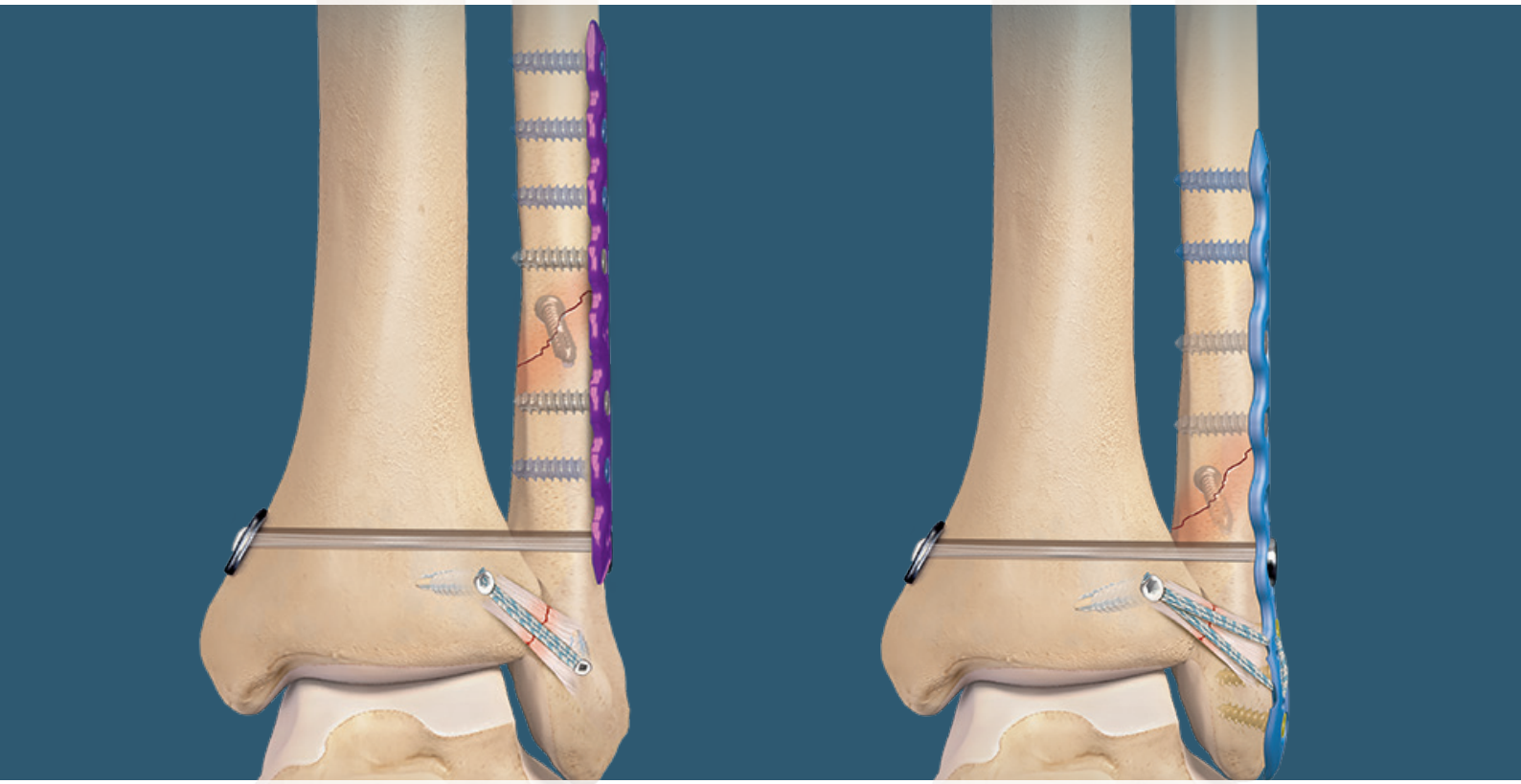
AITFL *Internal*Brace™ Ligament Augmentation

Surgical Technique

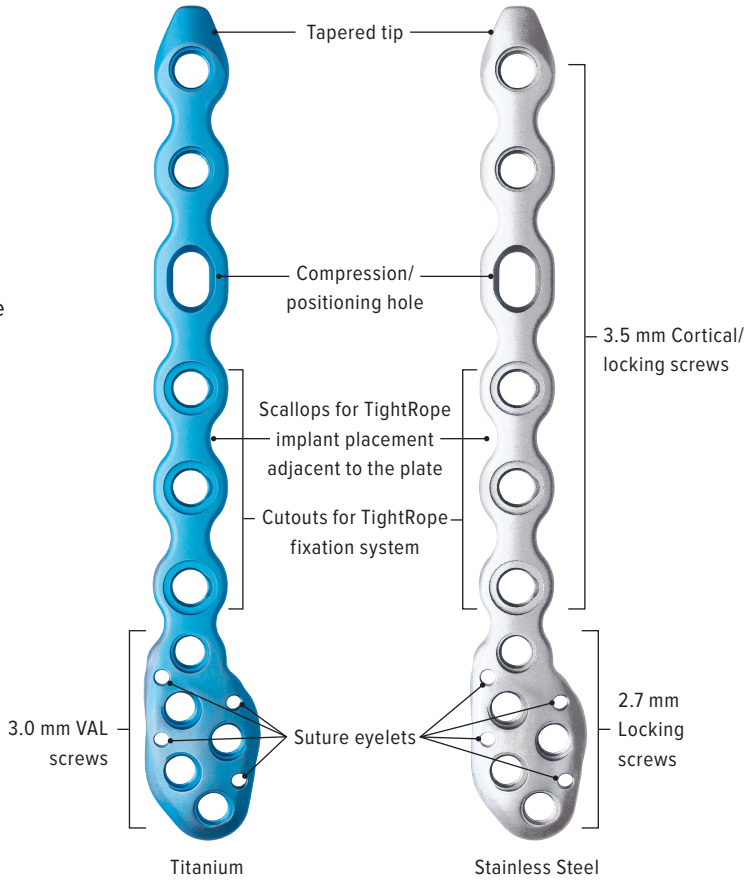


Arthrex®

AITFL *Internal*Brace™ Ligament Augmentation

Introduction

The AITFL *Internal*Brace ligament augmentation technique serves as an adjunct to the Syndesmosis TightRope® implant to expand the area of tissue approximation during the healing period following a primary anterior inferior tibiofibular ligament (AITFL) repair. The Arthrex distal fibula plates, available in both titanium and stainless steel, have suture eyelets to support the repair. The AITFL *Internal*Brace ligament augmentation technique can also be performed outside of a plate, similar to the ATFL technique.



