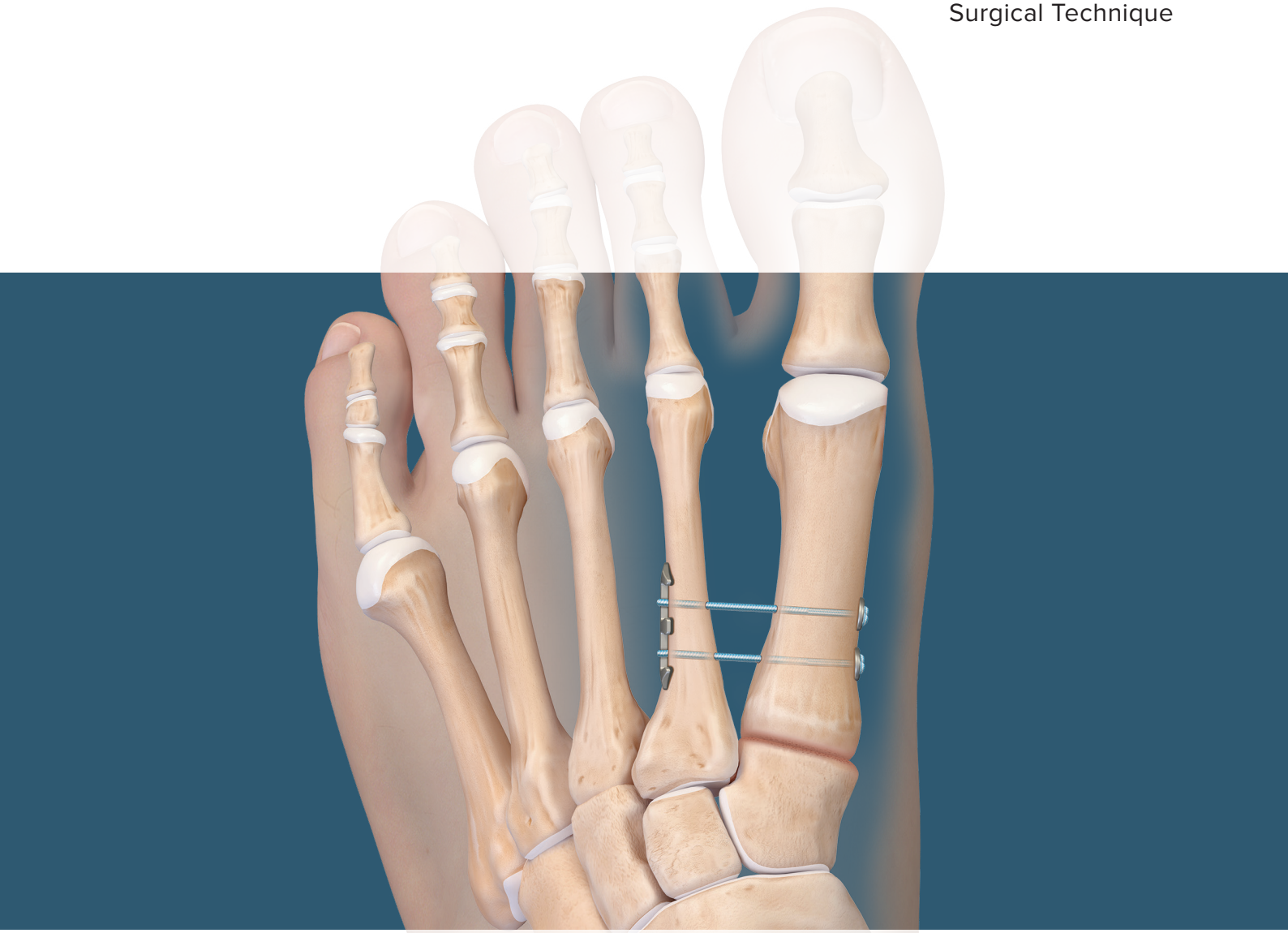
Hallux Valgus Correction With the Dual 1.1 mm Knotless Mini TightRope® System

Surgical Technique



Arthrex®

Hallux Valgus Correction With the Dual 1.1 mm Knotless Mini TightRope® System

Introduction

A common foot deformity, hallux valgus is linked to functional disability and pain. In some primary fixation cases, instability and latent recurrence of medial column deformity may persist.

Newer techniques aim to address reoccurrence by placing cross screws across the intercuneiform joint and/or from the 1st metatarsal to the 2nd metatarsal. While this strategy effectively provides a stable construct for hallux valgus correction, it may not be the best option in some cases as it could constrain the joint and lead to early hardware failure and hardware removal surgery.

