

Arthrex Presents:

# Breakthroughs in Foot and Ankle Technology

Winter 2022

Welcome to the ACFAS Annual Meeting. Arthrex remains committed to servicing all of your metal, soft-tissue, arthroscopic, and trauma solutions for foot and ankle pathologies. We look forward to seeing you back at the booth to meet our staff of product managers and engineers who are all here to help you experience what we can offer in support of our mission of Helping Surgeons Treat Their Patients Better™. Take special note of our recent innovations in forefoot technology with the launch of our complete MIS Bunion System, featuring a targeted guide and beveled screws, as well as the continued innovation of our anchor lines, featuring our DX Knotless FiberTak® and DX 3.0 mm Knotless SutureTak anchors. Information on courses held at our newly expanded campus is listed on our website. Stay safe and have a great meeting!

## Pete Denove

Senior Director, Product Management

Distal Extremities and Trauma

### Arthrex Minimally Invasive Bunionectomy System



The comprehensive system of power, instruments, and implants specifically designed for MIS bunion correction is further elevated with the marketing campaign of BunionPain.com. The Find a Doctor function on the site will drive patients directly to your office and OR. This new bunion system includes:

- A shifting device to achieve and maintain correction throughout the case
- A guide to assist in reproducible placement of guidewires for ideal screw placement
- Beveled FT screws with a 45° beveled head to provide a zero-profile construct

### Pilon Fusion Plating System



The Arthrex Pilon Fusion System was designed for treatment of distal tibia fractures that require not only fracture reduction but also primary ankle arthrodesis. Severe damage to the tibiotalar (TT) joint results in posttraumatic arthritis, pain, stiffness, and the need for secondary surgeries. The Pilon Fusion System provides another option to address these severe fracture patterns with primary TT arthrodesis of the articular surface to avoid secondary surgery and chronic pain. Additionally, the anterolateral and posterior plating options can be used for complex primary and revision ankle fusions where more fixation options and longer bridging techniques may be necessary.



# Product Highlight

## Pilon Fusion Plating

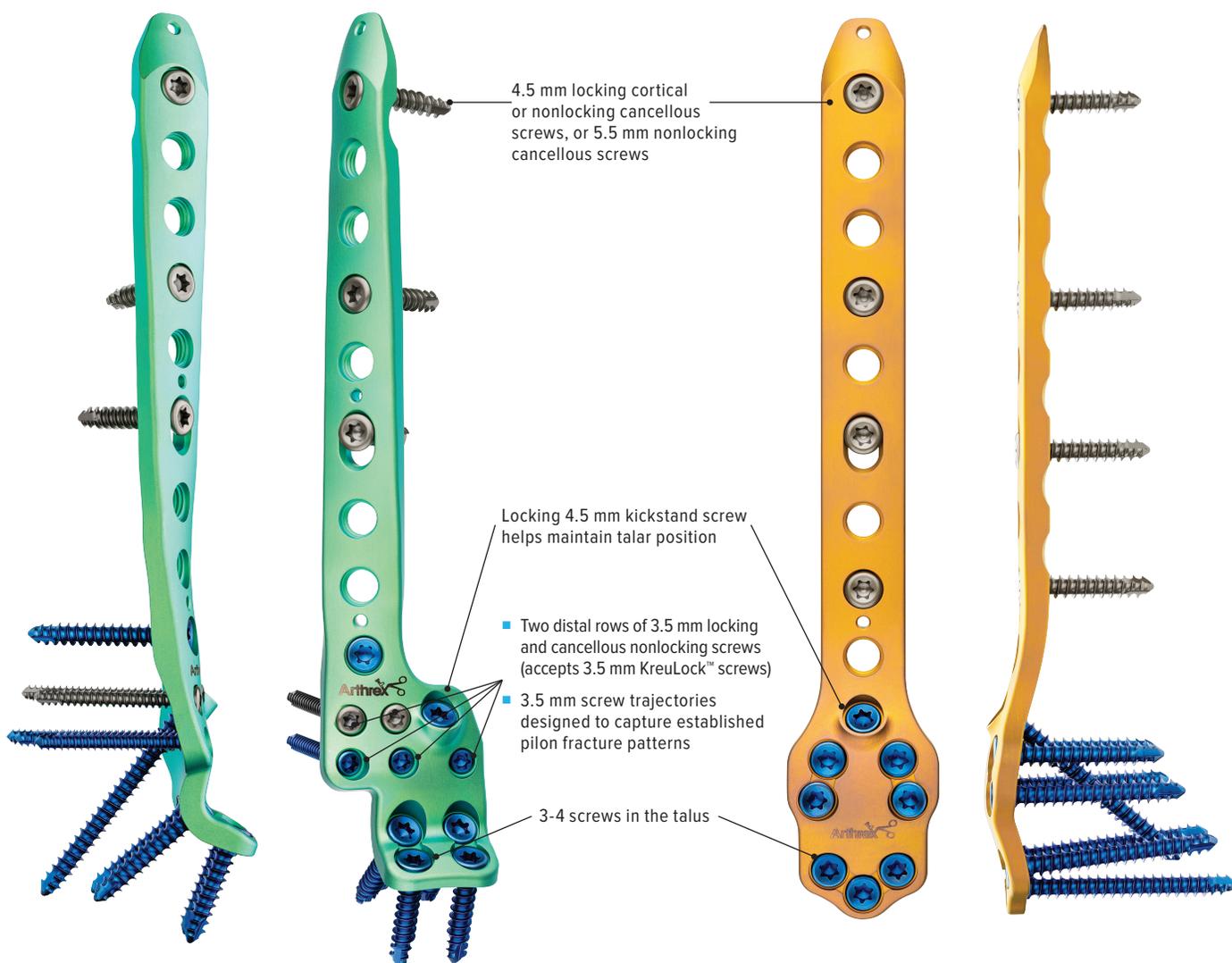


The Arthrex Pilon Fusion Plating System is an expansion to the Arthrex Ankle Fusion Plating System that adds to the Arthrex portfolio for the following potential scenarios:

- Distal tibia fractures that require fracture reduction and primary ankle arthrodesis
- Primary ankle fusions that necessitate additional screw options or lengths
- Revision ankle fusions
- Revision tibiototalcalcaneal (TTC) nail procedures
- Revision total ankle procedures

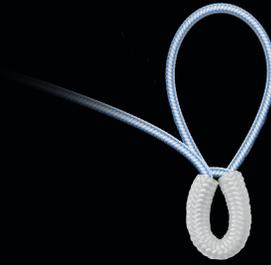
**Anterolateral: 5- to 18-hole plate options (112 mm-277 mm)**

**Posterior: 5- to 15-hole plate options (119 mm-246 mm)**



# Product Highlight

## DX Knotless FiberTak® Anchor



DX Knotless FiberTak Anchor

**New!**



### Product Overview

- 21 mm Anchor Sheath
- #2 Coreless Machine-Tapered Suture
- Needles Attached
- 1.8 mm K-Wire Drill (recommended)
- 1.6 mm K-Wire Drill (soft bone)
- 20 mm Drill Depth