Titanium and Stainless Steel Distal Fibula Plate

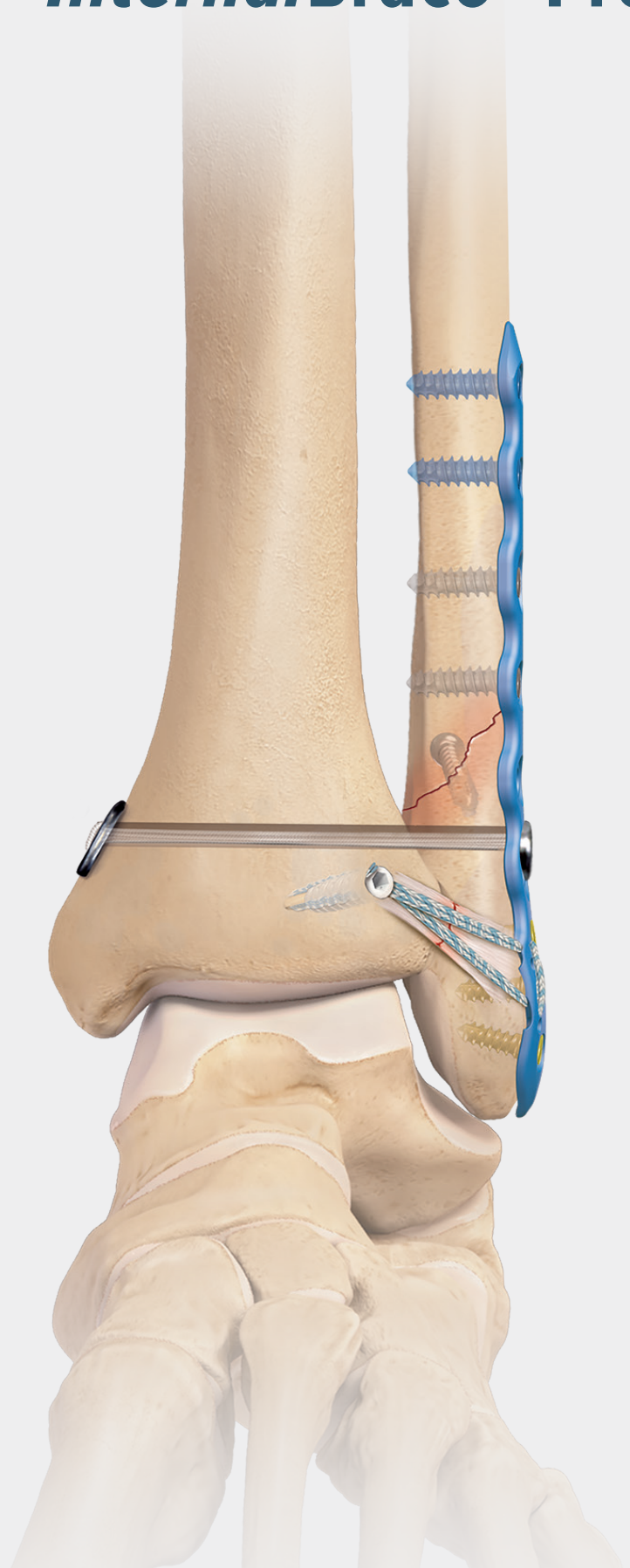
- Plate holes accept Syndesmosis TightRope implants
- Titanium plates–3.0 mm variable-angle locking screws
- Stainless steel plates—2.7 mm fixed-angle locking screws distally
- Suture eyelets for the addition of the FiberTape sutures for the AITFL *Internal*Brace procedure
- Low-profile anatomic design

*Internal*Brace 2.0 Ligament Augmentation Kit With Collagen-Coated FiberTape Suture (AR-1788J-CP)

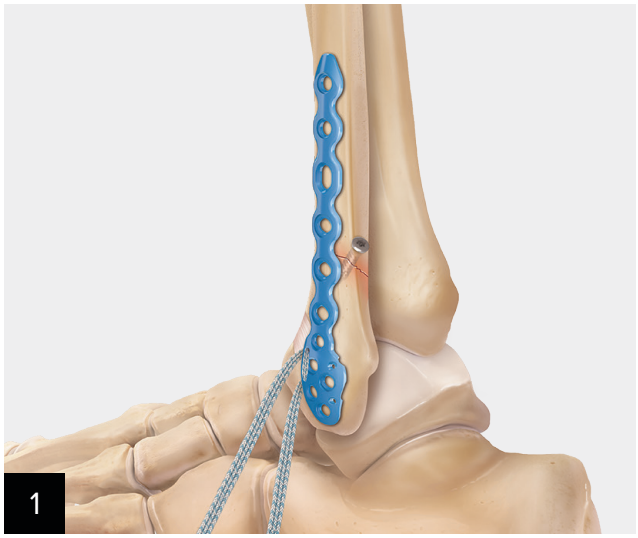
- All-in-one system with 3.5 mm/4.75 mm BioComposite SwiveLock® anchors including drills and taps in one convenient sterile package
- Knotless repair that allows for a strong no-profile construct

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.

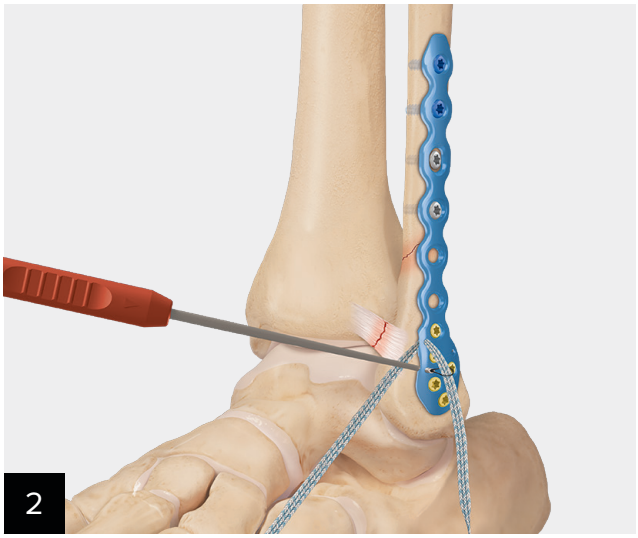
Syndesmosis Repair Using Suture Eyelets for AITFL *Internal*Brace™ Procedure



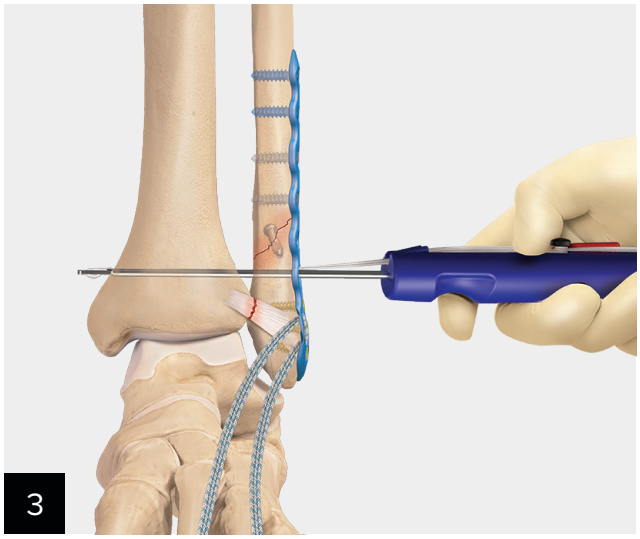
Syndesmosis Repair Using Suture Eyelets for AITFL *Internal*Brace™ Procedure