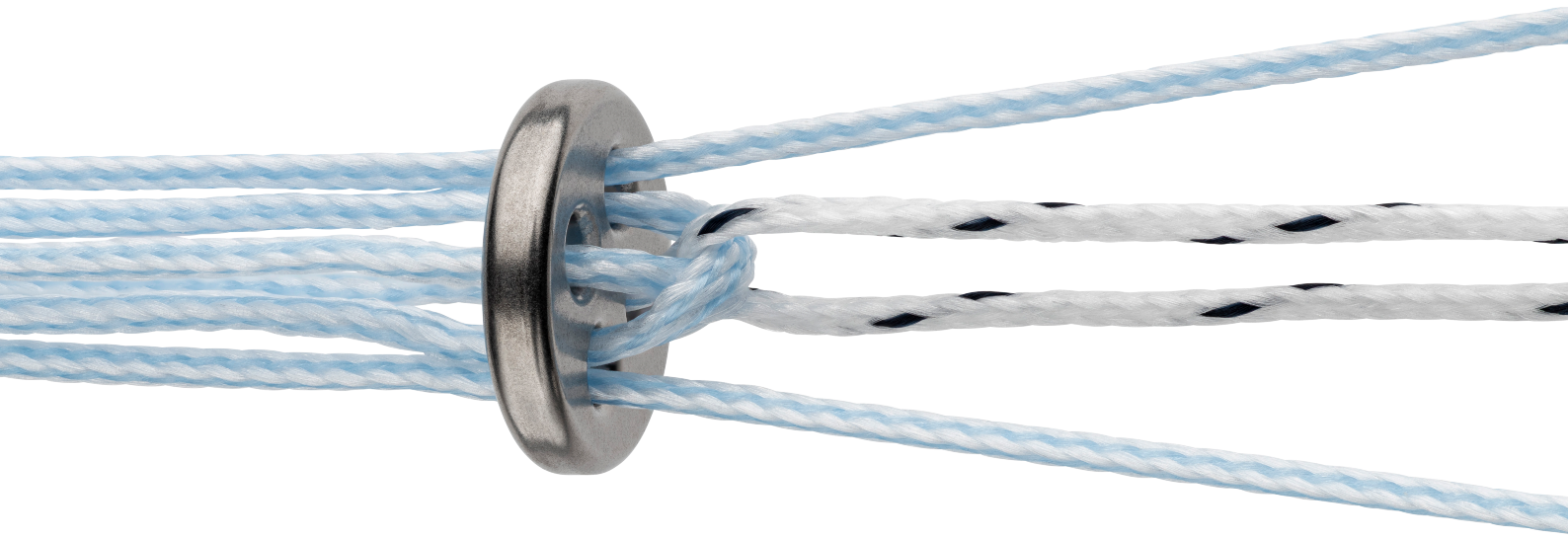
Flexible fixation devices, such as the Knotless Mini TightRope implant system, overcome the shortcomings of rigid fixation and provide surgeons with a strong, reproducible construct to stabilize the medial column in the transverse plane while maintaining sagittal plane motion.[1-3]

Advantages

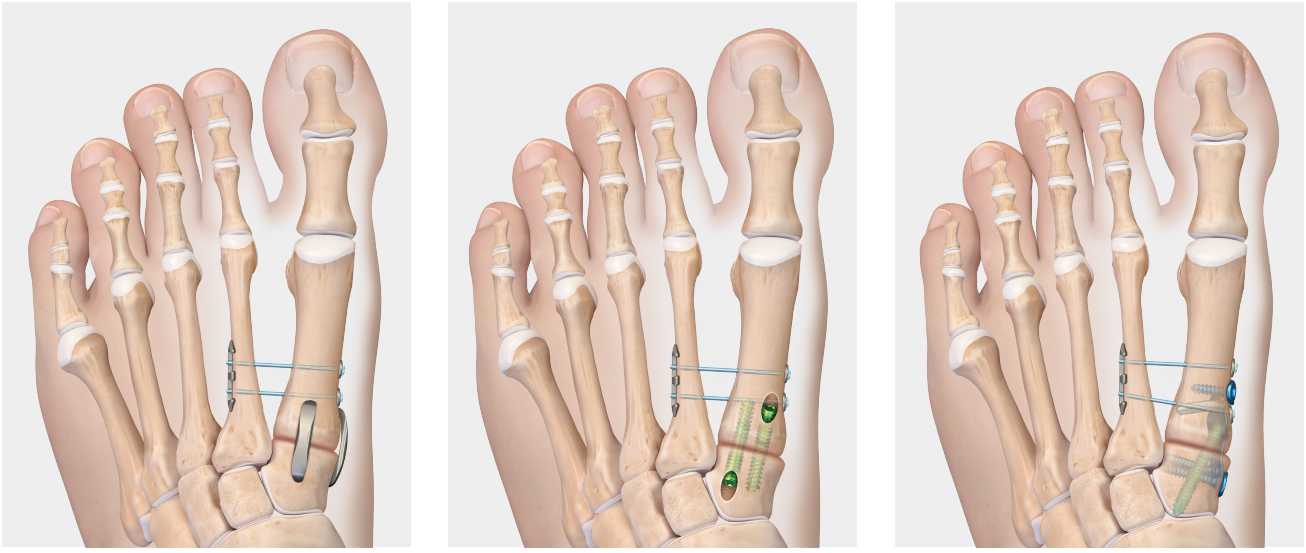
- No secondary surgery for hardware removal prior to weightbearing and/or problems with broken screws
- No loss in reduction after screw removal
- Low profile, knotless implant fixation with patented tensionable technology
- 40% increase in mechanical strength[1,2]
- Novel 6-strand construct

