Small Joint Connection

Spring 2009

In this issue

News and Notes

As many of our sales consultants and surgeons have stated, *"there is nothing small about small joint"*. As our business continues to grow, Arthrex Inc. continues to invest resources in our segment. And why not? Our solid network of Arthrex distributors have hired more than 100 small joint specialists to the team of 500 plus Arthrex sales consultants already on board. We recognize that there is vast ground to cover and more importantly, we want to continue to improve our service to you, our surgeon customer. Arthrex remains committed to helping the small joint surgeon treat their patients better. With the expanded group of small joint specialists, and medical education clinical experts, Arthrex will continue to offer "a state-of-the-art" cadaver training experience in any of our national labs in Naples, FL; Scottsdale, AZ; or Los Angeles, CA; not to mention the many distributor-owned facilities across the country. We pride ourselves in having the best sales consultants in the business. Please get to know your Arthrex sales representative or small joint specialist and ask about our training programs. If you don't know your representative, please contact 800-933-7001.

I look forward to seeing many of you in Naples soon. Have a great 2009 and thank you for your continued support of Arthrex, Inc.

Pete Denove, Group Product Manager, Small Joint

Featured Product

Ankle TightRope with Buttress Plate Kit

Robert Anderson, MD
Ortho Carolina Group - Charlotte, NC

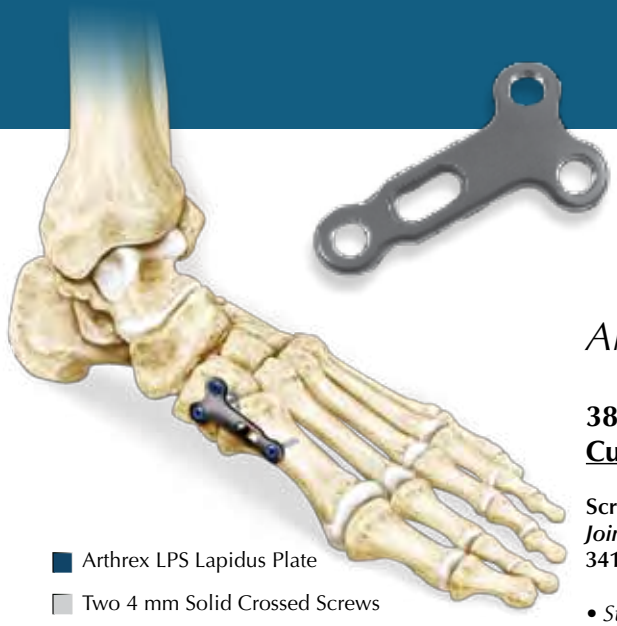
"I would consider it for any athlete with a soft tissue syndesmotic injury (not fractures) to lessen the risk of fibular stress fractures. Indications for fixing syndesmotic injuries in general are:

1. **Diastasis of any degree**
2. **Instability as identified on stress testing**
3. **Syndesmotic injury requiring open exploration and reduction**

The product is versatile as it can be used with one or two TightRopes, or if necessary, could also accommodate a 4 - 4.5 mm titanium screw with a TightRope (if surgeon preference). The benefits of the TightRope have been well-stated - no visible hardware breakage, no removal necessary, easy to use, etc. The plate adds protection for the fibula. In addition, the plate will help distribute forces achieved by the TightRope."

Arthrex®

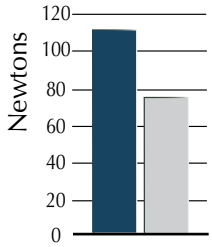
Scientific Article Summaries



Arthrex LPS Lapidus Plate

Two 4 mm Solid Crossed Screws

Ultimate Load-to-Failure



Arthrex LPS Lapidus Plate

38% Stronger than Two Crossed Screws for First Metatarsal Cuneiform Arthrodesis!

Scranton, P., Coetzee, J.C., Carreira, D.: *Arthrodesis of the First Metatarsocuneiform Joint: A Comparative Study of Fixation Method,* Foot & Ankle International: 30(4) 341-345, April 2009.

- *Study compares Arthrex LPS Lapidus Plate vs. two crossed screws for arthrodesis of first metatarsocuneiform joint*
- *LPS Lapidus Plate 38% stronger: 108Nm vs. 78Nm bending moment*
- *That is 38% stronger than the old "Gold Standard"*

LPS Lapidus Plate combines advantages of the locking construct, combined with the Compression Screw for 38% more stability.

The increased ridigity provided by these plates may help minimize the risk of nonunions or malunions. For use in HAV, severe HAV, adolescent HAV, first metatarsocuneiform hypermobility, primary or secondary medial column Lisfranc arthrodesis.