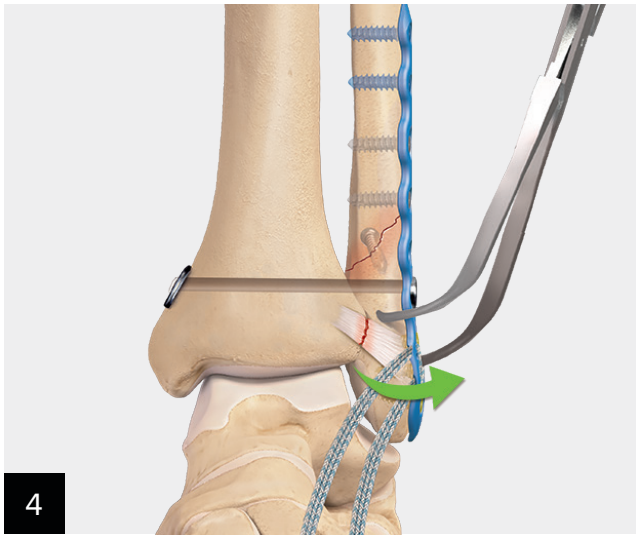
Insert the collagen-coated FiberTape® suture through the anterior proximal and distal holes before applying the distal locking fibula plate.



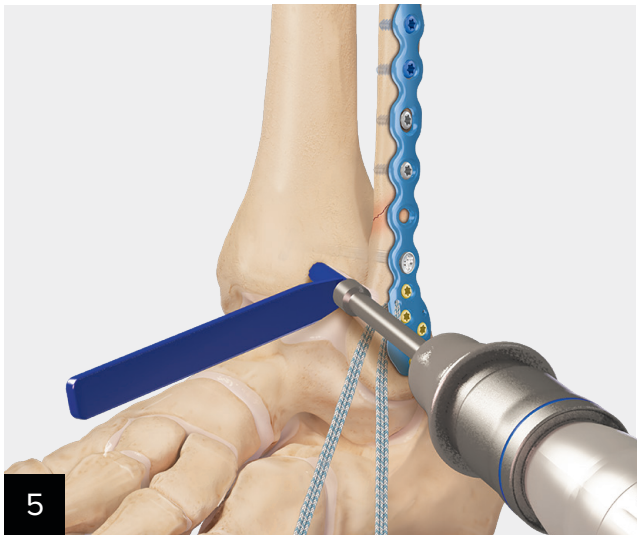
Optional: If the plate is already on the bone, use the Micro SutureLasso™ instrument (AR-8704) to pull the FiberTape suture through the holes.



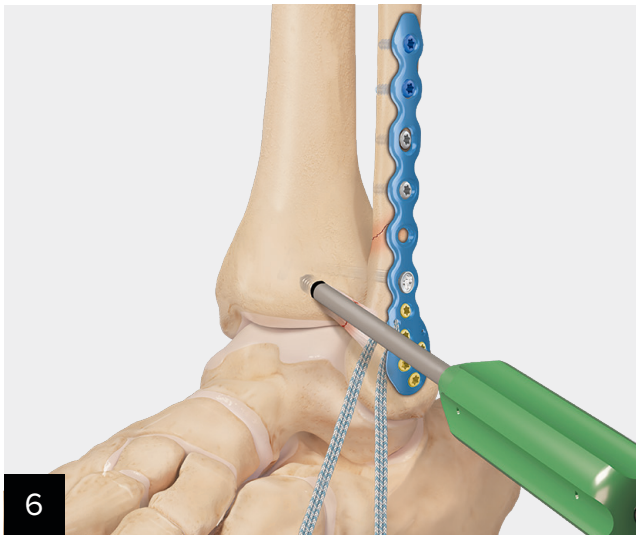
Insert the Syndesmosis TightRope® XP implant 1.5 cm to 2.0 cm above the tibial plafond. This places the implant at a lower level of the interosseous membrane and just above the tibiofibular contact zone, which is covered by hyaline cartilage. Tension appropriately.



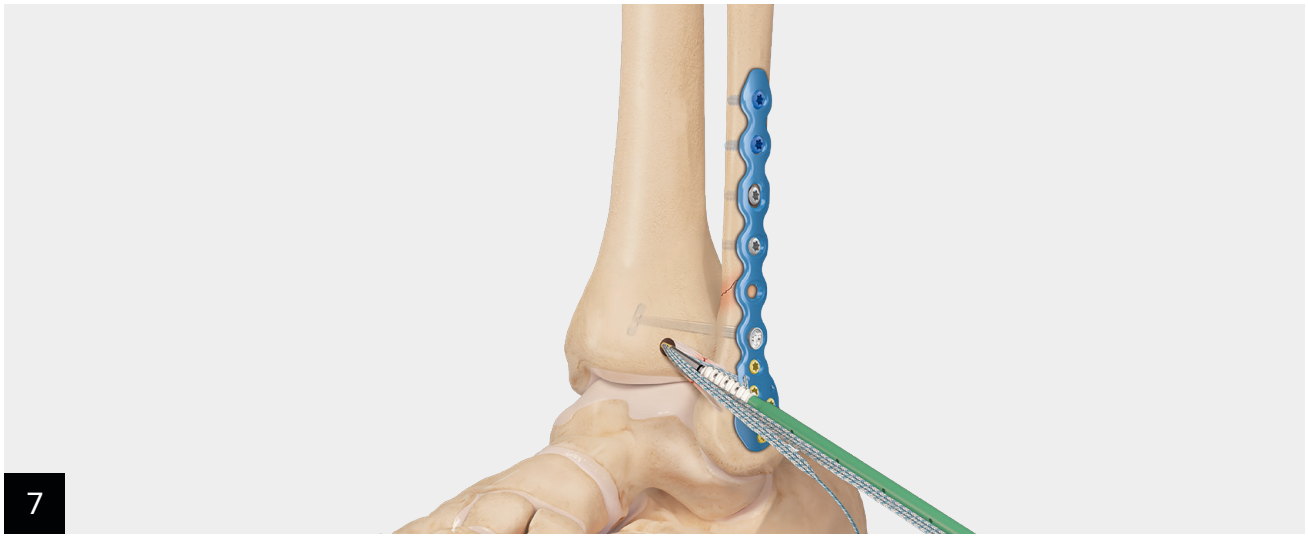
Reassess syndesmotic motion. Excessive external rotation or posterior translation of the fibula suggests incompetency of the native AITFL. If fixation is indicated, perform a primary repair and proceed to step 5. If not, remove the FiberTape suture from the plate.