References

1. Arthrex, Inc. Data on file (APT-05278). Naples, FL; 2021.
2. Arthrex, Inc. Data on file (APT-05279). Naples, FL; 2021.
3. Arthrex, Inc. Data on file (APT-05280). Naples, FL; 2021.



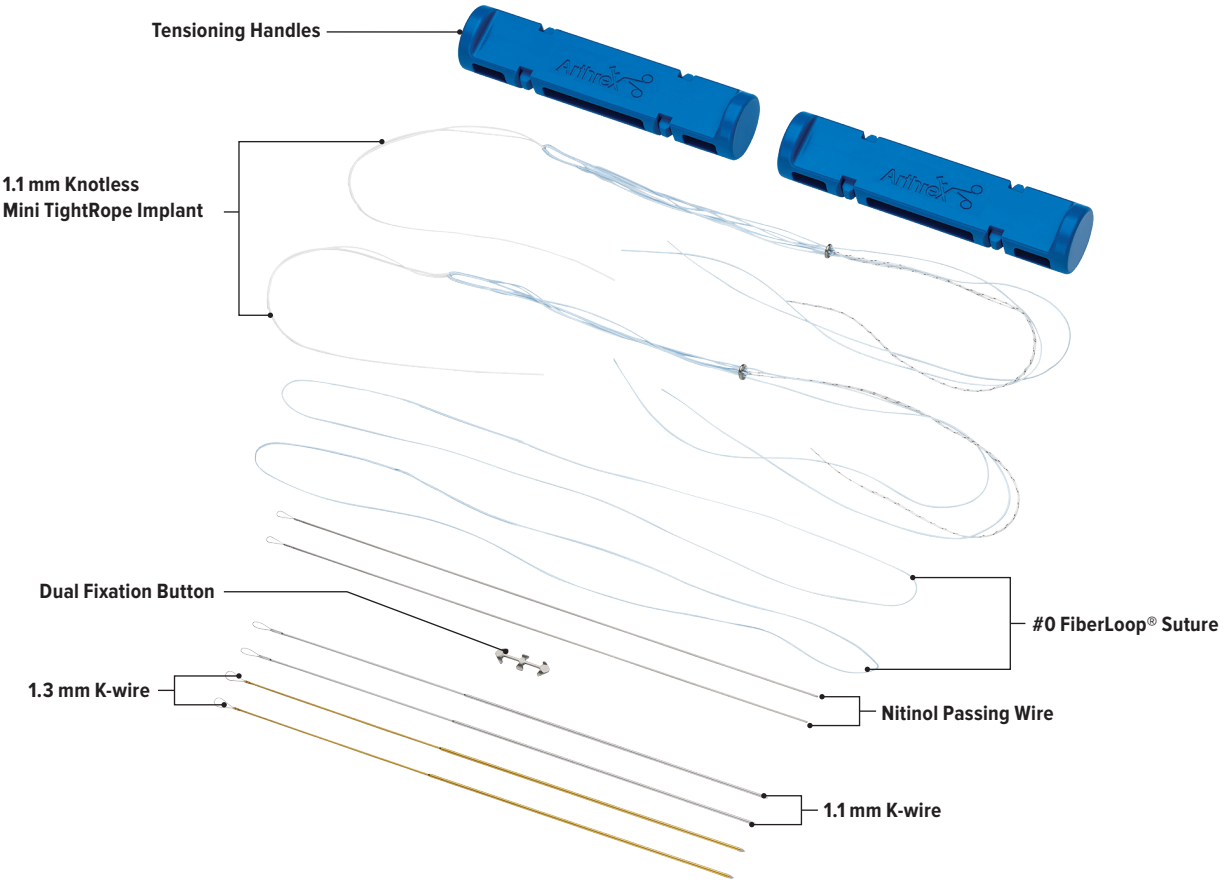
Adjunct Fixation With the Knotless Mini TightRope® Implant System