TightRope Syndesmosis Fixation System

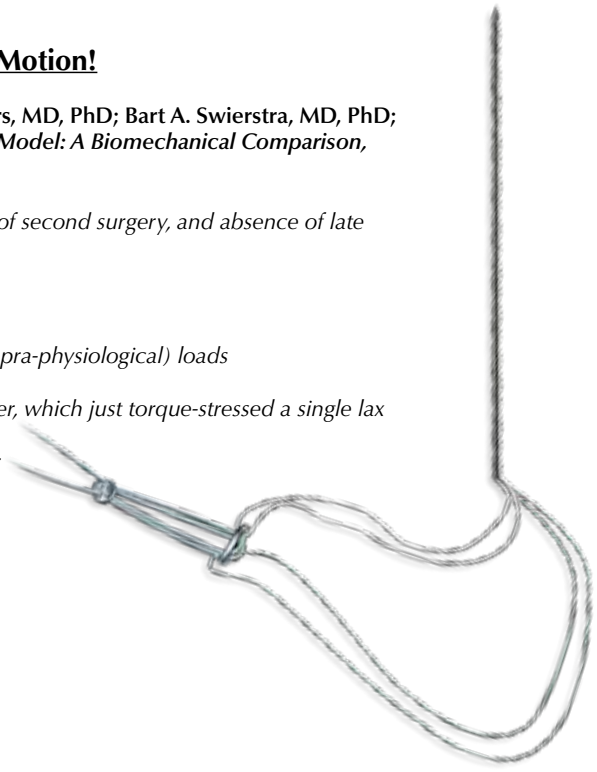
NO Difference vs. Syndesmotic Screw in Terms of Overall Fibular Motion!

Sandeep P. Soin, BS; Trevor A. Knight, BS; A. Feroz Dinah, MRCS (Eng); Simon C. Mears, MD, PhD; Bart A. Swierstra, MD, PhD; Stephen M. Belkoff, PhD: *Suture-Button vs Screw Fixation in a Syndesmosis Rupture Model: A Biomechanical Comparison,* Foot & Ankle International: April 2009; 30:346-352.

*** TightRope provides larger overall benefit in terms of faster rehabilitation, elimination of second surgery, and absence of late complications.*

Summary of Article:

- *Cadaver study comparing syndesmosis screw vs. double TightRope fixation*
- *Ankles were cyclically loaded 10,000 cycles, before stress testing at relatively high (supra-physiological) loads*
- *No differences between groups in terms of overall fibular motion*
- *Study was much closer to the normal situation (of cyclic loading) than Forsythe's paper, which just torque-stressed a single lax TightRope at supra-physiological loads*
- *With no biomechanical difference, TightRope is a better option for syndesmotic repair when all other aspects of care are taken into account*

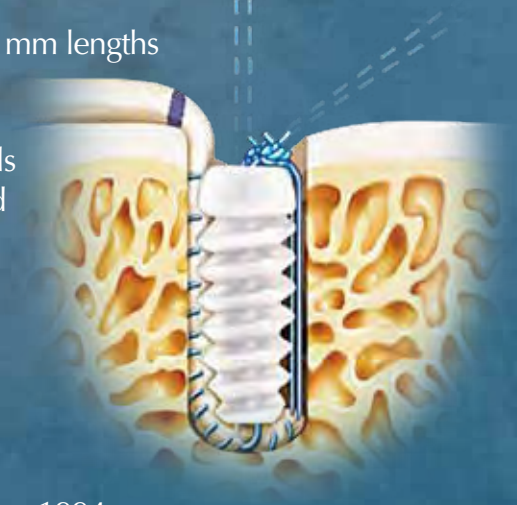


ARTHREX DELIVERS OPTIONS YOU CAN COUNT ON *with our novel*

Bio-Tenodesis™ Screw System

Titanium *Bioabsorbable* *PEEK*

Comprehensive Screw Selection
- Bio, PEEK, or metal in 3 mm - 9 mm diameters x 8 mm - 23 mm lengths

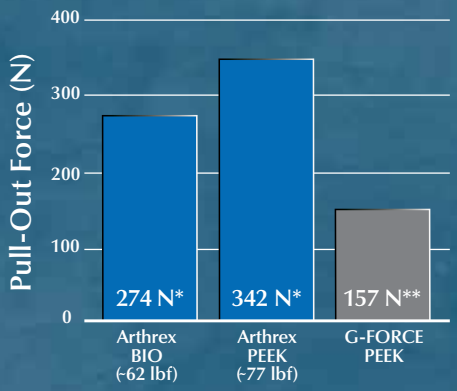


Unique Patented System for Blind Tunnel Tensioning
- Insert, tension and fixate a repair without transosseous tunnels
- Flexibility to use manual "pull-through" tensioning if desired

Complete Disposable Tenodesis System for Small Joint Applications
- Reusable or disposable instrument sets available
- Simplifies operating room stocking

Proven Clinical Track Record
- Over 1,000,000 Arthrex bioabsorbable screws implanted since 1994
- Over 20 years of experience in ligament reconstruction

The Arthrex Bio-Tenodesis Screw System. Our results speak for themselves. . .