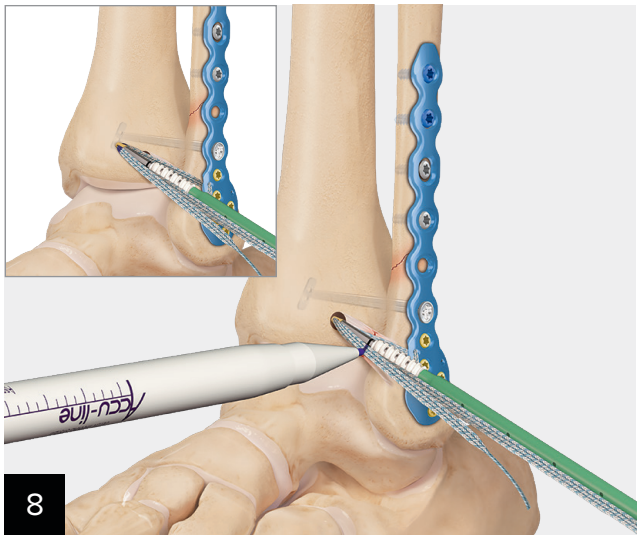
At Chaput's tubercle, use the 3.4 mm drill and aim slightly cephalad away from the tibiotalar joint. Remain aware of the TightRope® implant trajectory to prevent intersection.



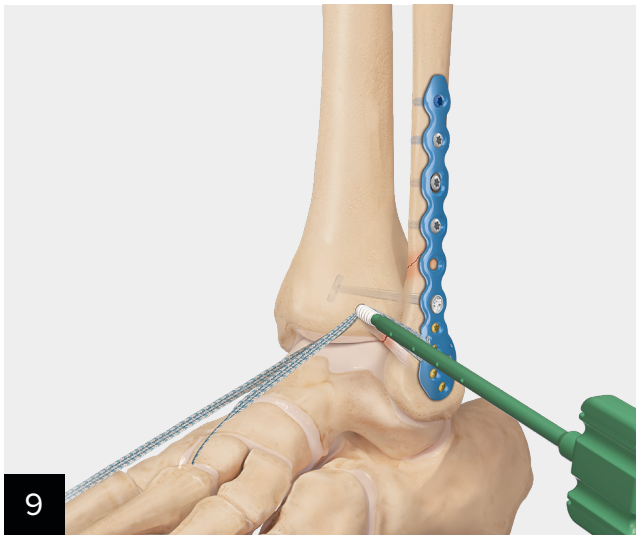
Tap to the laser line using the 4.75 mm tap (green handle).



Tensioning: Bring the eyelet of the 4.75 mm SwiveLock® anchor to the edge of the tibia drill tunnel. Pull the FiberTape® suture to the desired tension and mark the suture at the level of the black laser line on the SwiveLock anchor. Move the anchor eyelet back to the marked point on the FiberTape suture.

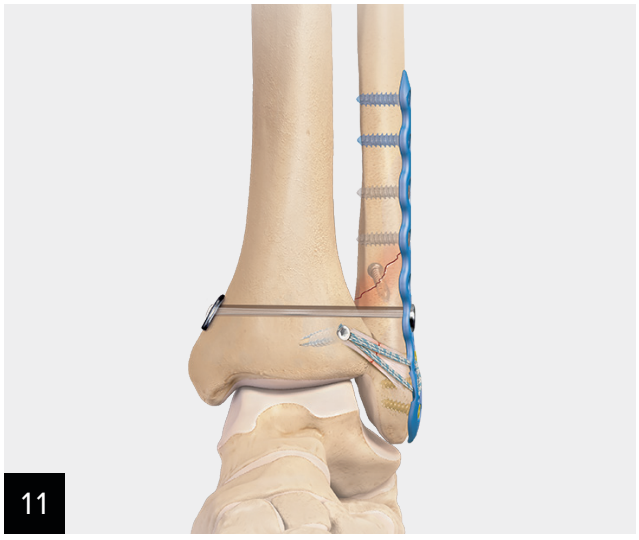


Move the anchor eyelet back to the marked point on the FiberTape® suture.



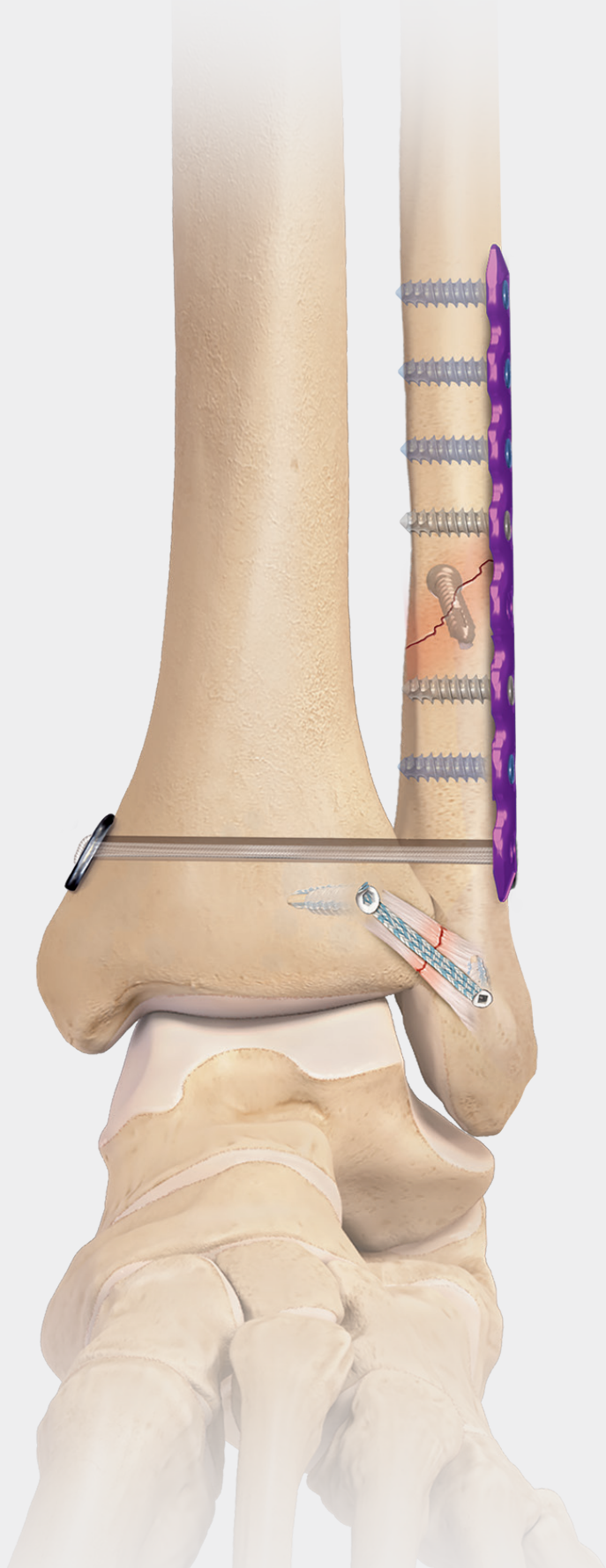
Insert the SwiveLock® anchor until the screw is against the bone, then hold the green paddle on the driver stationary while turning the driver clockwise.