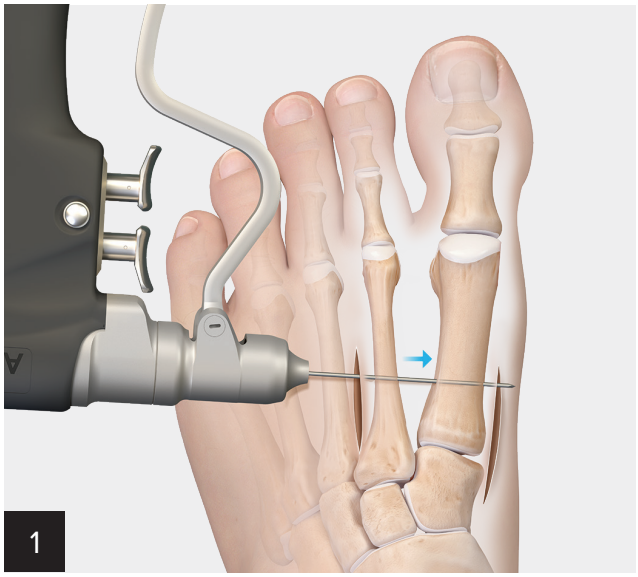
The Knotless Mini TightRope system should be used in conjunction with primary fixation devices for hallux valgus correction. The primary fixation implant should align, reduce, and maintain correction of the medial column. Follow the manufacturer's recommended guidelines on implantation of the primary device prior to proceeding with the Knotless Mini TightRope implant surgical technique.

Note: For clarity, instructions on primary fixation for hallux valgus correction have been omitted.

Dual 1.1 mm Knotless Mini TightRope Implant System



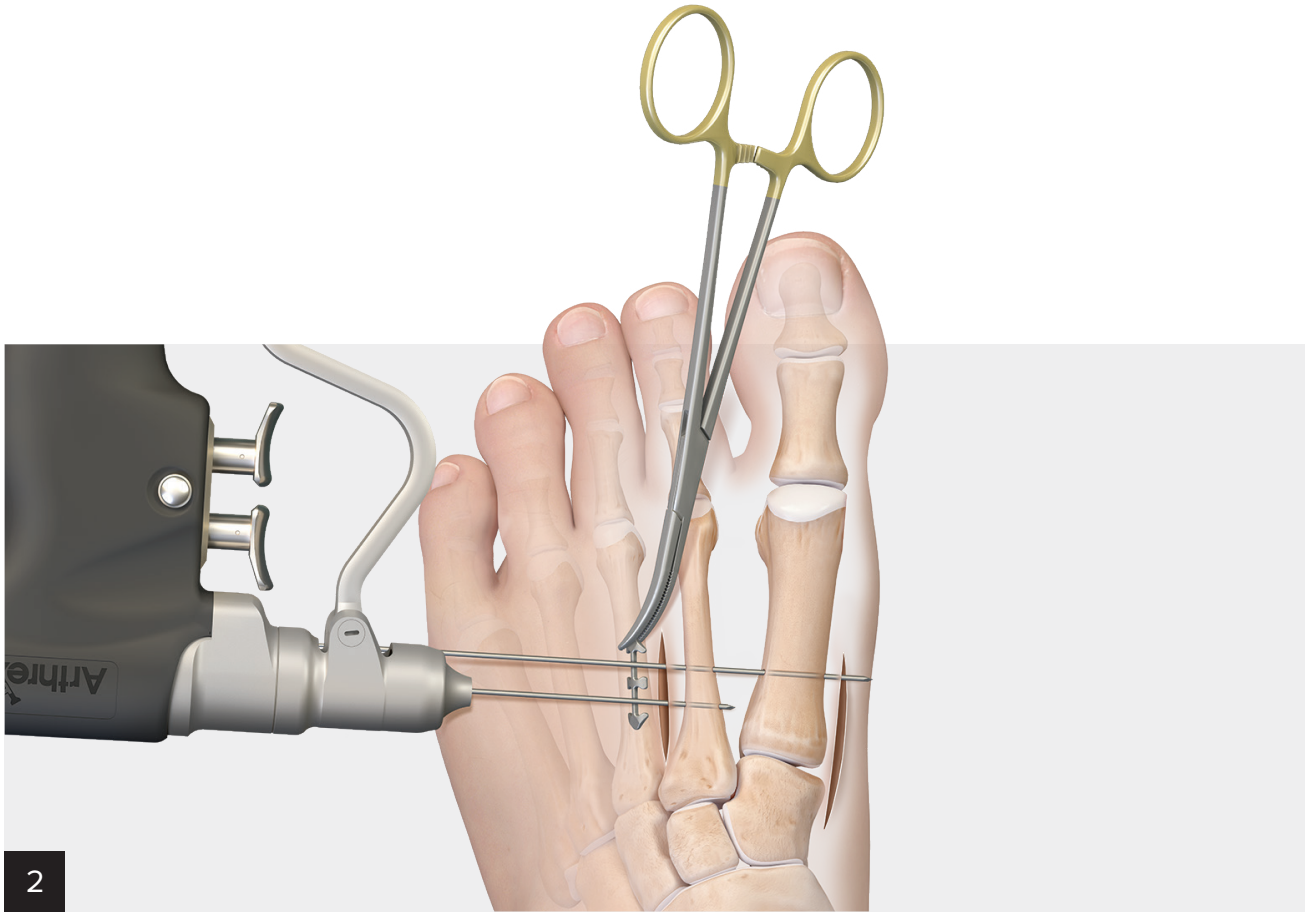
1.1 mm Knotless Mini TightRope® Implant System



Create a second incision just lateral to the 2nd metatarsal, starting at the level of the 1st tarsometatarsal joint and extending distally for the approximate length of the dual fixation button.

