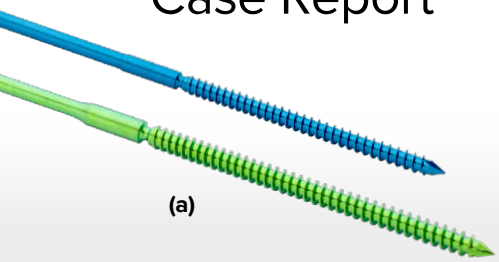
What is your post-op protocol for these cases?
Countless studies have shown the benefits of early weight-bearing and mobility to enhance the recovery experience and soft-tissue healing for patients.

*Internal*Brace ligament augmentation has enabled immediate weight-bearing. For most cases, my post-op protocol is immediate weight-bearing in a cam walker boot for 2 weeks and then a transition to a lace-up ankle brace with athletic supportive shoes for 2 weeks. Most patients can graduate to stationary machines 1 month post-op and then possibly progress to strenuous activities 6-8 weeks post-op.

Postoperative management is patient-specific and dependent on the treating professional's assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

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.

Case Report



(a)

(b)

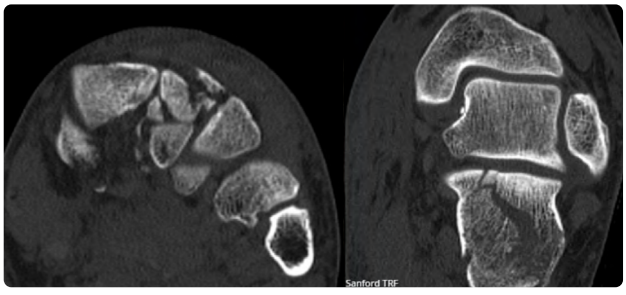
Derek A. McLister, DPM
Fargo, ND

Presentation

A 34-year-old male presented with multiple fractures due to farm trauma. Initial radiographs identified multiple fractures, a Lisfranc injury with mild diastasis, an obvious 3rd metatarsal injury, and abnormalities along the calcaneus.

Diagnosis

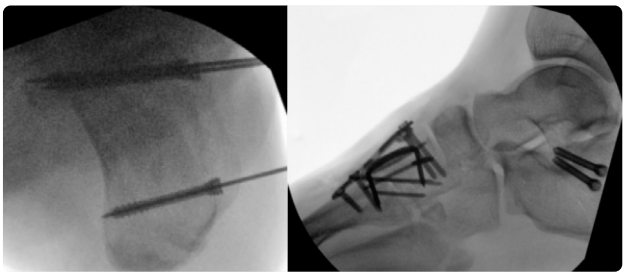
A CT scan confirmed a severely comminuted fracture affecting the 2nd cuneiform, a displaced intra-articular fracture of the first metatarsal, fractures of the 3rd, 4th, and 5th metatarsals and navicular, as well as extensive fractures throughout the calcaneus including the sustentaculum talus and extending towards the posterior facet.



Surgical Plan

ORIF of the Lisfranc complex, including the 1st and 2nd tarsometatarsal joints for primary fusion, was performed. Snap-Off Compression FT Pins **(a)** were used for pinning and final fixation. The 1st tarsometatarsal joint was fixated using a DynaNite® SuperMX staple **(b)** and snap-off pin construct. A 3.5 mm locking T-plate was used on the 2nd tarsometatarsal joint and due to comminution, additional snap-off pins were used for the Lisfranc ORIF with additional support into the cuneiform.

ORIF with percutaneous fixation was performed to address the calcaneal fractures. Mortise and axial views were used intraoperatively for percutaneous placement of guidewires from lateral to medial. Headless compression PT screws (4.3 mm) screws were placed from the posterior facet to the sustentaculum talus, and from the lateral to medial tuberosity.



New Product Launch

Lapidus I-Beam Plate and BunionBrace™ Medial Capsule Repair

Lapidus I-Beam Plate

- Anatomic shape
- Multiple plate offerings
- All-in-one sterile kit
- Compatible with KreuLock™ locking compression screws

BunionBrace™ Medial Capsule Repair

- Stonger medial capsule repair helps reduce hallux valgus recurrence[1]
- Small anchors preserve bone space for additional procedures

Better with BIO™

Paired with AlloSync™ Pure DBM

Reference

1. Nakasa T, Ikuta Y, Sumii J, et al. Augmentation of the medial collateral ligament using suture tape reduces the recurrence after corrective surgery for severe hallux valgus. *J Orthop Sci*. 2024;29(4):1046-1053. doi:10.1016/j.jos.2023.07.010

Surgeon Perspective

Soft-Tissue Considerations for Ankle Fracture Cases

Justin J. Fleming, DPM

Somerset, NJ

What are your considerations for repairing soft tissue in your ankle fracture cases?
There are two factors that drive my decision-making process regarding soft-tissue considerations. The first is the ratio of soft tissue to bone injury. A true bimalleolar ankle fracture is likely to require less soft-tissue repair than a PER 4 with a deltoid injury. The latter injury is two-thirds soft tissue and one-third bone. To achieve preinjury ankle stability, multiligament reconstruction is mandatory. The circular ring of stability must be restored to achieve an optimal outcome.