Once anchor placement is finalized, cut the excess FiberTape suture tails with FiberWire® scissors.

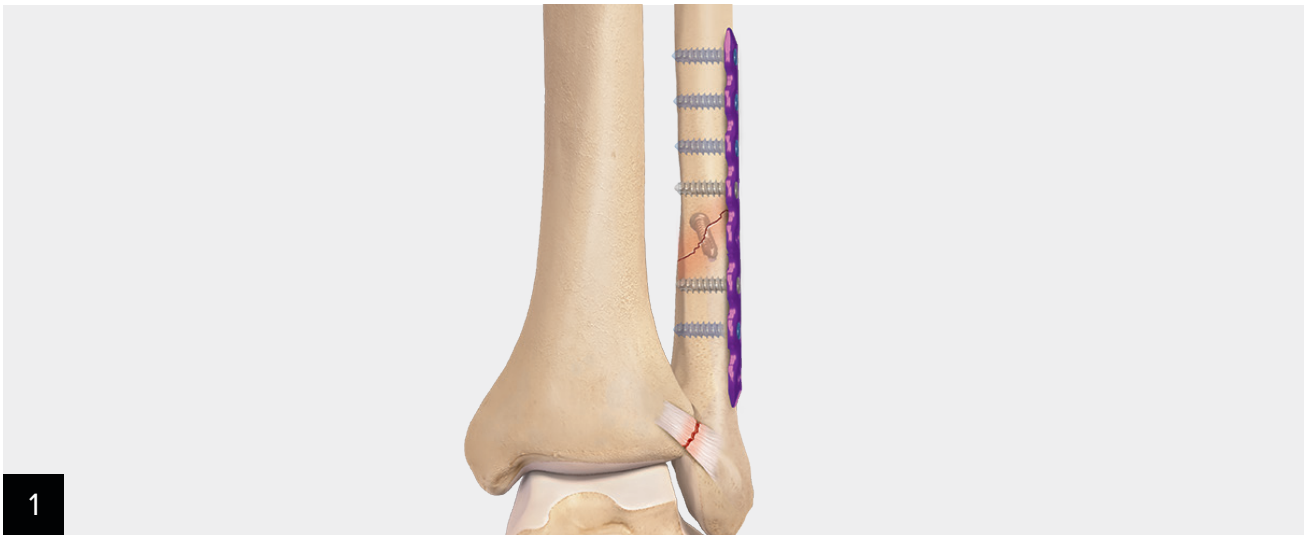


Reevaluate the syndesmosis to ensure anatomic reduction and restoration of physiologic motion.

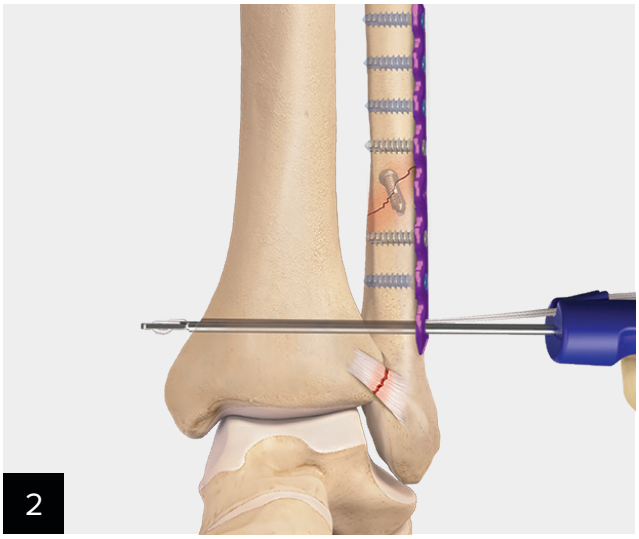
Syndesmosis Repair Using AITFL *Internal*Brace™ Repair Outside of the Plate



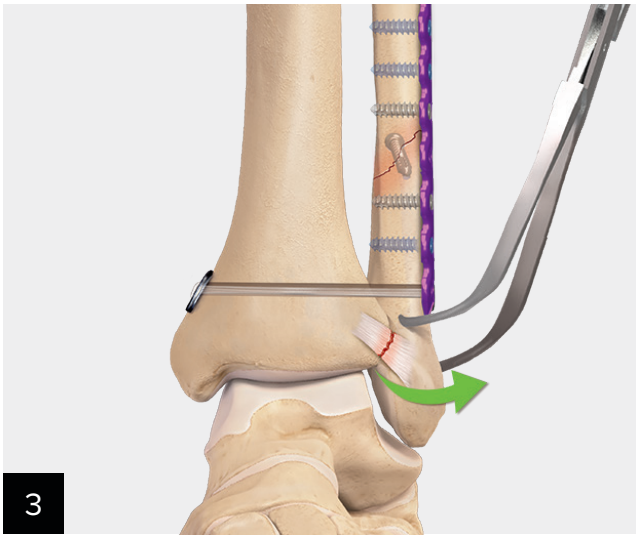
Syndesmosis Repair Using AITFL *Internal*Brace™ Repair Outside of the Plate



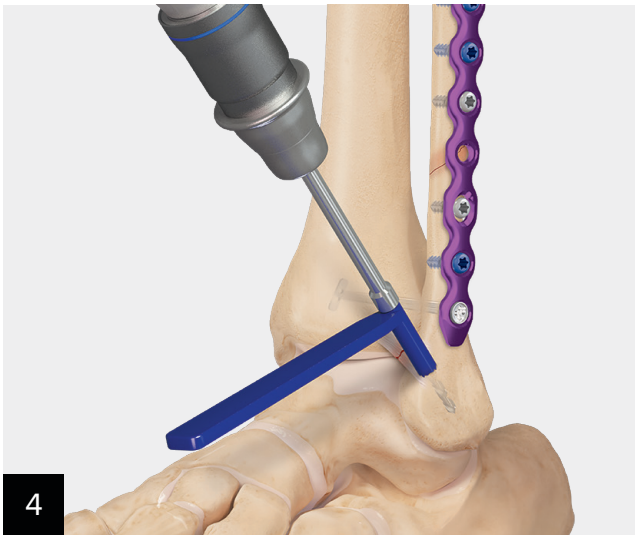
After reducing and stabilizing the fibula fracture, safely expose the anterior syndesmosis. Use caution in the proximal aspect of the incision to avoid injuring the superficial peroneal nerve and in the distal aspect to avoid the intermediate branch of the superficial peroneal nerve. Distal anterior dissection under the extensor retinaculum allows access to the injured AITFL. Reduce and stabilize the fibula fracture as appropriate.