**data on éfile*
***as shown in G-FORCE's advertising*

Achilles SutureBridge

Convenience Pack

The contents of the Achilles SutureBridge Convenience Pack have been changed. There will now be two Bio-Corkscrew FT's, **4.5 mm x 15 mm**, with one #1 FiberWire with Tapered Needles. This has changed from the old pack which had the 5.5 mm x 15 mm Bio-Corkscrews. There will also now be a **Drill and a Drill Guide for the 3.5 mm Bio-PushLock.**

The product number AR-8927BNF-CP will remain the same.

This change is reflected in the new Achilles SutureBridge Surgical Technique (LT0460).

Bio-Corkscrew FT

Bio-PushLock

Achilles SutureBridge Convenience Pack (AR-8927BNF-CP)
contains the following, packaged for convenience and cost-effectiveness:

Implants
Bio-Corkscrew FT, 4.5 mm x 15 mm,
w/one #1 FiberWire and Tapered Needles, qty. 2
Bio-PushLock, 3.5 mm x 14 mm, qty. 2

Instruments
Punch/Tap for 4.5 mm Bio-Corkscrew FT Suture Anchor
Drill Guide for 3.5 mm Bio-PushLock
Drill for 3.5 mm Bio-PushLock

What's in My Bag?

Featuring: Paul Shurnas, MD and Troy Watson, MD

Paul Shurnas, MD
Columbia Orthopedic Group, Columbia MO
pjshurnas@juno.com

Troy Watson, MD
Desert Orthopaedic Center, Las Vegas, NV
Feetmd@mac.com

In this interview, Dr. Paul Shurnas (A) and Dr. Troy Watson (B) share their surgical technique tips, current successes with the MTP system, and their thoughts on using this procedure in the future.

Arthrex caught up with several of the designers of this popular new MTP arthrodesis plating system to learn more about the rationale for the system's features. Before going into their thoughts, some basics on the system:

MTP Plates: 1.5 mm thick titanium plates in three different sizes in both left and right configurations to accommodate a variety of anatomies and indications. A standard plate has three locking and three nonlocking holes.

Screws: For use through the plate, the system offers 3 mm full-thread, hex drive titanium screws in both nonlocking and locking designs, as well as a low profile "snap-off" design for speed and ease of use. The system also provides a 3 mm cannulated titanium lag screw for use in a cross-screw arthrodesis technique or as an adjunct to the plate, in order to create the most stability possible.

Instrumentation: Cup and cone cannulated reamers and circular osteophyte saws highlight a comprehensive set of instrumentation that help surgeries run smoothly.

Low Profile MTP Plating System

Q: What is the ideal case for using a plate vs. screws for an MTP arthrodesis?

A: The surgeon has the choice to use screws alone or the plate construct.

B: The ideal case requires the patient to present with soft or osteoporotic bone. Newer generation plates are lower profile and better protect the noncompliant patient post-op. Nonunion rates are lower with plate use. To my knowledge, with over 30 MTP fusions completed with the Arthrex system, I have seen no non-unions to date.

Q: How do you prepare the joint for the fusion?

A: The ideal prep for arthrodesis is cup and cone reamers as they allow the surgeon to put the toe in any position that is desired, regardless of using screws alone or a plate and screw technique. The advantage of the Arthrex set is that the reamers and hole saw are sharp and allow quick prep of even the hardest eburnated bone.

B: I use a combination technique of free hand cuts with a sagittal saw and the reamers in the set to prepare the joint. Once I have a ball and socket configuration, I drill the surfaces with a 0.45 mm K-wire and feather with a small osteotome.

Q: How do you set the arthrodesis angle for the toe?

A: If using screws alone, the desired position is based on clinical studies: 20˚ dorsiflexion, 5-10˚ of valgus and always neutral rotation. One of the advantages of the plate is that it dials the correct angulation in for the surgeon so that all guess work is eliminated.

B: I typically use a simulated weight-bearing surface (a lid from one of the sets) and press the foot against this surface. I like the toe to rest gently against the surface. The AP angle is set by checking a fluoro image. The sagittal plane alignment is checked after provisional fixation with a guide wire for the 3 mm cannulated screw. A cross-wire configuration can be placed prior to confirming correct angle.

Q: In a plate like the Arthrex Low Profile MTP Plate that has standard hex head screws, "snap-off" QuickFix Screws and locking screws, what are the functions for each screw?

A: Twist off screws are a time saver, get fine purchase, and are my preference for initial placement. They are placed first to set the plate to the bone and fix the alignment. Others like the standard hex-drive screws for this initial fixation/reduction. The locking screws are placed last to lock in the overall stability of the construct.