### DX Knotless FiberTak Anchor

Product Description	Item Number
DX Knotless FiberTak Anchor with one #2 coreless machine-tapered suture, needle attached, 26.2 mm ½ circle	AR-8991
<b>DX Knotless FiberTak Anchor Disposables Kit</b>	
Drill Guide	AR-8991DS
K-Wire Drill, AO, 1.8 mm (recommended)	
K-Wire Drill, AO, 1.6 mm (soft bone)	

### Key Features and Benefits

- Low-profile, knotless suture fixation with patented tensionable technology and the ability to interconnect with similar anchors.
- No knot impingement or knot loosening.
- **Minimal Bone Removal**—more room for other anchors, including *Internal/Brace*™ ligament augmentation repair for lateral ankle ligament instability.
- **Tremendous Pull-Out Strength**—equivalent to 3.0 mm BioComposite SutureTak® anchor. Surgeons can be confident in the ability of this anchor even with a small-diameter footprint.<sup>1</sup>

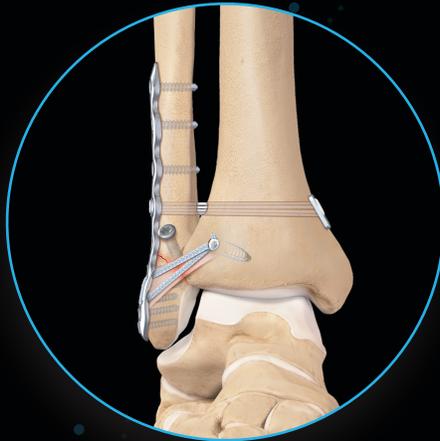
### Reference

1. Arthrex, Inc. Data on file (APT-05037). Naples, FL; 2021

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.

# Treat Ankle Fractures with Confidence

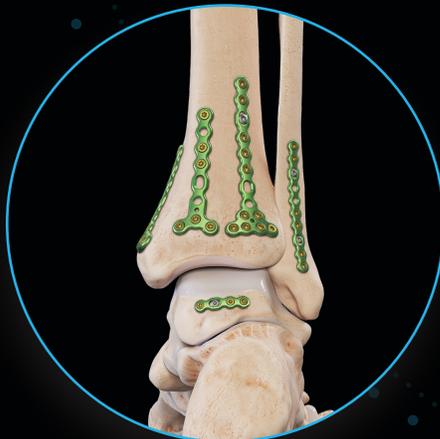
*From complex fractures to ligament, tendon, or articular cartilage injuries, only Arthrex delivers a portfolio of comprehensive solutions*



**SS/Ti Ankle  
Fracture Plates\*  
with Syndesmosis  
TightRope® XP  
and InternalBrace™  
Repair**



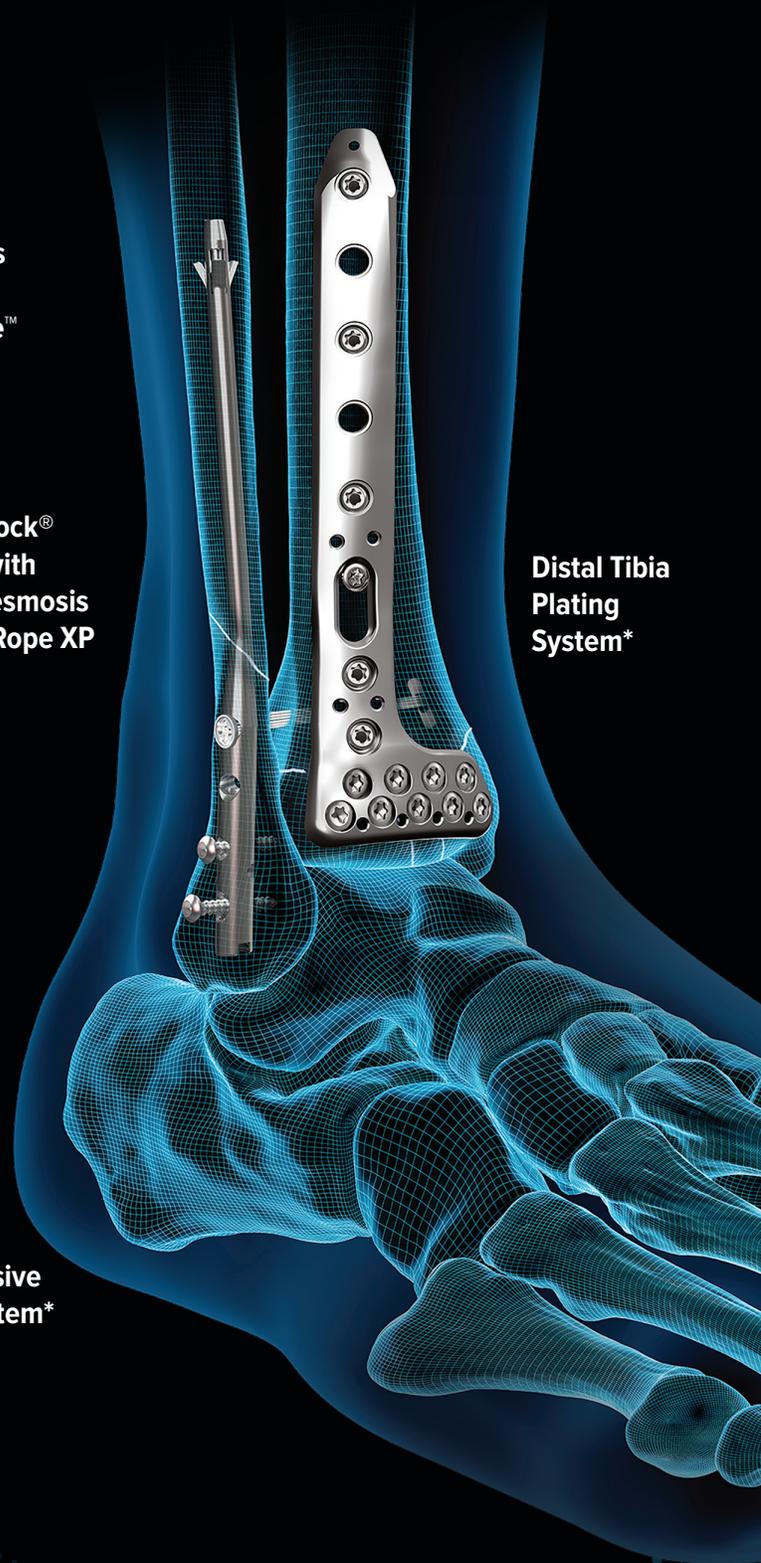
**BioCartilage®  
Extracellular  
Matrix for  
Microfractures**