Insert the Syndesmosis TightRope® XP implant 1.5 cm to 2.0 cm above the tibial plafond. Tension appropriately.

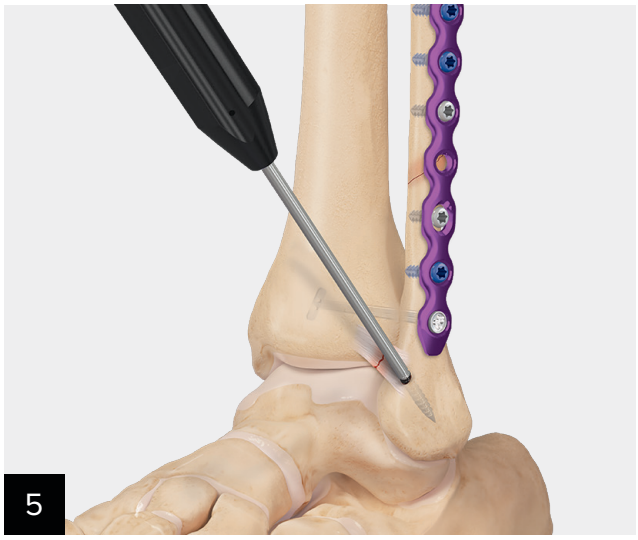


Reassess syndesmotic motion. Excessive external rotation or posterior translation of the fibula suggests incompetency of the native AITFL. If needed, perform a primary repair and proceed to step 5.



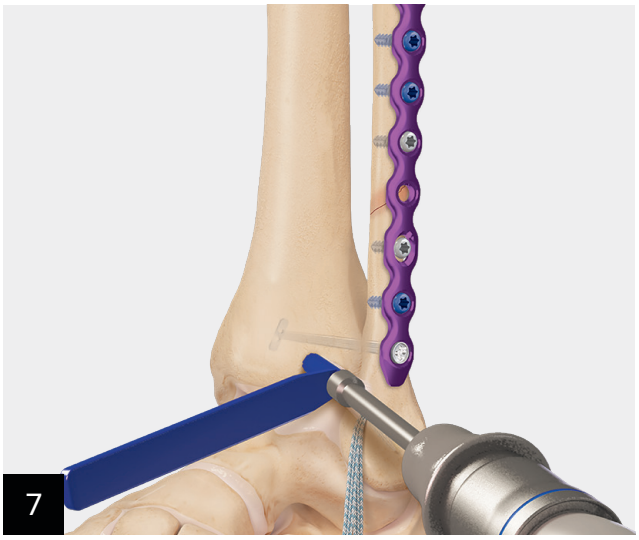
The SwiveLock® anchor loaded with collagen-coated FiberTape® suture for the AITFL *Internal*Brace ligament augmentation procedure should be placed parallel with the AITFL fibers.

Fibular anchor: Use the 2.7 mm drill, starting at Wagstaffe's tubercle, with the drill oriented away from the lateral gutter to prevent articular penetration.

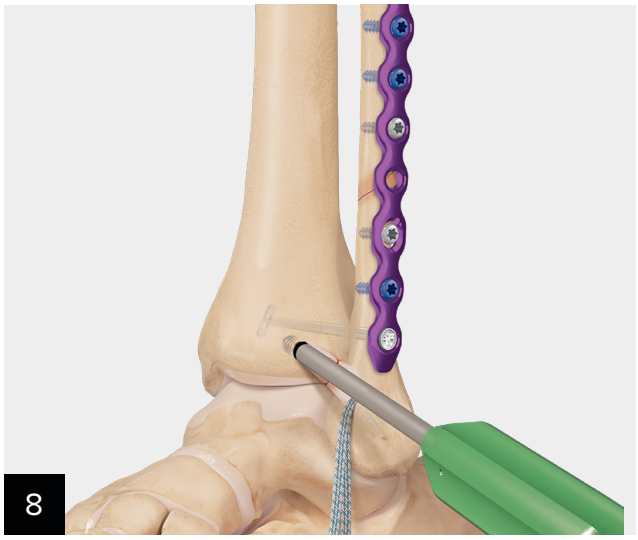


Tap using the 3.5 mm tap (black handle).

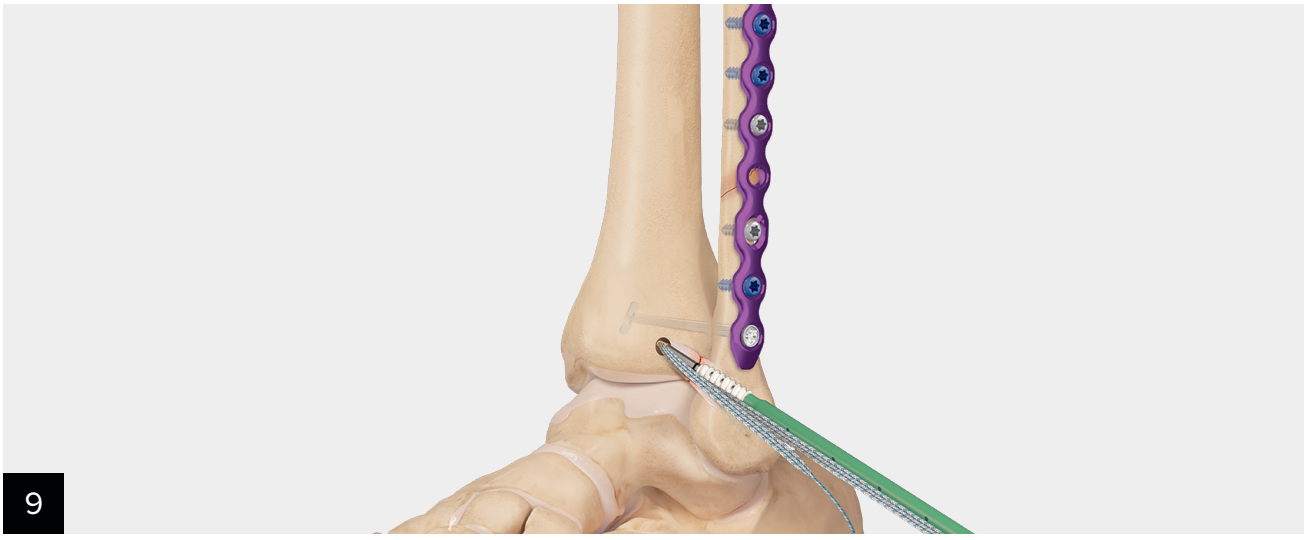
Insert the 3.5 mm SwiveLock anchor loaded with collagen-coated FiberTape suture into the fibular hole. Hold the black paddle on the driver stationary while turning the driver clockwise until the black laser line on the driver is buried into the bone.