B: Locking screws are excellent for softer bone seen in patients with rheumatoid arthritis or osteoporosis in the older patients. The QuickFix Screws provide excellent fixation in normal bone and allow for quicker operative times as these screws go in rather effortlessly. The standard hex screws provide a low cost solution and can be used in the plate in place of either of the above two options with cost-efficiency in mind.

Q: How does the angulation of the Arthrex Low Profile MTP Plate work to restore function compared to other plates that are available?

A: When the plate is applied dorsally and centered it will create the ideal fusion geometry - neutral rotation, 20˚ DF and 5-10˚ of valgus - consistently!

B: There is less dorsiflexion built into the Arthrex plate than the competitors', which I think puts the toe in a more anatomic position. I was bending the dorsiflexion out of competitors' plates and now find myself doing this rarely. Additionally, the low profile plate reduces the need for hardware removal. I see almost no complaints of pain as it relates to the hardware, which is a welcome improvement to hallux MTP plating system.

Q: If you had one pearl to provide to other surgeons who will use this plating system, what would that be?

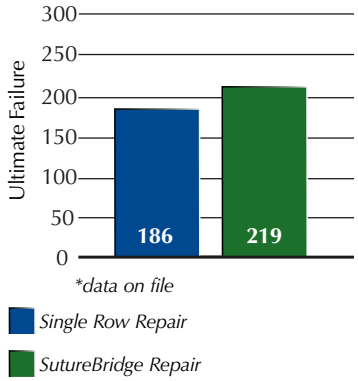
B: Take your time with anatomic alignment of the toe and check the sagittal alignment with the lid top as described above. Once the toe is set, the rest is easy!

Tips and Surgical Pearls

PT SutureBridge - Broadening Support for the Posterior Tibial Tendon

Brian Loder, DPM
Michigan Foot and Ankle Institute
Clinton Township, MI

The popularity of the Achilles SutureBridge has soared in the last year, as surgeons turn to this enhanced technique for stabilizing Achilles reattachments. And as its acceptance has grown, the SutureBridge concept has been used for other reattachments in the foot and ankle - most notably for the posterior tibial tendon during Kidner procedures. Arthrex caught up with the pioneer of this technique, Dr. Brian Loder of the Michigan Foot and Ankle Institute in Clinton Township, Michigan and asked a few questions about the technique and its evolution.

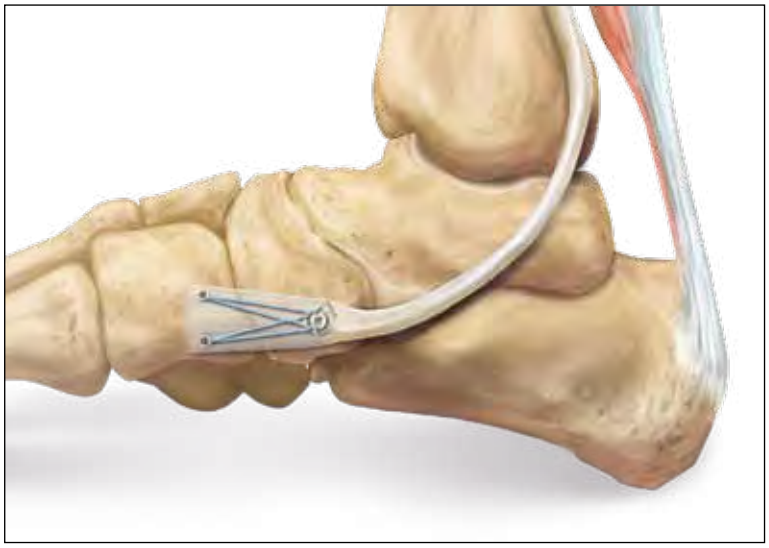


Q. How and why did you come to use the SutureBridge for Kidners?
A. I began using the SutureBridge for my Achilles reattachments early on, and was having some good early success. As I became comfortable with the Achilles bridge, the PT SutureBridge seemed like a natural extension that made sense to me. I thought that if the technique increased strength of repair and facilitated earlier weight-bearing in the Achilles, it could do the same for the PTT.

Q. How do you actually do the procedure?
A. I use a combination of a 5.5 mm Bio-Corkscrew anchor with two 3.5 mm PushLocks for my fixation. As for the technique, one key pearl is to release the PT tendon completely from its distal attachments. I then pull the proximal portion distally while throwing sutures and tying my knot, to make sure that the tendon has adequate initial tension. Instead of cutting the needles off at this point, keep them on to ease their feeding through the eyelets of the PushLocks. I also keep the needles on while implanting PushLocks into the cuneiform so that I can do a pants over vest of the distal stump with the suture after it exits the PushLocks, then tie a knot over the top.

Q. What difference has the PT SutureBridge made in your clinical practice?
A. Early clinical results have shown diminished swelling in the area and lessened pain on early weight-bearing.