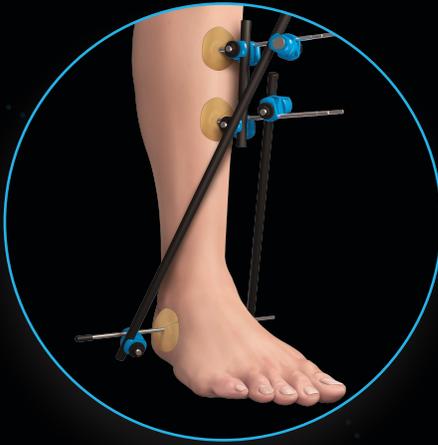


**Mini  
Comprehensive  
Fixation System\***

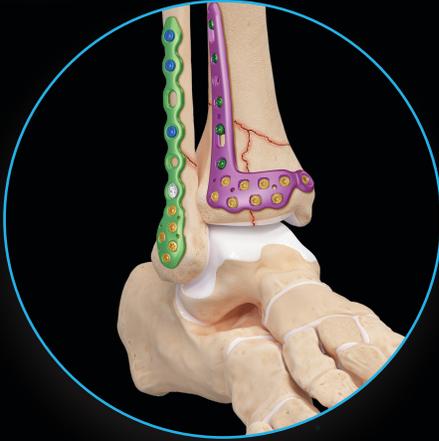
**FibuLock®  
Nail with  
Syndesmosis  
TightRope XP**

**Distal Tibia  
Plating  
System\***





**ArthroFX®**  
External  
Fixation with  
JumpStart®  
Antimicrobial  
Wound Dressing



**Ti Ankle  
Fracture and  
Distal Tibia  
Plates\***

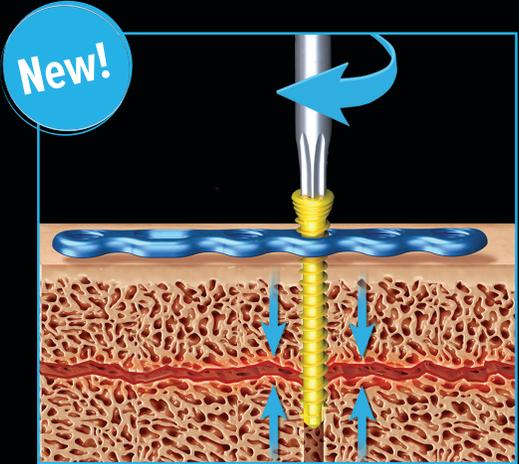


**New!**

**Primary  
Pilon Fusion  
Plating\***

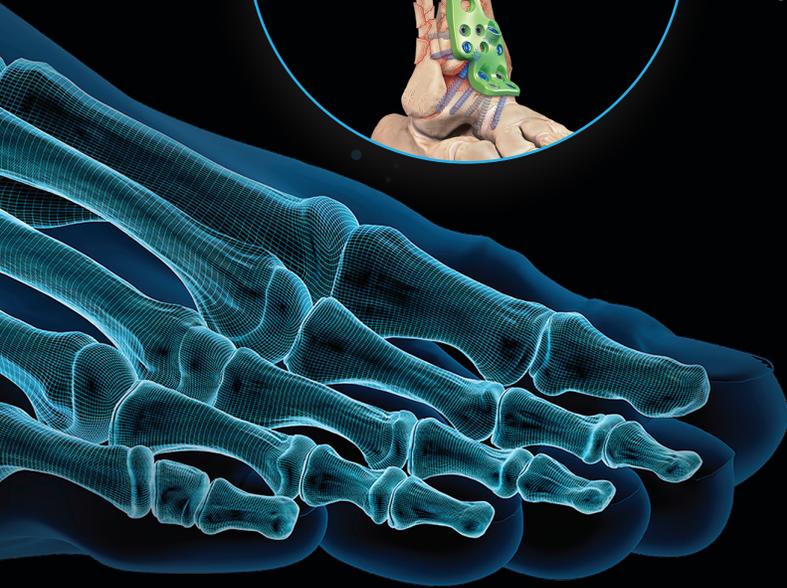
**\*Compatible with KreuLock™ Locking  
Compression Screws**

**NanoScope™ System  
for Minimally Invasive  
Fracture Management**



**New!**

**\*Compatible with KreuLock™ Locking  
Compression Screws**



# Product Highlight

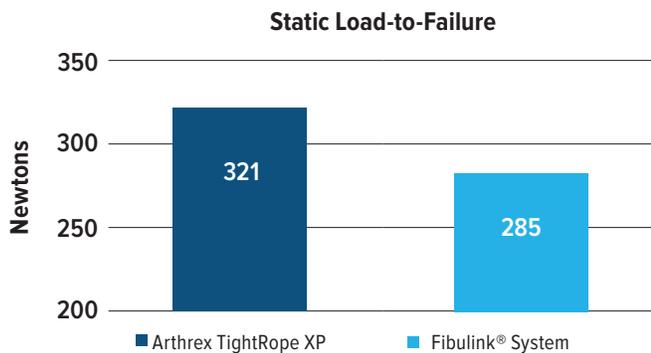
## Syndesmosis TightRope® XP Implant System

### The Arthrex TightRope XP Implant System Is Simply Anatomic

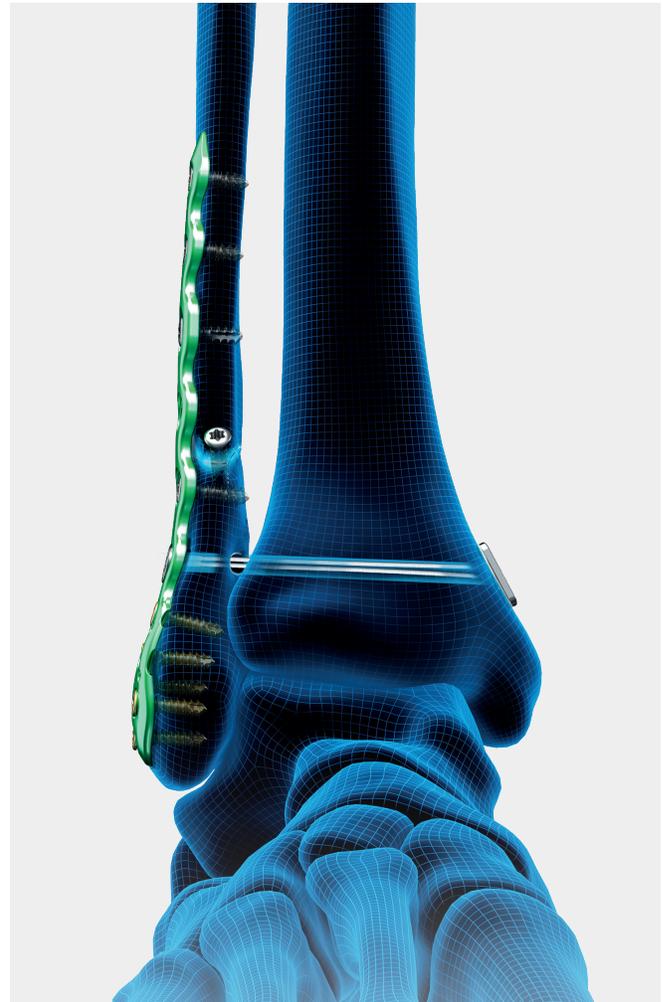
#### Since 2005:

- Clinically proven via multiple randomized controlled trials<sup>1,2</sup>
- Faster rehabilitation<sup>2</sup>
- Decreased malreduction<sup>1,2</sup>
- No medial incision
- Cost-effective vs screws<sup>3</sup>

#### Superior Biomechanical Properties vs DePuy Synthes Fibulink®<sup>4</sup>



- Increased load-to-failure
- 22% less mediolateral elongation
- #5 suture vs #1 suture



#### References

1. Shimozone Y, et al. Suture button versus syndesmotic screw for syndesmosis injuries: a metaanalysis of randomized controlled trials. *Am J Sports Med.* 2019;47(11):2764–2771.
2. Sanders D, et al. Improved reduction of the tibiofibular syndesmosis with TightRope compared to screw fixation: results of a randomized controlled study. *J Orthop Trauma.* 2019;33(11):531-537.
3. Neary KC, et al. Suture button fixation versus syndesmotic screws in supination-external rotation type 4 injuries: a cost-effectiveness analysis. *Am J Sports Med.* 2017;45(1):210-217. Arthrex, Inc. Data on file (APT-05370). Naples, FL; 2021
4. Arthrex, Inc. Data on file (APT-05370). Naples, FL; 2021.



For more  
information visit  
[Arthrex.com](https://arthrex.com)

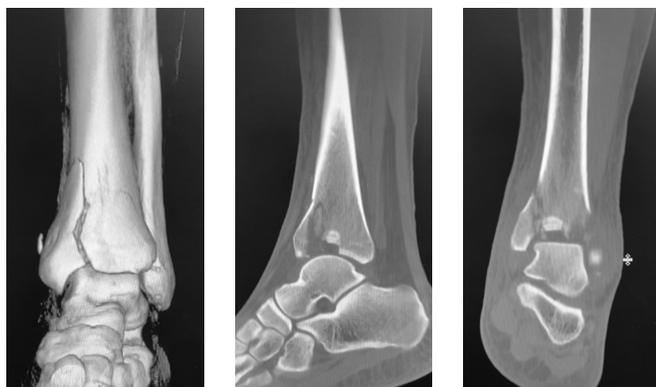
# Case Report

## Titanium Pilon Fracture



Ali Rahnama, DPM

Pilon fractures are high-energy fractures of the distal tibia with marked disruption of the articular surface of the ankle. Typically, pilon fractures are accompanied by complex fibular shaft fractures. Staged protocols to treat these injuries are well established and consist of skeletal stabilization (length, rotation, axial alignment) via application of an external fixator shortly following the accident. The primary goal of the first stage is to allow for resuscitation of the soft-tissue envelope to reduce infection and wound complications in the second stage consisting of plate osteosynthesis. This combination of steps significantly improves the outcomes of these devastating injuries. The following case study demonstrates the scope of capabilities offered by the Arthrex trauma portfolio.



Figures 1, 2, and 3. Pre-op CT and MRI.

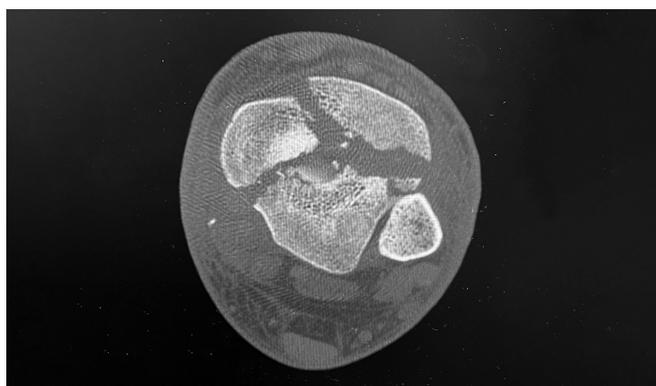


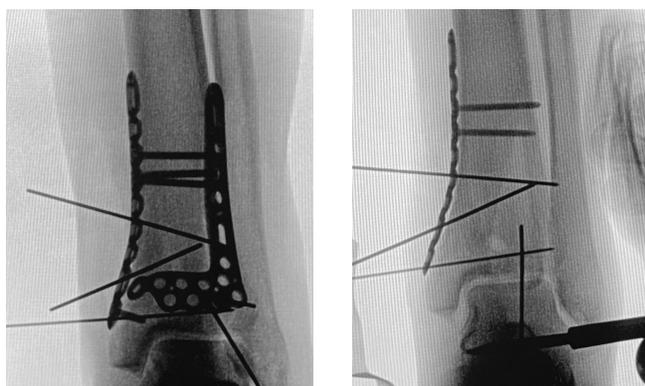
Figure 4. Anterior fracture pattern MRI.

### Case Report

A 32-year-old male was referred for evaluation of a distal tibial plafond fracture that he sustained after landing on his left ankle from an 8-foot wall the day before. He had no other injuries other than the isolated tibial fracture. After initial evaluation and x-rays, consideration was given for a temporizing delta frame external fixator but given an intact soft-tissue envelope, no apparent clinical deformity at the ankle, and only moderate swelling, it was elected that he would be scheduled for primary open reduction internal fixation (ORIF) of the injury.

CT scan was obtained after review of the patient's initial radiographs and clinical evaluation was performed. This was done for several reasons as it pertains to the operative plan:

- Obtain further information regarding the fracture pattern and assist in operative planning in terms of incisional approach.
- Identify any areas that may pose a barrier to obtaining a reduction as close to anatomic as possible and make sure our surgical plan takes these areas into consideration before we step into the operating room (ie, order of reduction, order of fixation).
- Make sure the necessary implants and any other materials needed will be there. In this case we asked our Arthrex team to have the NanoScope™ operative arthroscopy system available.



Figures 5 and 6. Provisional fixation and placement.

# Case Report

## Titanium Pilon Fracture (Cont.)

The injury in this case did not have significant varus or valgus deformity despite the unstable anterior and medial fracture fragment's that might typically lend to a varus deformity. This was in part due to the intact fibula which aided in maintaining relative length while also resisting a varus deformity of the ankle. CT scan also demonstrated a posterolateral constant fracture fragment with associated anterior and medial fragments in addition to a large die-punch fragment in the anteromedial portion of the joint. Based on these findings, we elected on a medial and anterolateral incisional approach to gain access to the whole fracture with the goal of anchoring all other fragments to the posterolateral constant fragment. The femoral distractor and NanoScope™ system were used to help with appropriate visualization into the joint and to assess our die-punch fragment reduction. We elected with both anterolateral and medial plating of the fracture to stabilize in multiple planes and maintain reduction.