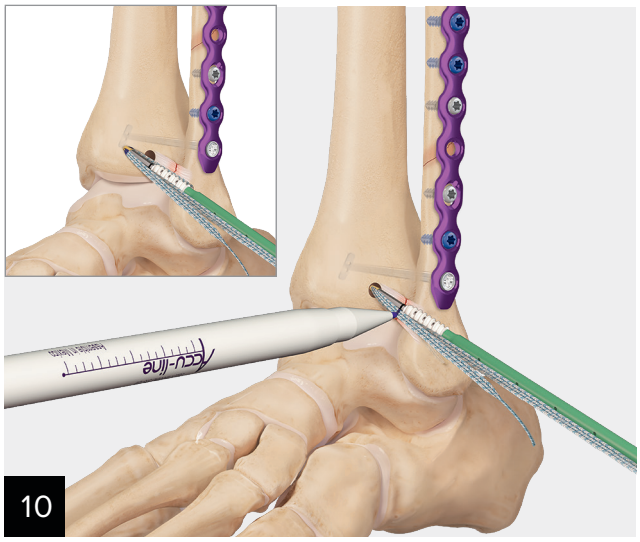
Tibial anchor: Use the 3.4 mm drill and aim slightly cephalad centered in the footprint of the AITFL (Chaput tubercle) on the tibia away from the joint. Remain aware of the TightRope® implant trajectory to prevent intersection.



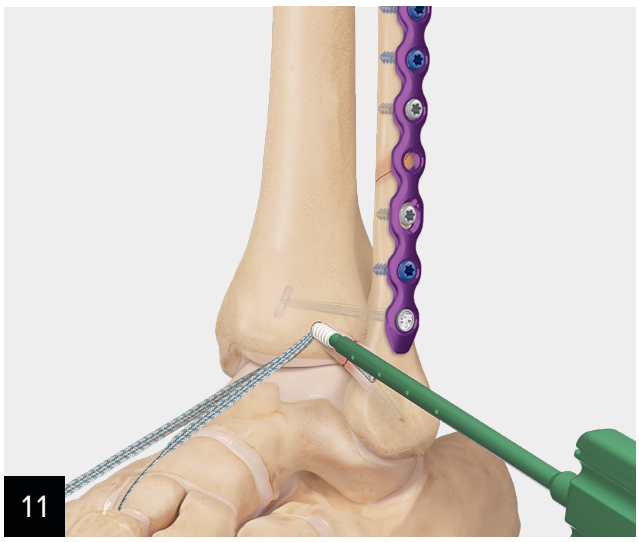
Tap to the laser line using the 4.75 mm tap (green handle).



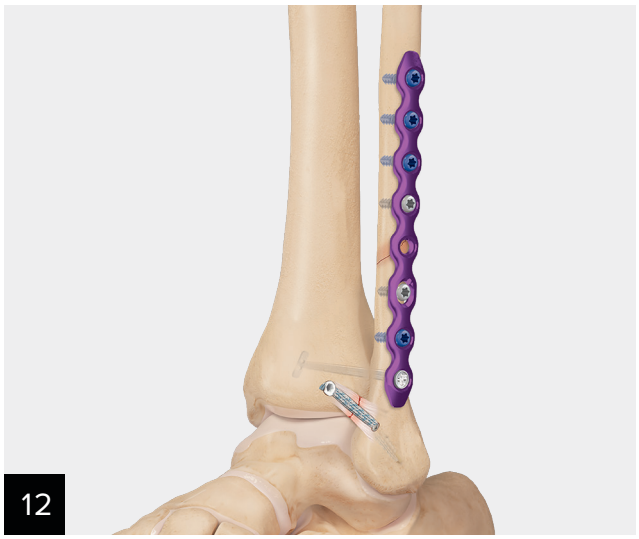
Tensioning: Bring the eyelet of the 4.75 mm SwiveLock® anchor to the top edge of the tibia drill tunnel. Pull the FiberTape® suture to the desired tension and mark the suture at the level of the black laser line on the SwiveLock anchor. Move the anchor eyelet back to the marked point on the FiberTape suture.



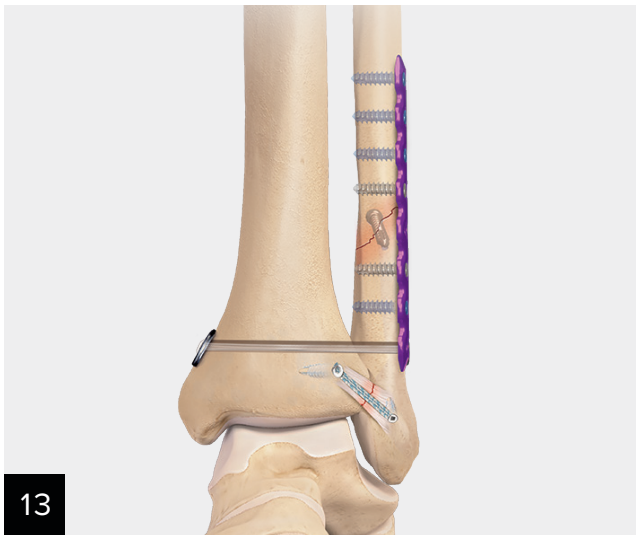
Move the anchor eyelet back to the marked point on the FiberTape® suture.



Insert the SwiveLock® anchor until screw is against the bone, then hold the green paddle on the driver stationary while turning the driver clockwise.



Once the anchor placement is final, use the FiberWire® scissors to cut the excess FiberTape suture tails.



Reevaluate the syndesmosis to ensure anatomic reduction and restoration of physiologic motion.

Ordering Information

BioComposite Ligament Repair System for *Internal*Brace Surgical Technique

Product Description	Item Number
BioComposite SwiveLock Anchor With Collagen-Coated FiberTape Suture, 4.75 mm BioComposite SwiveLock Anchor, 3.5 mm Drill, 2.7 mm Drill, cannulated, 2.7 mm Drill, 3.4 mm Drill, cannulated, 3.4 mm Drill Guide With Metal Insert for Talus Drill Guide With Metal Insert Bone Tap Guidewire With Trocar Tip Guidewire Sleeve Suture Passing Wire Free Needle JumpStart Single-Layer Dressing, 2 in × 5 in	AR-**1788J-CP**

Syndesmosis TightRope XP Implant System, Titanium

Product Description	Item Number
Drill Guide XP Drill Bit, solid, 3.7 mm Drill Bit, cannulated, 3.7 mm XP Suture Tensioning Handles, qty. 2 Syndesmosis TightRope XP Inserter Guidewire With Trocar Tip, 0.049 in Guidewire Sleeve	AR-**8925T**

Syndesmosis TightRope XP Implant System, Stainless Steel

Product Description	Item Number
Drill Guide XP Drill Bit, solid, 3.7 mm Drill Bit, cannulated, 3.7 mm XP Suture Tensioning Handles, qty. 2 Syndesmosis TightRope XP Inserter Guidewire With Trocar Tip, 0.049 in Guidewire Sleeve	AR-**8925SS**