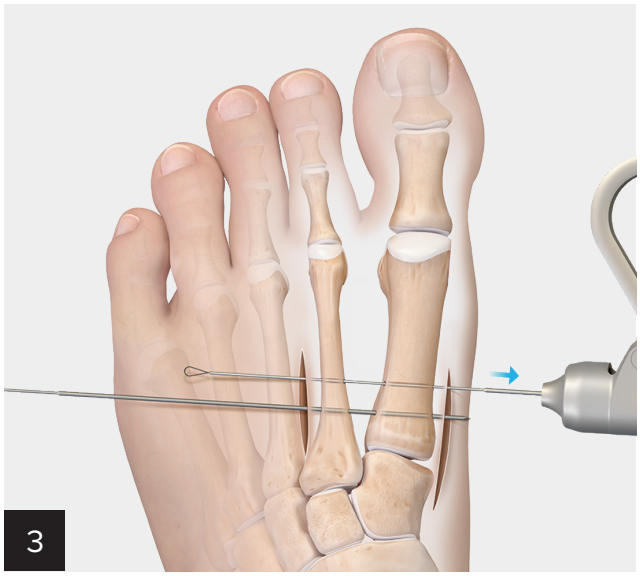
Pass the first 1.1 mm K-wire across both metatarsals from lateral to medial. Take care to ensure the K-wire is positioned midline to the long axis of the 2nd metatarsal and that it exits centrally in the 1st metatarsal.

As it exits the 1st metatarsal, ensure the K-wire is free of soft-tissue entrapment and is sufficiently distant from your primary fixation. Confirm under fluoroscopy.

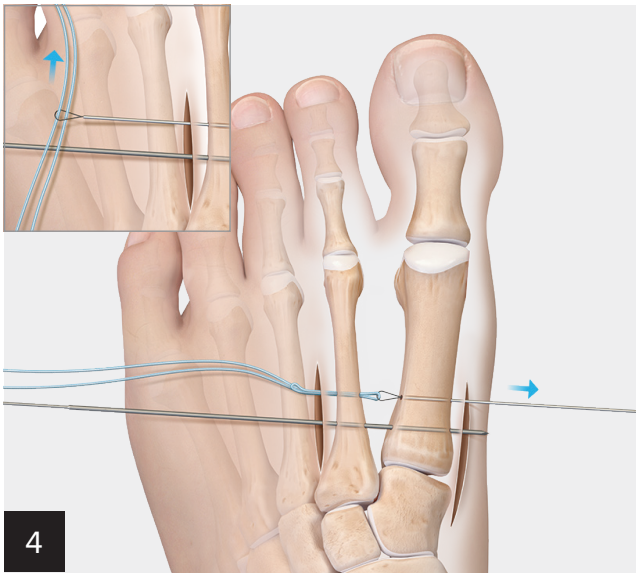


Pass the second K-wire parallel to the first. The dual fixation button can be used as a template to help determine appropriate spacing of the dual 1.1 mm Knotless Mini TightRope implants.

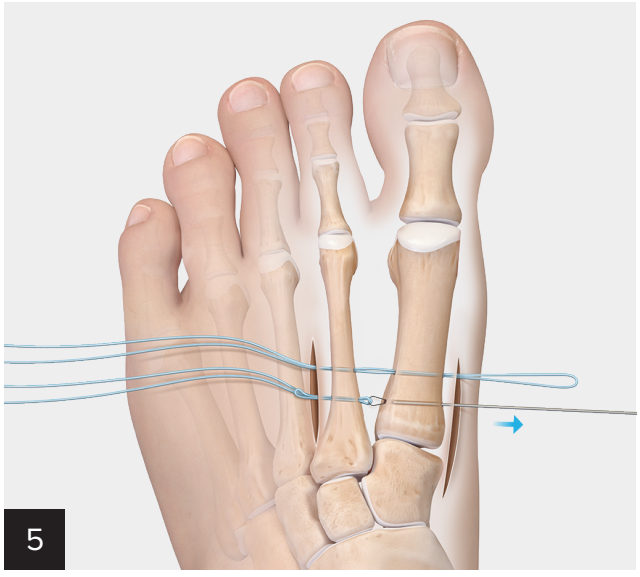
Note: 1.3 mm K-wires may be used instead of the recommended 1.1 mm K-wires for easier implant passing.