Q. What biomechanical testing has been done to support your clinical work?
A. I was able to secure lab time at Arthrex and worked with their experienced testing staff to evaluate the biomechanical strength of the repair. As with the Achilles SutureBridge, the Kidner construct gave a larger imprint and more anatomical reattachment. This resulted, as we expected, in stronger fixation that supports the clinical results that I have experienced in my practice.



LPS Screw System

2 mm/2.3 mm/3 mm

The Low Profile System (LPS) now includes a complete screw and instrument set primarily for forefoot applications. The LPS 2 mm/2.3 mm/3 mm Screw Set includes the 2 mm and 3 mm "snap-off" QuickFix Screws, the 2.3 mm cannulated, and solid screws along with the new 3 mm cannulated partially threaded screws. The system of screws and instruments is the complete system for making operating in the forefoot as easy as possible.

The instrument and screw caddy is ergonomically designed for space conscious OR suites, but comes fully loaded with all the instruments necessary to tackle any osteotomy about the forefoot and even some midfoot applications. The square instrument tray is only 9.5 inches wide and 2 inches deep and includes a screw system with four low profile fixation options. We have your forefoot fixation options covered.

Consider these surgical procedures:

2 mm QuickFix, 10-14 mm x 1 mm
WEIL, Tailors Bunion, Chevron/Austin, Ludloff or 1st Metatarsal Osteotomies

3 mm QuickFix, 13-19 mm x 2 mm
Chevron/Austin, MTP Plate Fixation, Proximal Hallux Valgus Correction, Midshaft 1st Metatarsal Osteotomies

2.3 mm Solid/Cannulated, 10-30 mm x 2 mm
Chevron/Austin, Akin, Great Toe Fusions, Tailors Bunion, Metatarsal Fractures, Interphalangeal Joint Fusions

3 mm Cannulated, 10-36 mm x 2 mm
Cross-Screw Fixation for Lapidus Procedure or 1st MTP Fusion, Secondary Screw for Failed Hallux Valgus Correction

QuickFix Screw, 3 mm x 15 mm, light blue

QuickFix Screw, 2 mm x 11 mm, magenta

Cannulated Lag Screw, 2.3 mm

Cannulated Screw, 3 mm

Full Thread Screw, 2.3 mm

LPS Screw System

4.5 mm / 5.5 mm / 6.7 mm

LPS 4.5 mm Titanium Screws

The workhorse of the foot and ankle, the LPS 4.5 mm Cannulated Lag Screw is ideal for fractures and fusions of the lower extremity. With a lower profile head and deeper threads than a traditional AO screw, the LPS 4.5 mm screw purchases bone better and keeps a lower profile. This is a benefit in the foot and ankle where weight-bearing loads are significant, and soft tissue coverage may be minimal.

Low Profile Head - almost 1 mm shorter than a traditional AO 4.5 mm screw, while still using a 3.5 mm hex
Better Pull-Out - 25% better than a standard AO 4.5 mm screw
Deeper Threads - using a 2.4 mm guide pin allows the threads to be deeper than a standard AO screw
Self-Drilling/Tapping - speeds up the insertion process

5.5 mm Jones Fracture Screw

The 5.5 mm Jones Fracture Low Profile Screw is designed to provide excellent stability for the stresses found at the base of the 5th metatarsal. Whether used for acute fractures or chronic nonunions, this screw is designed to provide stout IM fixation for healing this difficult sports injury.

Increased Shaft Diameter - for greater resistance to the micro-motion that may lead to the nonunions common for this pathology
Solid Titanium Design - for greater strength against bending loads
Cortical Thread Design - for excellent purchase in the cortical bone
Bullet Nose Tip - for guidance down the IM canal of the 5th metatarsal
Low Profile Head - to minimize soft tissue irritation in this area of minimal coverage and high shoe pressures
Improved Instruments - for guidance down the IM canal of the 5th metatarsal
Complete Set - housed with the Arthrex 4.5 and 6.7 mm screws for a complete solution

4.5 mm Screws partially threaded

and

fully threaded

5.5 mm Screw

6.7 mm Screws, 18 thread

and

28 thread

LPS 6.7 mm Cannulated Lag Screws

Working closely with a team of top foot and ankle surgeons, Arthrex lowered the head profile by 1 mm, increased thread purchase by lengthening and deepening the threads to increase pull-out by 30%, in comparison to a standard AO screw. This makes the screw ideal for the high demand, low coverage applications in the foot.

The 6.7 mm screws are available with 4.5 mm and 5.5 mm screws in a comprehensive set that will include a subtalar/ankle targeting guide to improve accuracy and speed in the OR. A limited set of MCO appropriate lengths (40 - 60 mm) of 6.7 mm LPS Screws are available in a tandem tray with the Tenodesis system as a complete solution for flatfoot reconstructions.