The second factor includes intraoperative stress testing, observation, and arthroscopy if needed. Having a high index of suspicion for frontal, coronal, and sagittal plane instability is paramount to executing a surgical plan to maintain talar congruity within the mortise, allowing for physiologic function and long-term health of the ankle.

How often are you treating soft-tissue structures in your ankle fracture cases?
With the exception of true bimalleolar/trimalleolar ankle fractures, I am addressing soft-tissue injuries almost 100% of the time. Reestablishment of the preinjury "ring of stability" is accomplished through bony realignment with stable fixation and subsequent and sequential testing/repair of attenuated ligamentous constraints.

What soft-tissue structures are you paying most attention to? How are you assessing the need for repair?
I think it's important to pay attention to every soft-tissue structure that contributes to the ankle mortise stability. Historically, the focus had been on fracture restoration, but the literature over the last 10 years has emphasized the need for soft-tissue reconstruction to achieve optimal outcomes. Any instability can lead to abnormal contact characteristics and ultimately posttraumatic arthritis. These ligaments form a critical system of constraints to allow appropriate stability and ankle joint function.

While there is some debate about the order of deltoid ligament and syndesmosis repair, I think the general consensus is to fix the syndesmosis first. To me, this is more of a surgeon preference because ultimately, a torn syndesmosis cannot be fixed by repairing the deltoid and vice versa. I believe the degree of soft-tissue reconstruction should mirror the degree of soft-tissue injury. Syndesmosis indications are very well defined with clinical, radiographic, and arthroscopic parameters, whereas the deltoid ligament indication is less clear.

My personal preference to address the deltoid ligament is the following: bi-trimalleolar equivalent fracture/dislocations, PER 4 injuries with a deltoid component, high-level athletes with any medial-sided soft-tissue injury, and any ankle mortise that has been anatomically fixed and still demonstrates asymmetric widening of the medial clear space.

Regarding the AITFL, Clanton et al's biomechanical paper provides compelling evidence about the importance of this ligament.[1] The indication for repair of the AITFL is largely direct visualization. After final osseous and soft-tissue stabilization, the ankle is stressed with external rotation. Any abnormal rotatory instability of the fibula indicates a weakness in the anterior syndesmosis. Augmenting this structure is easy using an *Internal*Brace™ ligament augmentation through dedicated eyelets in the Arthrex ankle fracture plates or BioComposite SwiveLock® anchors. This technique minimizes "open-book instability" in the anterior syndesmosis.

What are your typical repair constructs for these?
Syndesmosis (based on intraoperative stress testing): One to two TightRope® XP implants, depending on the preinjury/intraoperative degree of instability. Greater instability = greater fixation. Additionally, I do not diverge the angle of TightRope constructs when two are used. I try to remain true to the syndesmosis axis.

Deltoid ligament: Typically, I use two DX Knotless FiberTak® anchors for primary repair—one placed in the anterior colliculus and one in the intercollicular groove. I will occasionally use the *Internal*Brace technique to augment this repair in patients with a deltoid injury and preexisting flatfoot deformity.

AIFTL: I usually directly repair the tissue present and then augment that with an *Internal*Brace repair laid directly over the injured AITFL and confirm tibial placement under fluoroscopy. I try to be particularly careful with the placement of the tibial-sided anchor and the level of the inferior TightRope construct. Overzealous drilling and tapping can intersect the TightRope implant within the tibia.

Reference

1. Clanton TO, Williams BT, Backus JD, et al. *Foot Ankle Int*. 2017;38(1):66-75.

Decoding the Screw Debate

My perspective on MIS Bunionectomy Fixation with 1 Screw vs 2 Screw

Noman A Siddiqui, DPM
Baltimore, MD

Over the generations, minimally invasive (MIS) bunionectomy has seen an evolution in the fixation from taping to K-wires, to headed/headless screws, to the current standard of 2 beveled screws. Is the next evolution a single screw?
The evolution of MIS bunion fixation has been remarkable, which reflects a natural drive toward more stable and predictable outcomes supported by robust clinical evidence.

Whether the next standard will be single-screw fixation remains to be seen. It is gaining attention and is a viable option in experienced hands. However, true superiority must be validated through rigorous research rather than anecdotal claims.

At the end of the day, fixation choice matters—but precise technique and maintaining correction are what truly define success. For now, the 2-screw construct continues to set the standard for strength and reliability.