Intraoperative radiographs as well as radiographs from the first postoperative visit are shown. Additionally, x-rays are shown at 10 weeks from the date of surgery with signs of consolidation in accord with healing and maintenance of anatomic reduction.

The Arthrex Titanium Plating System offers low-profile and anatomic plating options in addition to traditional plates with both locking and nonlocking screw options that also allow for variable-angle locking of the screws in the plate for added versatility. In this case, we used the anterolateral distal tibia plate for the anterior fragment in addition to a straight plate, which was used for the fixation of our medial fragment. This multiplanar fixation construct was necessary to maintain reduction of all fracture fragments and afforded a stable construct for healing of the fracture.



Figures 7 and 8. Post-op lateral and AP imaging.



Figures 9 and 10. 10-week post-op AP and lateral imaging.

# Product Highlight

## MaxForce™ MTP Plates and DynaNite® FlexWire



### MaxForce MTP Plates

MaxForce MTP plates allow for maximized compression via two modes. In addition to a standard oblong compression hole, these plates have a unique geared mechanism to pull the phalanx to the metatarsal using the compression device.

#### MaxForce MTP Plates



Average Total Compression<sup>1</sup>

**41.39 lbf**

#### Low-Profile MTP Plates



Average Total Compression<sup>1</sup>

**15.90 lbf**

**160%** more compression with the MaxForce plate compared to older technology.

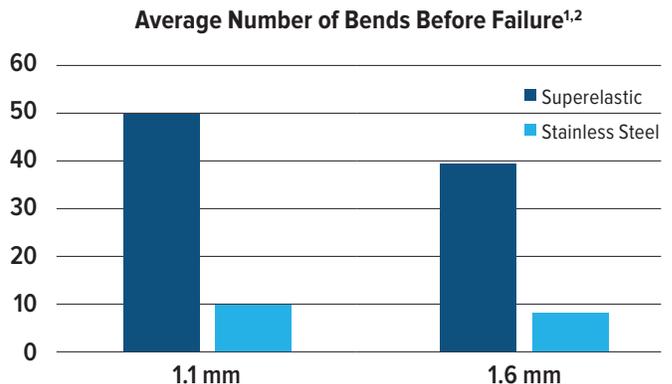
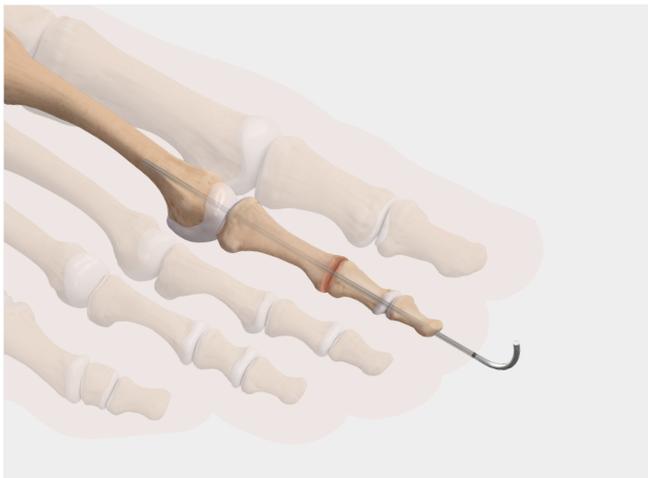
#### Reference

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

### DynaNite FlexWire

The durability and superelasticity of the DynaNite FlexWire may help reduce postoperative complications from bent or broken K-wires and allow for easy removal.

The superelastic end of the wire helps maintain correction by returning to its manufactured straight position, even if correction is lost.



#### References

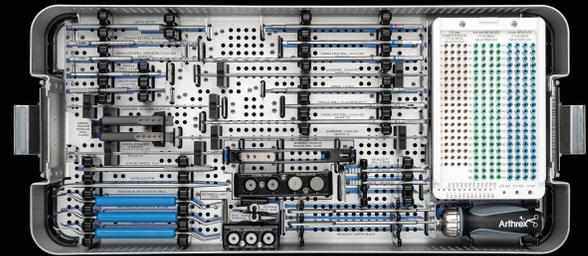
1. Arthrex, Inc. Data on file (APT-04336). Naples, FL; 2019.
2. Arthrex, Inc. Data on file (APT-04460). Naples, FL; 2019.

# Arthrex Bunionectomy

Minimally Invasive Bunion Correction

**A Comprehensive System to Simplify  
Your MIS Bunion Procedures**

**Shifting Device**  
Dial in and hold desired correction



MIS Bunion Correction System

**Trajectory Guide**  
Accurate screw placement

**45° Beveled FT Screws**  
Improved instrumentation  
to reduce cortical  
skiving

*Scan to learn more about  
the Arthrex Minimally Invasive  
Bunionectomy System*



Resources and  
Procedure  
Information for  
Patients at  
**BunionPain.com**

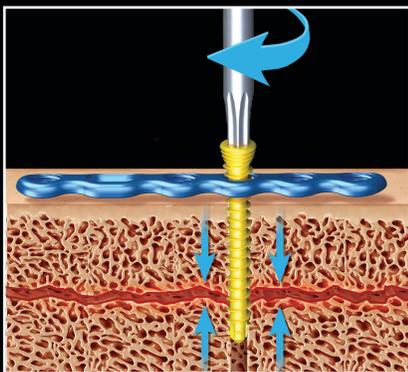


# KreuLock™

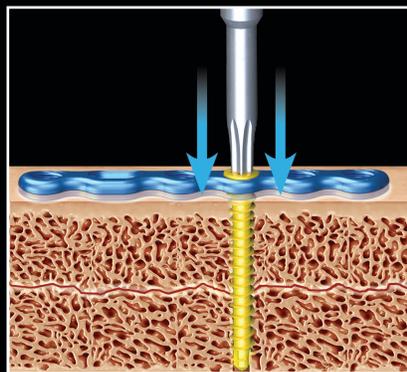
## Locking Compression Screws

Arthrex is the first company to **combine locking and compression screw technology** together in one revolutionary screw design that **compresses bone fragments and the plate to bone during insertion.**

Multiple screw sizes and materials are compatible with the full range of low-profile, anatomic Arthrex titanium and stainless steel plates for every fracture and fusion indication.