Advance the 1.1 mm K-wires medially until the thinner portion of the K-wire resides in the bone. The K-wire should freely translate back and forth by hand.

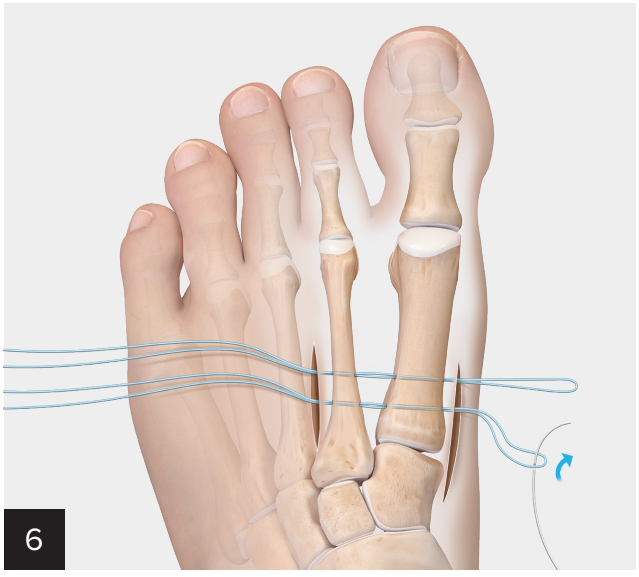


Load the FiberLoop® suture through the eyelet of the first K-wire, double over, and shuttle through both metatarsals.

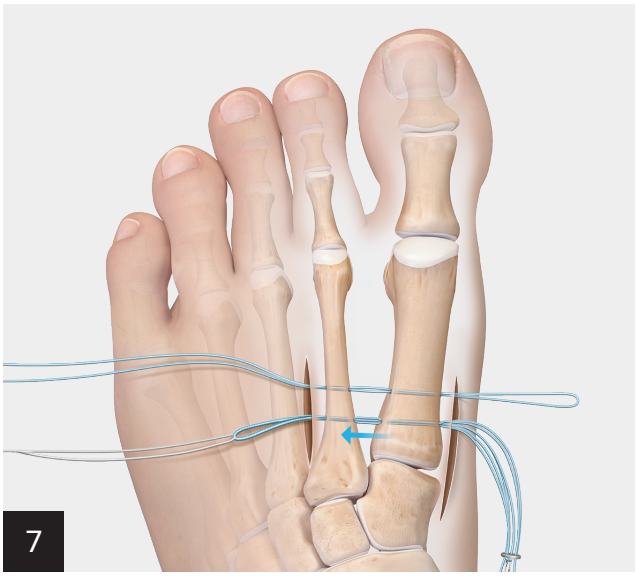


Repeat these steps with the second K-wire and another FiberLoop suture.

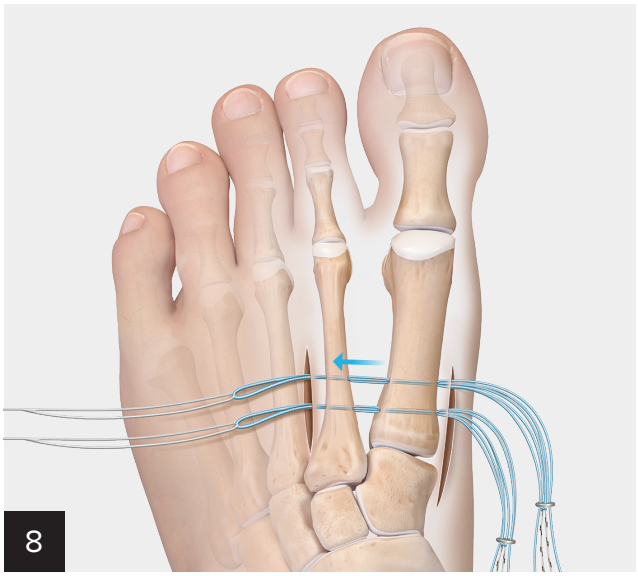
Note: Alternatively, pass the 1.1 Knotless Mini TightRope® implants directly via the eyelet of the K-wire and bypass the recommended step of using the FiberLoop sutures.