How does the biomechanical stability of single-screw fixation compare to 2-screw fixation in MIS bunion correction?
Current data on this topic is limited, and stability is influenced by multiple factors—such as the type of osteotomy (chevron vs transverse) and the degree of translation achieved during correction. Early lab-based studies have highlighted potential limitations of single-screw constructs, though these findings are not yet definitive. Based on available evidence, 2 screws provide a more robust and stable construct.

From both published literature and my own experience, I am confident that a properly executed 2-screw fixation allows patients to transition to shoe wear almost immediately, and offers predictable strength and reliability.

Is 2-screw fixation sufficient for most MIS bunion corrections, or are there scenarios where a single screw is preferred?
For majority of cases, 2-screw fixation provides reliable stability and remains the standard. However, in smaller corrections—such as mild to moderate IM angles—placing the distal screw can be challenging due to anatomical constraints like the medial ledge. In these situations, a single screw may be a practical alternative.

Similarly, revision cases with prior distal osteotomies can present technical limitations, making a 1-screw option an important consideration when anatomy or prior surgery restricts placement.

How important is rotational control in MIS bunion correction, and does a second screw provide meaningful biomechanical advantages beyond rotation?
Rotational control of the capital fragment has been clearly shown to be an important component in achieving proper hallux alignment and is often addressed as part of the maneuvers required for a clinically acceptable position. In severe cases of hallux valgus with crista erosion, translation may take priority over rotation, and adjunctive procedures, such as an Akin osteotomy, can help achieve soft-tissue balance when rotation is not possible.

As for the second screw, biomechanical studies show it improves resistance to shear and axial loads, but the clinical impact maybe less pronounced since patients typically guard against heavy loading and pain postoperatively.[1] That said, the additional screw offers peace of mind during the early recovery phase when patients are most vulnerable to loss of balance and gait instability.

Beyond rotational control, does a second screw significantly impact stability or influence secondary bone healing?
The effect of a second screw on bone healing remains an area of active research. Theoretically, a single screw may allow for increased micromotion, which can promote callus formation and secondary healing. However, in osteopenic bone, this same micromotion could lead to premature loss of correction or malunion.

While the second screw adds rigidity, its true clinical impact on healing vs stability is still being studied. Importantly, there has been no reported literature in MIS bunion procedures indicating that healing with 2 screws is slower compared to other fixation or nonfixation methods.

With ongoing debate over the optimal osteotomy, chevron or transverse, if you choose single-screw fixation, is there a preferred osteotomy that surgeons should consider?
From a healing perspective, there is no clinical evidence that one osteotomy type offers superior outcomes. The choice often reflects regional or surgeon preference.

While chevron may have theoretical advantages with a single screw to aid in rotation stability, this benefit does not appear to apply in cases where translation exceeds 90%.

For surgeons electing to use a single screw, I personally advocate for and recommend the transverse osteotomy, as it provides reliable correction and is straightforward to execute. However, I emphasize that success depends on meticulous technique and precise screw placement.

How might using a single screw impact surgical efficiency, operating time, and fluoroscopy usage? Is that impact meaningful?
A single screw can improve efficiency across all these areas—shorter OR time, reduced fluoroscopy use, and a simpler workflow. However, the key remains delivering the screw accurately without compromising bone integrity. Multiple attempts at achieving proper placement can negate these advantages. Personally, I would prefer placing 2 screws with fewer passes over making repeated attempts to achieve a single-screw construct.

From a stability standpoint, how do these constructs perform during early weight-bearing? Would you modify postoperative protocols based on single- vs double-screw fixation?
In my experience, both constructs behave similarly during early weight-bearing because patients naturally limit activity due to postoperative discomfort and caution. I would not adjust protocols based solely on fixation type; instead, I tailor them to patient-specific factors such as age, bone quality, and overall health, as well as intraoperative considerations like ancillary procedures and the number of attempts at achieving proximal bicortical fixation.

Does the choice between 1 screw and 2 screws meaningfully affect long-term alignment, or is it more about surgeon confidence and technique? And do you see a role for 2 screws earlier in a surgeon's learning curve before they're comfortable controlling rotation and compression with a single screw?
Long-term alignment depends more on surgical technique than on the number of screws. The 2-screw construct provides confidence and remains the workhorse for most deformity corrections. As surgeons refine their technique, they may selectively employ a single screw in cases where it is appropriate.

That said, 2 screws absolutely have a role earlier in the learning curve. A single-screw construct will not compensate for poor technique or inexperience, but a 2-screw approach offers a safer, more forgiving option for surgeons who are still gaining confidence in controlling rotation and compression. Over time, as proficiency grows, surgeons can incorporate single-screw fixation in scenarios where it is clinically adequate.