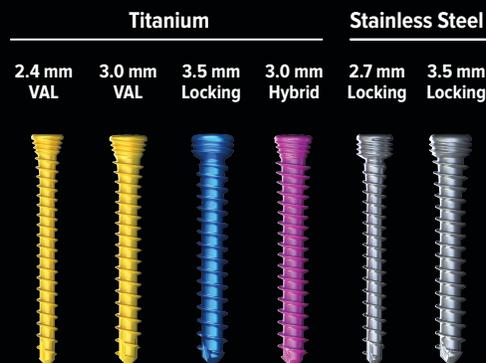
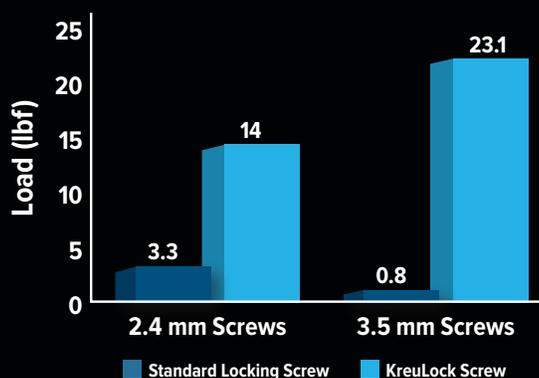
The thread pitch of the screw compresses bone fragments during insertion.



The screw also compresses the plate to bone during final insertion.

Up to 22+ lb of Additional Compression Compared to Regular Locking Screws

Maximum Compressive Strength<sup>1,2</sup>



### References

1. Arthrex, Inc. Data on file (APT-04100). Naples, FL; 2020.
2. Arthrex, Inc. Data on file (APT-04120). Naples, FL; 2020.

# Arthrex Minimally Invasive Ankle Fusion Plate

## *Small Footprint, Huge Impact*

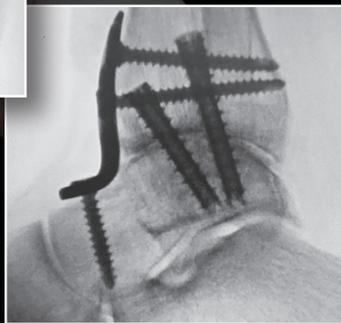


Compared to the standard 3-screw fusion construct, the addition of an anterior plate increases construct rigidity and decreases micromotion at the ankle fusion interface without the need for an extensile incision.<sup>1</sup>



AP View

X-rays courtesy of David Dalstrom, MD (San Diego, CA)



Lateral View

Osteotome, Angled



Osteotome, Straight



Osteotome, Straight Large



Cup Curette Straight, Large



Cup Curette Angled, Large



Cup Curette, Curved Shaft, Large



**Arthrex**<sup>®</sup>

[Ad.Arthrex.com/MIAP](http://Ad.Arthrex.com/MIAP)

**Reference**

1. Tarkin IS, Mormino MA, Clare MP, Haider H, Walling AK, Sanders RW. Anterior plate supplementation increases ankle arthrodesis construct rigidity. *Foot Ankle Int.* 2007;28(2):219–223. doi:10.3113/FAI.2007.0219

# Case Report

## Painful Crossover Toe



Steven Douthett, DPM

### Case Report

This 65-year-old female presented with a painful crossover toe deformity. She worked in housekeeping and needed to be on her feet 8 hours a day. The patient complained of a painful bunion and an inability to wear closed-toe shoes that did not rub on her toes. She had a history of a prior bunionectomy, 20+ years ago, and failed conservative measures.

Clinical exam revealed a painful range of motion of the 1st metatarsophalangeal (MTP) joint. She had a rigid contracture at the proximal interphalangeal (PIP) joint of the second toe. The 2nd MTP joint was noted to sublux with a medially deviated crossover toe deformity. Lachman's maneuver was positive, indicating a plantar plate tear.

### Discussion of Pathology

To address the 2nd-ray pathology, the hallux must be brought out of the way first. I chose to move forward with an MTP fusion. A revision osteotomy was considered; however, since the patient had a prior failed bunionectomy, a revision osteotomy appeared less reliable and could lead to additional shortening. Additionally, the joint had early arthritic changes.

I prefer to address the 1st ray before working on the 2nd, so I can better determine the amount of shortening required to restore the forefoot parabola. Within the 2nd ray, I completed the PIP fusion and then moved to address the plantar plate tear.

I like to use a shortening osteotomy to decompress the MTP joint and get visualization of the plantar plate. Depending on the quality of plantar plate tissue and the amount of tissue retraction, I determine if a direct repair or augmentation is required. After completing the repair, I look for residual transverse plane instability and, if necessary, I address the lateral collateral ligament to help with any remaining correction.



Figure 1A. Radiographic pre-op presentation.



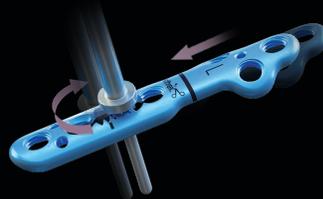
Figure 1B. Radiographic pre-op presentation.



Figure 1C. Radiographic pre-op presentation.

# Case Report

## Painful Crossover Toe (cont.)



MaxForce™ MTP Fusion Plate



DynaNite™ PIP Hammertoe



CPR™ Plantar Plate Repair System

### Treatment Plan Options

#### MTP Fusion With MaxForce Fusion Plate

There are a variety of MTP fusion plates on the market, but my preference is the MaxForce MTP fusion plate. This plate has a built-in gear mechanism that allows me to dial in my compression, which is important in patients with poor bone quality. Other systems use an external jig to hold the compression, some of which I felt I lost when adding the plate, or an oblong compression slot.

#### Plantar Plate Repair With CPR™ System

I have found direct repair of the plantar plate yields superior patient outcomes as opposed to a Weil osteotomy and pin across the MTP joint. Therefore, I elected to use the CPR system through a direct dorsal approach. This system has the specialty instruments and a variety of suture passers to help gain access to the healthy tissue. Also, with this level of deformity, you never know the quality of tissue or if you can trust it to hold the repair. Therefore, I always have the Forefoot *Internal/Brace*™ repair system on standby, in the event I must augment my direct repair.

#### Hammertoe Fixation With DynaNite™ PIP

When performing a hammertoe correction in conjunction with a plantar plate repair, one needs to be mindful of not only good compression, but also the length of the implant so as to not violate the bone tunnels for the plantar plate repair. The DynaNite PIP is my preferred choice because I can get continuous compression through the nitinol material properties as well as get additional stability by pinning across the MTP joint, if required.

### Post-Op Care

This patient was placed into a surgical shoe and allowed immediate weightbearing. She was transitioned into athletic style shoe gear at 4 weeks postoperative. The patient returned to her duties as a housekeeper 8 weeks postoperatively. Complete osseous unions of the PIP joint and the MTP joint were noted radiographically at 12 weeks.

### Patient Outcome

At 1-year postoperatively, the patient was pain-free and able to perform all duties as a housekeeper. There has been no loss of correction nor recurrence of deformity. Additionally, the patient has a well-balanced foot with appropriate toe purchase and propulsion strength. The patient was extremely satisfied with their results and would elect to do the procedure again.