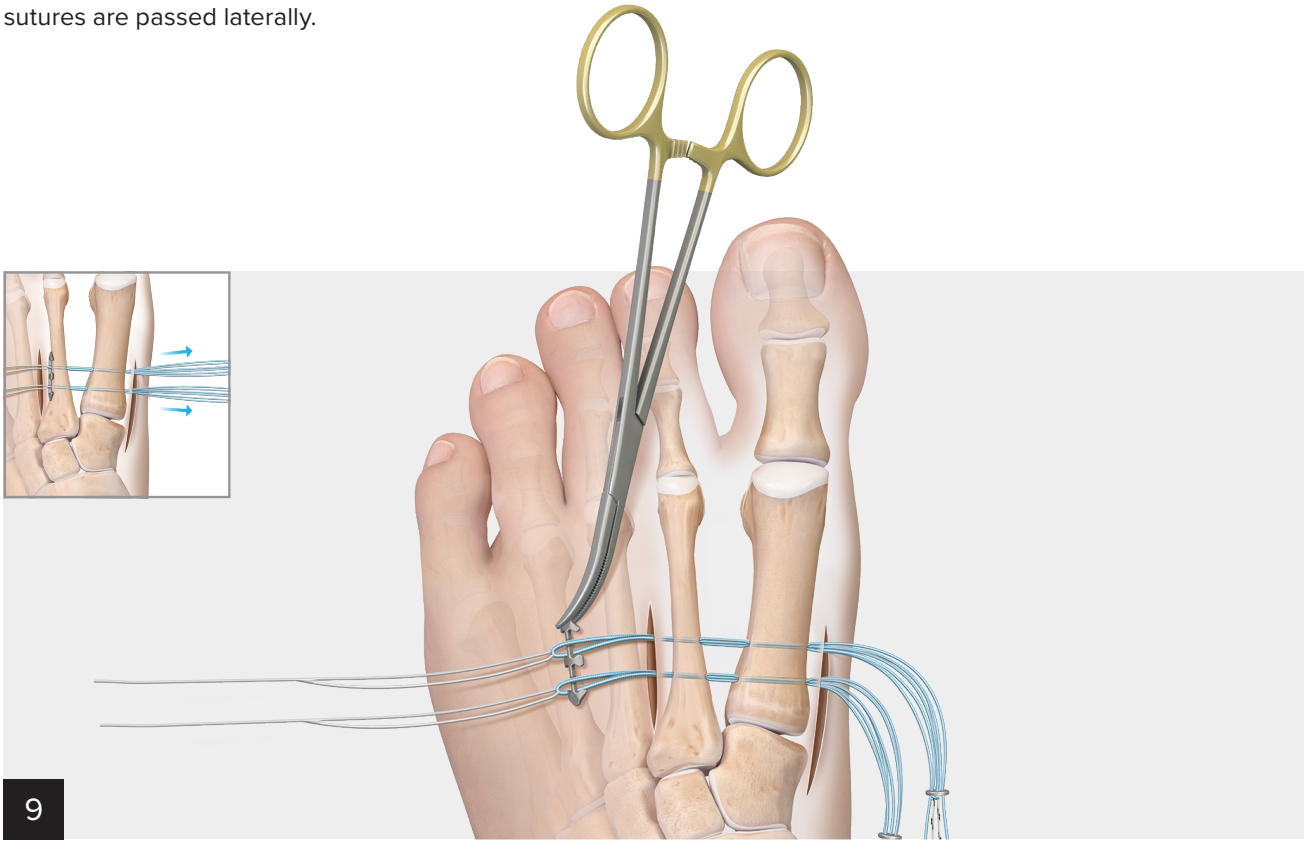
Shuttle the Knotless Mini TightRope implant across laterally by loading the tail of the implant through the FiberLoop suture, doubling over, and passing.



The 6 suture strands of the implant will create minor resistance as you pass the Knotless Mini TightRope® implant through the bone tunnel. Using small, slight motions, continue to advance the implant until the sutures are passed laterally.

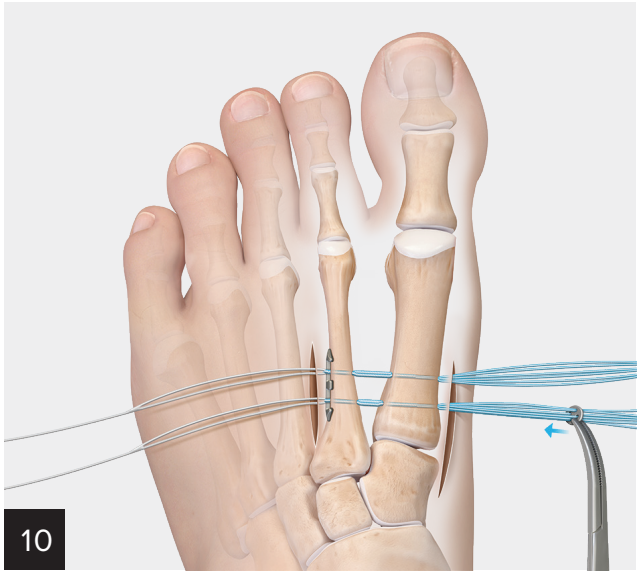


Pass the second Knotless Mini TightRope implant in a similar fashion.



Assemble the dual fixation button around each individual loop of the Knotless Mini TightRope implant. Simultaneously pull on both strands of the implant medially to pull the dual fixation button down to the 2nd metatarsal bone.