Low Profile Head - 1 mm shorter than a traditional AO 6.5 mm screw, while still using a 3.5 mm hex
Better Pull-Out - 30% better than a standard AO 6.5 mm screw
Deeper Threads - using a 2.4 mm guide pin allows the threads to be deeper than a standard AO screw
Longer Threads -18 mm thread length is designed specifically for the foot
Self-Drilling/Tapping - speeds up the insertion process
Assisted Targeting - Parallel and C-Ring Pin Guides enable quick and accurate placement

New Products

Syndesmosis Buttress Plate (AR-8947DS)

The high ankle sprain is one of the most difficult injuries to treat in the athletic population. Secure reduction of the syndesmosis has traditionally meant metal screws that can lead to malreduction, prolonged immobilization, delayed rehab, and frequently hardware failure, loosening and irritation. Even when screws are removed, they leave behind holes that act as a stress riser, delaying return to activity and sports.

Leading sports foot and ankle surgeons have successfully treated syndesmosis injuries with the TightRope for several years, and the literature indicates that they can do so with an earlier average return to activities, without many of the complications associated with screws. Arthrex's addition of the Syndesmosis Buttress Plate to the TightRope creates a solution that can stabilize high ankle fractures with either one or two TightRopes and still protect the fibula from the stress riser created by the drill hole. Using two locking screws at either end of the plate, the construct unloads the area of the fibula where the TightRope is placed during healing, and afterward, should the TightRopes be removed.

The Syndesmosis Buttress Plate is packaged with everything needed - the plate, screws and one TightRope.

Mini TightRope with Driver (AR-8913DS)

This is the same implant that has been successful in treating Lisfranc injuries, hallux valgus, hallux varus and thumb CMC arthroplasty, but on a handled inserter which eliminates the need for a second incision. The tension of the FiberWire and an innovative handle design enables the button to flip, once the surgeon is happy with the positioning of the device.

Mini TightRope FT (AR-8921DS)

Think a hybrid between a Mini TightRope and a 4.5 mm Corkscrew FT anchor. This device is a solution for those that like the flexible fixation of the Mini TightRope but don't have the space to easily flip the distal button. The fully threaded Corkscrew design enables secure fixation in the distal bone in hallux valgus and Lisfranc applications.

New

PEEK Tenodesis Screws (AR-1530PS to AR-1680PS)

Arthrex now offers the full array of Tenodesis Screws in PEEK, a nonabsorbable, radiolucent, high-strength polymer. This addition to the ever-popular Tenodesis System is in response to surgeon requests for a stronger screw that offers an extended shelf life. Current techniques and instrumentation will work the same with the new PEEK screws, as they have and continue to do with the PLLA versions.

LPS Screw Set (AR-8932S)

As a complete screw system for fixation of the forefoot, this small system stands alone. To provide surgeons with a full array of sizes, Arthrex includes cannulated 2.3 mm and 3 mm screws, as well as solid screws in 2 mm and 3 mm sizes. Surgeons may fill the tray with only the sizes and designs that they need to keep utility up and costs down.

Cotton Plate (AR-8948, AR-8948-01 - 08)

Arthrex has rounded out its flatfoot offering with the first plate designed for plantarflexion osteotomies of the medial cuneiform. This .5 mm thick plate provides a controlled means for plantarizing the first ray to reestablish the anatomic tripod of the foot, while minimizing soft tissue irritation in this area of minimal tissue coverage. As an addition to the Forefoot Osteotomy Set, this plate uses the 2.3 mm Low Profile Screws and instrumentation. Available in flat to 8 mm.

Low Profile MTP Plate and Screws (AR-8944S)

This hybrid plate uses nonlocking screws to reduce bones to a well contoured plate and lock the reduction in place with locking screws. With a smaller footprint than several competitors, less dorsiflexion for more anatomic positioning, and the most complete sizing, screw selection and instrumentation – this is THE system for simplifying these surgeries and producing excellent clinical results. Available in short, standard and long for both left and right plate.

QuickFix Staple (AR-8708S-10S)

Designed for low profile fixation in akin procedures, these small stainless steel staples make quick work of fixing this common osteotomy. Using a unique inserter/tamp, the QuickFix Staple System enables a surgeon to drill-and-fill to quickly fix a closing wedge osteotomy of the proximal phalanx. Staple comes in 8 to 10 mm widths.

New

Compression Staple (AR-8003S)

As the only cannulated staple available, the Compression Staple enables surgeons to quickly and precisely secure bones of the midfoot and create compression across joint lines. Whether they are used for calcaneocuboid, talonavicular, or other midfoot fusions, these stainless steel Compression Staples provide solid holding power and are an excellent addition to the foot and ankle surgeon's toolkit.