Figure 2A. Radiographic post-op presentation.



Figure 2B. Radiographic post-op presentation.



Figure 2C. Clinical post-op presentation.

# Product Highlight

## DEX 3.0 mm BioComposite Knotless SutureTak® Anchor

DEX 3.0 mm BioComposite Knotless SutureTak Anchor



### Product Overview

- #2 Coreless Machine-Tapered Suture
- Needle Attached
- Step Drill, 2.4 mm (recommended)
- Drill Depth, 20 mm

### Small Joint SutureTak® Anchors

Product Description	Item Number
Small Joint BioComposite Knotless SutureTak Anchor With Needle, 3 mm × 14 mm, with one #2 coreless machine-tapered suture, 26.2 mm ½ circle	AR-8934BCK
<b>Small Joint SutureTak Disposables Kit</b>	
Drill Guide Step Drill Bit, 2.4 mm (soft bone) Step Drill Bit, 2.5 mm (hard bone)	AR-8934DSC

### Key Features and Benefits

- Low-profile, knotless suture fixation with tensionable technology and the ability to interconnect with similar anchors.
- No knot impingement or knot loosening.
- Straightforward technique with simple, shorter instrumentation for a reliable and quick procedure.
- Excellent cortical purchase with ridges along entire length and exceptional pull-out in harder cortical bone.<sup>1</sup>
- Proven material—BioComposite Knotless SutureTak is manufactured from PLLA and β-TCP (beta-tricalcium phosphate).

### Reference

1. Arthrex, Inc. Data on file (APT-05066). Naples, FL; 2021.

# Case Report

## Anterior Tibial Tendon Rupture



James Cottom, DPM

### Case Report

A 74-year-old female presented complaining of left ankle and arch pain that had been present for 5 days. She stated she felt a pop when she was lying in bed and stretching her ankles. She complained of pain, swelling, and a “knot” near her ankle joint.

Upon physical exam she had weakness with dorsiflexion and inversion of the ankle. There was swelling along the course of the tibialis anterior tendon and the tendon was not palpable or nodular at the medial anterior aspect of the ankle joint.

MRI confirmed a complete rupture of the tibialis anterior tendon, with retraction to the level of the ankle joint (Figure 1).

### Treatment Plan

The patient was extensively consulted on options including an AFO brace versus surgical intervention, including a gastrocnemius recession with allograft repair of the tibialis anterior tendon. She wanted to continue to golf and walk the beach and elected for surgical intervention.

### Surgical Intervention

1. An endoscopic gastrocnemius recession was performed prior to opening the ankle and debriding the distal aspect of the degenerated and nonsalvageable tendon.
2. Due to degeneration in the distal 2 cm of the native tendon, an allograft tibialis anterior tendon was used to both restore length and strengthen the repair. Care was taken to pre-tension the allograft (Figure 2A). The tendon was then prepared distally with a mini DX cortical button and proximally to be anastomosed to the native tibialis anterior tendon.
3. The allograft was first secured proximally. Then the extensor retinaculum was closed, prior to tensioning the repair distally (Figure 2B). It is important to close the retinaculum first as it can be very difficult to complete after the tendon is tensioned.
4. Live fluoroscopy was used to assist with the DX cortical button placement and flipping (Figure 3A). For proper flipping, hold tension on the sutures as you release the DX button with the inserter in the bone tunnel.

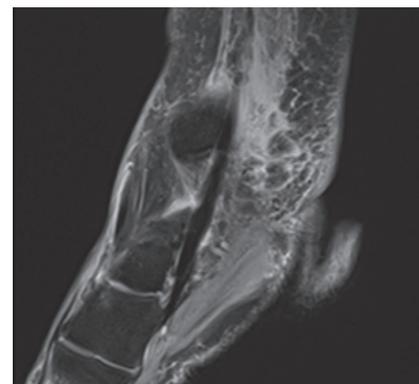


Figure 1A. MRI shows a rupture of the tibialis anterior tendon.



Figure 2A. Graft preparation and closure of extensor retinaculum.

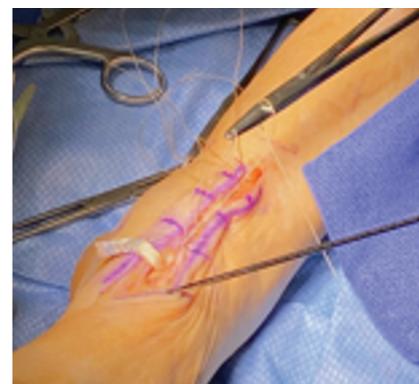


Figure 2B. Graft preparation and closure of extensor retinaculum.

# Case Report

## Anterior Tibial Tendon Rupture (cont.)



Bio-Tenodesis™ Screw



DX Cortical Button



Tension-Slide Technique

### Surgical Intervention (cont.)

5. With the ankle in neutral, the repair was advanced until the desired tension was achieved (Figure 3B).

The tension-slide technique gives me the control to set the tension where I want it. Additionally, I can confirm my tension through a range-of-motion test prior to completing my fixation with a Bio-Tenodesis™ screw (Figure 3C). You are not able to do this with the through-tunnel technique. Lastly, it affords me the confidence of having a stable repair with 3 points of fixation (cortical button, Bio-Tenodesis screw, and suture knot) and one that is not dependent on the patient's bone quality.

6. Layered closure was performed with application of JumpStart® to assist in incision healing (Figure 3D).

### Post-Op Care

The patient was placed in a posterior splint at 90° and kept non-weightbearing for 2 weeks. Thereafter, protected weight-bearing in a cast for 2 weeks followed by a transition into a walking boot and physical therapy. At 6 weeks, the patient was advanced into an ankle brace and completed therapy. Figures 4A and 4B show the postoperative radiographs.

With the tension-slide technique, and its greater construct strength in comparison to an interference screw alone, I am much more comfortable starting early range of motion and weight-bearing progression. In fact, the tendon fixation is no longer a consideration point for my rehabilitation; it now depends on incision healing and swelling reduction.

### Patient Outcome

The patient is 12 months out after the index procedure. She is pain-free, has excellent function of her repaired tendon, and is back golfing and walking on the beach.

### Intraoperative images of the repair.

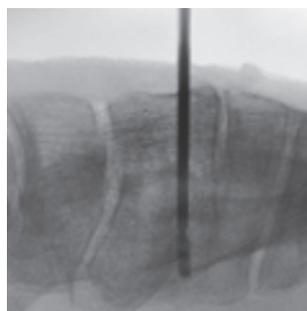


Figure 3A



Figure 3B



Figure 3C



Figure 3D

### Radiographic postoperative presentation of the patient.



Figure 4A



Figure 4B

# Scientific Update

## NanoScope™ Operative Arthroscopy System

### Nano-Instrumentation Achieves Superior Foot & Ankle Outcomes—Outside the Operating Room



- Ankle impingement within the procedure room (local)
- Clinical outcomes and patient experience
- Pain reduction across the cohort
- Higher rates of return to work/play
- Increased patient satisfaction scores

#### Introduction

While many patients can get symptomatic relief from conservative therapy, there are some who require surgical resection of bony spurs, soft-tissue impingement, or both. Over the years the gold standard surgical procedure has been arthroscopic anterior ankle debridement in a traditional operating room. The outcomes following this procedure have been excellent, but prolonged recovery times of up to 8 weeks before resuming sporting activities are commonly reported.