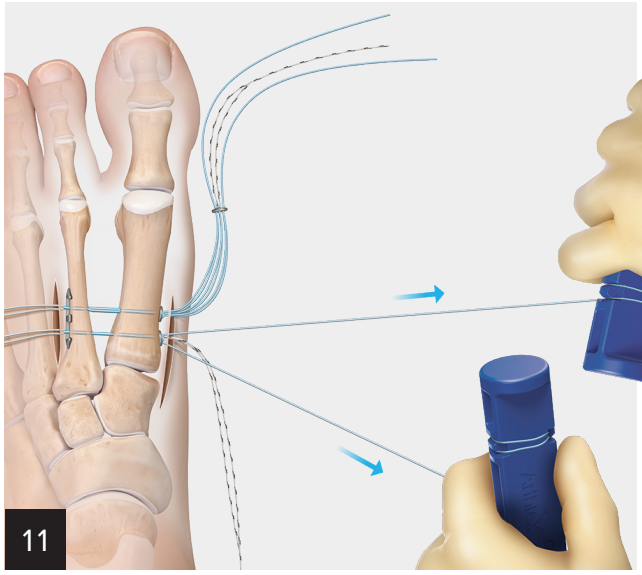
Ensure the dual fixation button sits flat on the metatarsal and does not impinge soft tissue. Confirm placement and position under fluoroscopy.



10

Hold tension on all strands of the Knotless Mini TightRope® implant as you slide the round button down to the 1st metatarsal bone. Take care to avoid entrapping or irritating the soft tissue.

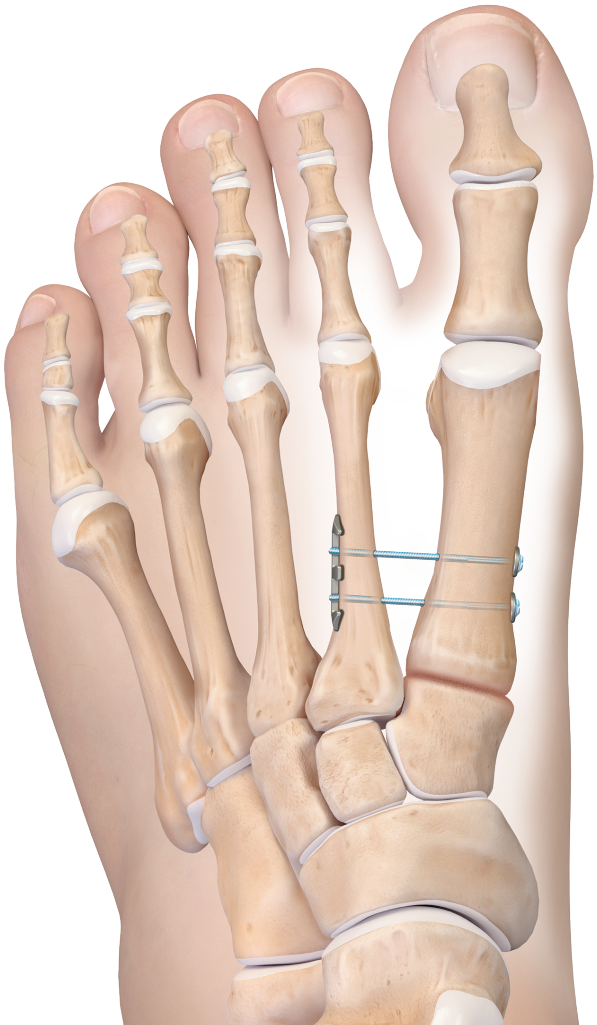
Note: Maintaining tension as you slide the round button prevents entanglement of the implant's suture strands.



11

Tension the Knotless Mini TightRope implants by pulling straight axially on the suture tails of the round button. The included tensioning handles can be used to assist. As you tension, ensure there is no residual slack in the sutures.

Note: If suture entanglement occurs during tensioning, pull axially on the white/black rescue sutures.



12

Once desired tension is achieved, evaluate the reduction under direct visualization and fluoroscopy. Cut the safety sutures and suture tails off for the final construct.

Explant Information

The Knotless Mini TightRope® implant can be removed by cutting the sutures with a surgical knife or FiberWire® scissor (AR-**11796**).

Ordering Information

Dual Knotless Mini TightRope Implant System, 1.1 mm

Product Description	Item Number
Knotless Mini TightRope Implant, 1.1 mm, qty. 2 #0 Coreless Machine-Tapered Suture 5.5 mm Round Button Dual Fixation Button, 6 mm × 20 mm #0 FiberLoop® Suture, blue qty. 2 Nitinol Passing Wires, qty. 2 K-wire, 1.1 mm, qty. 2 K-wire, 1.3 mm, qty. 2 Tensioning Handles, qty. 2	AR-**8907DS**

Products advertised in this brochure/surgical technique guide may not be available in all countries. For information on availability, please contact Arthrex Customer Service or your local Arthrex representative.

Arthrex®

arthrex.com