Micro Corkscrew FT Suture Anchor, 2.2 x 4 mm (AR-1318FT)
Mini Corkscrew FT Suture Anchor, 2.7 x 7 mm (AR-1319FT)

These fully threaded titanium anchors provide superior fixation in the small bones of the hand and foot by placing threads into the best bone – the cortex. With more than 2x the pull-out of Mitek's Micro and Mini GII, strong 2-0 FiberWire preloaded through their internal eyelet, and a simpler insertion technique, Arthrex is setting the bar for soft tissue fixation in small bones.

ProStop Plus (AR-4208B-14 to AR-4212B-16)

An absorbable subtalar implant has significant benefits for juvenile patients and others that need subtalar stabilization, but for whom surgical removal is undesirable. After a significant amount of safety testing, Arthrex has released this enhanced PLLA device in a full range of sizes. Available in 8 to 12 mm lengths.

4.5/6.7 mm Cannulated Low Profile Screw (AR-8945S)

These screws were designed by foot and ankle surgeons to meet the demanding needs of the mid and hindfoot. Larger threads and lower profile heads, compared to traditional cannulated screws, provide better pull-out and minimized soft tissue irritation that enables surgeons to maximize fixation.

5.5 mm Jones Fracture Screws, 5.5 mm x 40 - 65 mm (AR-8955-40PT to 65PT)

The 5.5 mm Jones Fracture Low Profile Screw is designed with an increased shaft diameter, cortical thread design and a low profile head to provide ideal fixation and stability for the stresses found at the base of the 5th metatarsal. Whether used for acute fractures or chronic nonunions, this solid titanium screw is designed to provide stout IM fixation for healing this difficult sports injury. This screw and its instrumentation is part of the 4.5/5.5/6.7 mm Low Profile Screw System.

Success Story

Hammond Flatfoot Repair

Richard Hammond, DPM
Avon, Ohio

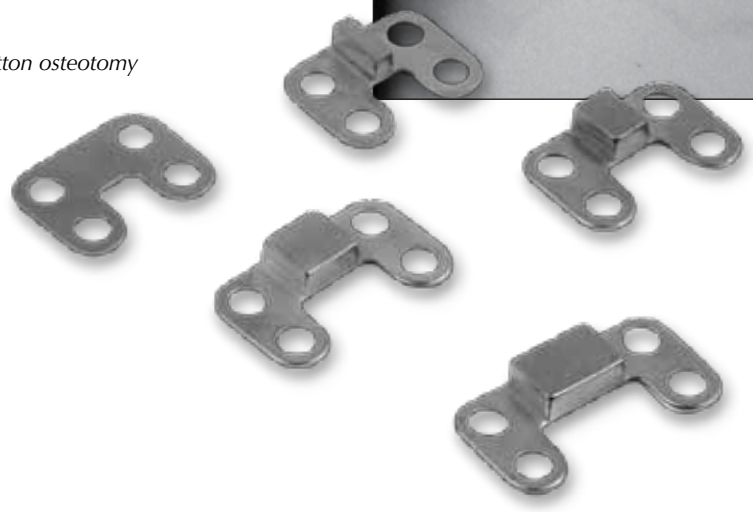
A 55-year old male was referred from another physician for surgical consultation for right foot and ankle pain. There was no acute injury and his symptoms had been present for three months. Initially the patient was treated conservatively with casting, NSAID's and physical therapy without significant improvement to the condition.

On physical examination, the patient described moderate pain during palpation of the posterior tibialis tendon from its insertion to the sustentaculum tali. Moderate edema was present over the right posterior tibialis tendon. Pain was also present around the right posterior tibialis tendon when the patient performed single and double heel raises.

Gait analysis showed moderate bilateral pes plano valgus with greater severity to the right foot. There appeared to be planal dominance in both the sagittal and frontal planes, but very little transverse plane component. An MRI revealed preinsertional and insertional posterior tibial tendinosis, paratendinitis, midfoot pronation and marrow resorption at the medial pole of the navicular suggestive of traction enthesiopathy. These results were suggestive of early PTT dysfunction. Radiographs of the right foot and ankle showed mild edema about the medial malleolar region. Enthesiopathy to the medial navicular tuberosity was present without an avulsion fracture. Decreased calcaneal inclination angle and increased talar declination angle were also noted.

With failure of conservative measures, surgical intervention was necessary. This consisted of a medial slide osteotomy of the calcaneal tuberosity fixed with two 6.7 mm Arthrex screws, tendon Achilles lengthening, repair of a partially ruptured posterior tibialis insertion with advancement and reattachment to the navicular tuberosity using a 3.5 mm Corkscrew anchor with FiberWire and a cotton osteotomy of the medial cuneiform using the low profile Cotton Plate and 2.3 mm screws.