In-office needle arthroscopy (IONA) has been available since the 1990s as a method for orthopedic surgeons to visualize and evaluate a joint under local anesthesia. Unfortunately, this technology never gained popularity, in part due to inferior image quality yielding poor diagnostic accuracy, and when imaging was possible the lack of the necessary small instruments confounded any meaningful use other than an adjunct diagnostic modality.<sup>1,2</sup> Improving on previous IONA designs, a novel needle arthroscopy system uses an optic chip at the camera tip and no inner rod-lenses; the system provides 400 × 400 resolution, 120° field of view, and options for image and video capture.

#### Methods

After approval from our institutional review board, a prospectively collected database of 31 patients undergoing IONA for the treatment of anterior ankle impingement between January 2019 and January 2021 was retrospectively reviewed. Inclusion criteria for this study were: patients ≥18 years of age, clinical history, physical exam, radiographic imaging, and MRI consistent with anterior ankle impingement for which each patient underwent IONA and had a minimum 12-month follow-up.

Patients were diagnosed with anterior ankle impingement based on a combination of physical examination and radiographic findings. In the clinical setting, pain and tenderness were localized to the anterolateral and/or anteromedial ankle joint line with limited dorsiflexion and swelling was correlated with radiographic imaging.

#### Results

Thirty-one patients were included in this study, which included 18 males and 13 females with a mean age of 41.7 ± 15.5 years (range, 17-69 years) and mean body mass index of 27.3 ± 5.7 kg/m<sup>2</sup> (range, 19.37-41.5). The mean follow-up time was 15.5 ± 4.9 months. The mean postoperative Foot and Ankle Outcome Scores (FAOS)-reported symptoms, pain, daily activities, sports activities, and quality of life were 79.4 ± 11.9, 82.9 ± 15.3, 83.5, ± 15.4, 71.9 ± 18.5 and 64.3 ± 21.4 at final follow-up, respectively. Minimal clinically important difference (MCID) was achieved by 84% of patients for FAOS pain, 77% for FAOS symptoms, 75% for FAOS quality of life, 74% for FAOS sports, 65% for PROMIS Pain Interference, 61% for FAOS activities of daily living, and 42% for Patient-Reported Outcomes Measurement Information System (PROMIS) Pain Intensity. Lastly, 29 patients (94%) expressed willingness to undergo the same procedure again.<sup>3</sup>

#### References

1. McMillan S, Schwartz M, Jennings B, Faucett S, Owens T, Ford E. In-office diagnostic needle arthroscopy: understanding the potential value for the US healthcare system. *Am J Orthop* (Belle Mead NJ). 2017;46:252-256.
2. Zhang K, Crum RJ, Samuelsson K, Cadet E, Ayeni OR, deSa D. In-office needle arthroscopy: a systematic review of indications and clinical utility. *Arthroscopy*. 2019;35:2709-2721. doi:10.1016/j.arthro.2019.03.045
3. Colasanti CA, Mercer NP, Garcia JV, Kerkhoffs GMMJ, Kennedy JG. In-office needle arthroscopy for the treatment of anterior ankle impingement yields high patient satisfaction with high rates of return to work and sport. *Arthroscopy*. 2021;S0749-8063(21)00848-3. doi:10.1016/j.arthro.2021.09.016

# OsteoAuger™ Bone Graft Harvesting System

Autologous bone that naturally provides bone grafts with cell, signal, and scaffold for placement on a fracture or fusion site.<sup>1</sup>

The harvester's cutting tip accurately morselizes the bone for ideal graft handling. The AO quick connection allows for easy attachment and removal of the device.

- Fully sterile system
- Pilot hole creation not required
- Available in three sizes: 6 mm, 8 mm, and 10 mm
- Plunger provided for simpler graft removal



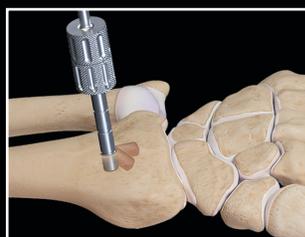
Morselized bone can be hydrated with Arthrex ACP® platelet-rich plasma, which may increase cell proliferation and support healing.<sup>2,3</sup>



Distal Tibia



Calcaneus



Distal Radius

The OsteoAuger™ system can be used to recover bone at common harvest sites including the iliac crest, calcaneus, distal and proximal tibia, and distal radius.

Scan the QR Code for More Information on OsteoAuger Bone Graft Harvesting System



## References

1. Baldwin P, Li DJ, Auston DA, Mir HS, Yoon RS, Koval KJ. Autograft, allograft, and bone graft substitutes: clinical evidence and indications for use in the setting of orthopaedic trauma surgery. *J Orthop Trauma*. 2019;33(4):203-213. doi:10.1097/BOT.0000000000001420
2. Arthrex, Inc. Data on file (LA0815A). Naples, FL; 2009.
3. Manini DR, Shega FD, Guo C, Wang Y. Role of platelet-rich plasma in spinal fusion surgery: systematic review and meta-analysis. *Adv Orthop*. 2020;2020:8361798. doi:10.1155/2020/83617988





# Arthrex Techniques for Lapidus Arthrodesis, Percutaneous Achilles Repair, and PT Tendon Transfer

Operating Theatre | Friday, February 25th | 2:00 PM-3:30 PM

## Upcoming Medical Education Events

Date	Course Name	Location
2022		
January 28-29	East Coast Foot and Ankle Summit	Naples, FL
January 31	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
February 19	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
March 12	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
April 1-2	Women in Foot and Ankle Surgery (DPM)	Naples, FL
April 4	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
April 11-12	Foot and Ankle PA Course	Naples, FL
May 16	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
July 8-9	Foot and Ankle Surgeons Symposium (DPM)	Naples, FL
July 23	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
August 4	Foot and Ankle Minimally Invasive Surgery Course	Newport Beach, CA
August 5-6	Foot and Ankle Summit	Newport Beach, CA
October 1	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
November 7	Foot and Ankle Minimally Invasive Surgery Course	Naples, FL
November 11-12	Controversies in Foot and Ankle Surgery	Naples, FL



Surgical Podiatry Fellowship Forum 2021



Foot and Ankle Minimally Invasive Surgery Course



Surgical Podiatry Symposium 2021



East Coast Foot and Ankle Summit 2021