Titanium Plates

Product Description	Item Number
Locking Distal Fibula Plate, 4H, right	AR-**9943BR-04**
Locking Distal Fibula Plate, 5H, right	AR-**9943BR-05**
Locking Distal Fibula Plate, 6H, right	AR-**9943BR-06**
Locking Distal Fibula Plate, 8H, right	AR-**9943BR-08**
Locking Distal Fibula Plate, 10H, right	AR-**9943BR-10**
Locking Distal Fibula Plate, 12H, right	AR-**9943BR-12**
Locking Distal Fibula Plate, 14H, right	AR-**9943BR-14**
Locking Distal Fibula Plate, 4H, left	AR-**9943BL-04**
Locking Distal Fibula Plate, 5H, left	AR-**9943BL-05**
Locking Distal Fibula Plate, 6H, left	AR-**9943BL-06**
Locking Distal Fibula Plate, 8H, left	AR-**9943BL-08**
Locking Distal Fibula Plate, 10H, left	AR-**9943BL-10**
Locking Distal Fibula Plate, 12H, left	AR-**9943BL-12**
Locking Distal Fibula Plate, 14H, left	AR-**9943BL-14**
Locking Straight Plate, 4H	AR-**9943C-04**
Locking Straight Plate, 6H	AR-**9943C-06**
Locking Straight Plate, 7H	AR-**9943C-07**
Locking Straight Plate, 8H	AR-**9943C-08**
Locking Straight Plate, 10H	AR-**9943C-10**
Locking Straight Plate, 12H	AR-**9943C-12**
Locking Third Tubular Plate, 4H	AR-**9943T-04**
Locking Third Tubular Plate, 5H	AR-**9943T-05**
Locking Third Tubular Plate, 6H	AR-**9943T-06**
Locking Third Tubular Plate, 7H	AR-**9943T-07**
Locking Third Tubular Plate, 8H	AR-**9943T-08**
Locking Third Tubular Plate, 10H	AR-**9943T-10**
Locking Third Tubular Plate, 12H	AR-**9943T-12**
Posterolateral Distal Fibula Plate, Ti, 4H	AR-**9963PLL-04**
Posterolateral Distal Fibula Plate, Ti, 5H	AR-**9963PLL-05**
Posterolateral Distal Fibula Plate, Ti, 6H	AR-**9963PLL-06**
Posterolateral Distal Fibula Plate, Ti, 8H	AR-**9963PLL-08**
Posterolateral Distal Fibula Plate, Ti, 10H	AR-**9963PLL-10**
Posterolateral Anatomic Distal Fibula Plate, Ti, 4H, right	AR-**9963APLR-04**
Posterolateral Anatomic Distal Fibula Plate, Ti, 6H, right	AR-**9963APLR-06**
Posterolateral Anatomic Distal Fibula Plate, Ti, 8H, right	AR-**9963APLR-08**
Posterolateral Anatomic Distal Fibula Plate, Ti, 10H, right	AR-**9963APLR-10**
Posterolateral Anatomic Distal Fibula Plate, Ti, 4H, left	AR-**9963APLL-04**
Posterolateral Anatomic Distal Fibula Plate, Ti, 6H, left	AR-**9963APLL-06**
Posterolateral Anatomic Distal Fibula Plate, Ti, 8H, left	AR-**9963APLL-08**
Posterolateral Anatomic Distal Fibula Plate, Ti, 10H, left	AR-**9963APLL-10**
Locking Medial Hook Plate, Ti, 3H	AR-**9943H-03**
Locking Medial Hook Plate, Ti, 5H	AR-**9943H-05**
Locking Medial Hook Plate, Ti, 7H	AR-**9943H-07**
Locking Lateral Hook Plate, Ti, 3H	AR-**9943TH-03**
Locking Lateral Hook Plate, Ti, 5H	AR-**9943TH-05**
Locking Lateral Hook Plate, Ti, 7H	AR-**9943TH-07**

Stainless Steel Plates

Product Description	Item Number
Locking Distal Fibula Plate, right, 4H	AR-**8943DR-04**
Locking Distal Fibula Plate, right, 5H	AR-**8943DR-05**
Locking Distal Fibula Plate, right, 6H	AR-**8943DR-06**
Locking Distal Fibula Plate, right, 8H	AR-**8943DR-08**
Locking Distal Fibula Plate, right, 10H, sterile	AR-**8943DR-10S**
Locking Distal Fibula Plate, right, 12H, sterile	AR-**8943DR-12S**
Locking Distal Fibula Plate, right, 14H, sterile	AR-**8943DR-14S**
Locking Distal Fibula Plate, left, 4H	AR-**8943DL-04**
Locking Distal Fibula Plate, left, 5H	AR-**8943DL-05**
Locking Distal Fibula Plate, left, 6H	AR-**8943DL-06**
Locking Distal Fibula Plate, left, 8H	AR-**8943DL-08**
Locking Distal Fibula Plate, left, 10H, sterile	AR-**8943DL-10S**
Locking Distal Fibula Plate, left, 12H, sterile	AR-**8943DL-12S**
Locking Distal Fibula Plate, left, 14H, sterile	AR-**8943DL-14S**
Locking Straight Plate, 4H	AR-**9943C-04**
Locking Straight Plate, 6H	AR-**9943C-06**
Locking Straight Plate, 7H	AR-**9943C-07**
Locking Straight Plate, 8H	AR-**9943C-08**
Locking Straight Plate, 10H	AR-**9943C-10**
Locking Straight Plate, 12H	AR-**9943C-12**

Product Description	Item Number
Locking Third Tubular Plate, 4H	AR-**8943T-04**
Locking Third Tubular Plate, 5H	AR-**8943T-05**
Locking Third Tubular Plate, 6H	AR-**8943T-06**
Locking Third Tubular Plate, 7H	AR-**8943T-07**
Locking Third Tubular Plate, 8H	AR-**8943T-08**
Locking Third Tubular Plate, 10H	AR-**8943T-10**
Locking Third Tubular Plate, 12H	AR-**8943T-12**
Locking Lateral Hook Plate, 3H	AR-**8943TH-03**
Locking Lateral Hook Plate, 5H	AR-**8943TH-05**
Locking Lateral Hook Plate, 7H	AR-**8943TH-07**
Plates – Special Order	
Nonlocking Third Tubular Plate, 6H	AR-**8943TNL-06**
Nonlocking Third Tubular Plate, 7H	AR-**8943TNL-07**
Nonlocking Third Tubular Plate, 8H	AR-**8943TNL-08**
Locking Distal Fibula Plate, 10H, right, sterile	AR-**8943DR-10S**
Locking Distal Fibula Plate, 12H, right, sterile	AR-**8943DR-12S**
Locking Distal Fibula Plate, 14H, right, sterile	AR-**8943DR-14S**
Locking Distal Fibula Plate, 10H, left, sterile	AR-**8943DL-10S**
Locking Distal Fibula Plate, 12H, left, sterile	AR-**8943DL-12S**
Locking Distal Fibula Plate, 14H, left, sterile	AR-**8943DL-14S**

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