Reference

1. Lewis TL, Mansur H, Ferreira GF, et al. Comparative biomechanical study of different screw fixation methods for minimally invasive hallux valgus surgery: a finite element analysis. *Foot Ankle Surg.* 2025;31(2):160-169. doi:10.1016/j.fas.2024.09.001

What's in My Bag?

Interpositional Arthroplasty With ArthroFLEX® for Hallux Ridigus

Better with BIO™

Michael Downey, DPM
Fort Worth, TX

What first intrigued you about the interpositional arthroplasty procedure for hallux rigidus?
What first intrigued me about this procedure for hallux rigidus was the ability to offer patients an option that does not involve a fusion. I was seeking a solution for healthy and active patients who wanted to maintain motion without creating a large bone void or compromising future options. The interpositional arthroplasty procedure provides a platform to preserve motion, address the sesamoid apparatus, and allow for future procedures if needed.

What is your algorithm for determining if a patient is a good candidate for an interpositional arthroplasty procedure vs performing a fusion?
My patient algorithm depends on a few factors, such as:

- Activity level
- Sesamoid involvement
- Available motion
- Stage of hallux rigidus

In my practice, when patients progress to stage 3 with pain over the sesamoids and any frontal plane rotation, I then introduce the benefits of interpositional arthroplasty. For stage 4 with bone-on-bone contact, we discuss fusion vs interpositional arthroplasty. In both cases, I am sure to explain that the interpositional technique can restore some motion that they no longer have, while setting the expectation that they may need additional procedures in the future. But many of my patients appreciate keeping motion as long as possible.

Are there any additional procedures that you consider in conjunction with interpositional arthroplasty?
Hallux Osteotomy: With hallux rigidus, there is often compensation at the interphalangeal joint or a lateral pull of the extensor hallucis longus, which can create the appearance of a subtle bunion. Once the interpositional graft is placed and secured, I reassess the mechanical axis of the first ray. If the EHL is not centered or the axis is off, I perform the osteotomy at the base of the phalanx to realign the tendon over the joint and restore the proper mechanical line. This improves the longevity of the procedure and gives a more cosmetically pleasing result.

Akin Osteotomy: If there is residual varus or valgus, I address it with an Akin osteotomy. For fixation, I typically use a 9 mm × 10 mm DynaNite® nitinol staple, which provides strong compression and simplifies the fixation process once the osteotomy is completed.

Pre-op Post-op

Are there any technique pearls you would offer a surgeon trying this procedure for the first time?

- For the drill tunnels, make sure they are placed proximal to the sesamoids and angled distally at about 15°. This angle makes suture retrieval much easier. I visually divide the metatarsal head into thirds and place the medial drill hole in the medial third and the lateral drill hole in the lateral third. They should remain parallel.
- I like to use a larger cutting needle to create the passes in the graft. The sutures should be luggage-tagged and spaced evenly from the drill holes. When pulling the graft into position, place the shiny side of the graft against the metatarsal head to allow better adaptation to bone. Once sutures are passed, pull them tight and keep each limb on its respective side of the drill hole as you secure the anchors. This prevents bunching and allows the anchor to seat properly.
- Correct placement of the graft requires trimming it so it can wrap smoothly around the metatarsal head, including both the medial and lateral aspects of the joint. The most important part is positioning the plantar portion of the graft. It must sit proximal to the sesamoids so they can continue to glide properly on the graft surface. This ensures function, stability, and avoids creating new sesamoid issues.
- The thickness of the ArthroFlex® graft can vary, so my representative brings several options. My choice depends on how much decompression is required during joint preparation on the metatarsal head. If more substantial decompression is needed, I select a thicker graft.

Intra-op

Foot & Ankle Medical Education

Course Schedule

2026 Upcoming Medical Education Events

Date	Course Name	Location
March 9	Novel Approaches to Hindfoot Surgery	Naples, FL
May 14-16	Foot and Ankle Surgeons Fellowship Forum	Naples, FL
June 5-6	Foot and Ankle Surgeons Symposium	Naples, FL
June 12	Western Foot and Ankle Minimally Invasive Surgery Course	Englewood, CO
June 13	Western Foot and Ankle Minimally Invasive Surgery Course	Englewood, CO
July 13	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
July 30	Western Foot and Ankle Summit and MIS Course	San Diego, CA
July 31 - August 1	Western Foot and Ankle Summit	San Diego, CA
August 28-29	Solutions: Addressing Challenges for Foot and Ankle Surgeons	Naples, FL
September 21	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
October 2-3	Getting It Right: Novel Approaches to Hindfoot Surgery	Naples, FL
October 19	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
October 30-31	Controversies in Foot and Ankle Surgery	Naples, FL
November 16	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
December 11-12	Women in Foot and Ankle Surgery Course	Naples, FL

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