Note: *radiograph is 5-week post-op after cotton osteotomy*



Small Joint Education

Multi Site:

- New York, NY (Foot and Ankle Roadshow) 05/09/09
- Columbia, MO (Foot and Ankle Symposium) 08/22/09
- Las Vegas, NV (Foot and Ankle Roadshow) 10/24/09
- Newport Beach, CA (Foot and Ankle Symposium) 12/05/09

2009 Course Locations:

- Scottsdale, AZ (Foot and Ankle) 09/12/09
- Los Angeles, CA (Foot and Ankle) 09/19/09
- Naples, FL (Foot and Ankle) 10/10/09
- Los Angeles, CA (Hand and Wrist) 10/26/09

What is New for Small Joint Education in 2009?

As an orthopaedic surgeon, my experience being part of the Medical Education team of Arthrex has been very rewarding. For the past year, I have been able to interact with many small joint surgeons, exchange ideas and do what I love the most: teach cutting edge orthopaedic techniques.

Throughout this year, we will be hosting several small joint educational courses at our headquarters in Naples, FL and across the country. Our instructor consultants and I will be providing you with all the feedback necessary to understand the benefits of our versatile product line. If you have not, I would encourage you to check out our website where you can get access to our surgical techniques and video animation/demonstrations. Furthermore, a new online education platform with articulate presentations coupled with the surgical demonstration for each one of our techniques will be available in 2009. Live WebEx online conferences, an amazing interactive tool to share the experience and results from experts in different topics, will be also added to our academic calendar. Information about these sessions will be posted in advance on our website.

The continuous growth of our company and the expansion of the small joint division call for the addition of more top qualified personnel to our Medical Education staff. This year, another Clinical Specialist dedicated to small joints will be added to our force; this means, that we will be able to increase the number of local training events to respond to the high demand from surgeons in the field.

Felix Riano, Clinical Specialist, Small Joint

For more information please visit our website at
http://www.arthrex.com/education/training/index.cfm

Small Joint Product Development Team
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For more information contact your Arthrex sales representative

Need to find your sales representative?
Call Arthrex Customer Service at 1-800-934-4404

Noninvasive Ankle Distraction Strap

and Small Joint Limb Holder

The noninvasive Ankle Distraction Strap is made of strong nylon strapping material with soft nonslip foam pads (a) for patient comfort and secure hold. This easy-to-use, one-size-fits-all device offers effective traction and grip which gives the surgeon a distinct advantage over current distraction devices.

The Small Joint Limb Holder has an adjustable post for Clark Rail attachment. A small limb tourniquet or optional foam insert may be used for limb fixation. The Small Joint Limb Holder is also ideal for elbow and pediatric knee arthroscopy.

a

TightRope®

Syndesmosis Repair Kit

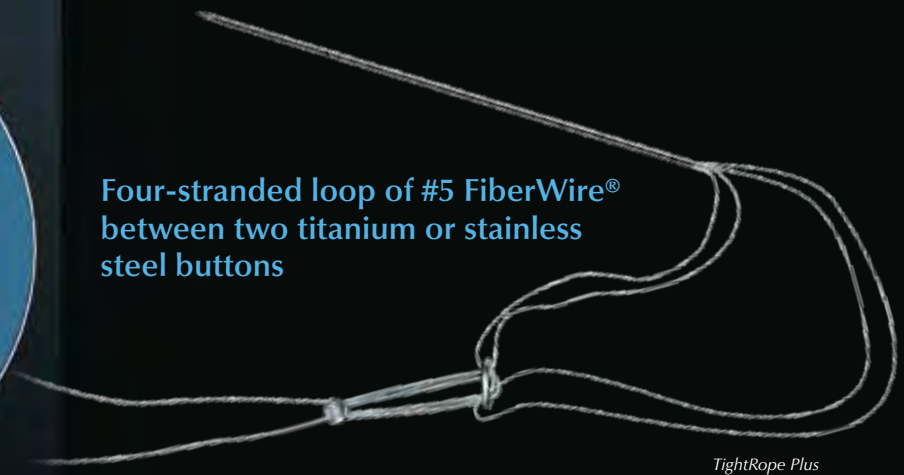
Give Metal Screws a Break

Syndesmosis Buttress Plate with TightRope

The NEW Syndesmosis Buttress Plate (SBT Kit) features a four-hole, contoured, titanium plate, to be used as a "buttress" for syndesmotic repairs with or without ankle fracture. The plate has two inner holes that custom fit the round button of the TightRope and two outer holes that accept two 3.5 mm non locking screws included in the kit. The surgeon has everything needed to complete the syndesmotic fixation.

Buttress Plate

Four-stranded loop of #5 FiberWire® between two titanium or stainless steel buttons



TightRope Plus

Syndesmosis TightRope Indication

Single TightRope for Weber C Fracture Fixation

Double TightRope for Maisonneuve Fracture Fixation

Syndesmosis TightRope Advantages:

- Fatigue life over two times that of standard metal screw
- Full weight-bearing up to three weeks earlier than metal screws*
- Allows some normal motion of the fibula during gait cycle

**data on file*