Achilles SutureBridge
Surgical Technique
Insertional calcific Achilles tendinosis is a painful and frequently disabling condition. While most patients with insertional Achilles tendinosis can be managed nonoperatively, those patients who do not respond to conservative treatment may require decompression and debridement of the diseased tendon. The literature has described numerous operative approaches for reattachment of the Achilles tendon and for an associated tendon transfer of the flexor hallucis longus (FHL) for augmentation. While Arthrex provides means of fixation for both, the reattachment of the tendon is the focus of this technique guide.

The SutureBridge is a novel concept in Achilles reattachment, following debridement. While standard anchor fixation of the tendon creates only a single point of compression directly over the anchor, the SutureBridge enables an hourglass pattern of FiberWire® suture to be laid over the distal end of the tendon. This four-anchor construct enables a greater area of compression for the Achilles tendon on the calcaneus, improving stability and possibly allowing for earlier return to normal activities.

### Arthrex Achilles SutureBridge vs. Two-Anchor Construct Peak Load Comparison*

<table>
<thead>
<tr>
<th>Average Normalized Peak Load</th>
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<tbody>
<tr>
<td>3.5</td>
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<tr>
<td>SutureBridge</td>
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<tr>
<td>Two-Anchor</td>
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</tbody>
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*data on file
A direct midline incision is made posteriorly with the patient in the prone position. The incision is carried down to the calcaneus and calcaneal tendon insertion. The Achilles tendon is split at the line incision, full thickness, from dorsal to ventral and is debrided removing all tendinopathic tissue. The Achilles tendon is released distally, and reflected medially and laterally, exposing the whole calcaneal tuberosity with a Haglund’s prominence. Care is taken to maintain some medial and lateral attachments to assist with the accurate restoration of the Achilles’ length. Complete tendon debridement may require complete tendon detachment in some cases.

The Haglund’s prominence is removed using the micro-sagittal saw and osteotome. Care is taken to chamfer off the medial and lateral sides of the calcaneus so as not to leave a prominence that is palpable under the skin creating difficulties with footwear.

Prepare the bone for insertion of the two 4.5 mm Bio-Corkscrew FT Anchors by using the punch/tap included in the disposable kit. Note: If very hard bone stock is encountered the 3.2 mm drill can be used prior to tap. Two holes are created about 1 cm proximal to the distal insertion of the Achilles tendon and central to each half of the tendon.

Insert the Arthrex 4.5 mm Bio-Corkscrew FT Anchors into the holes. The anchors are fully seated when inserted to the laser line on the driver shaft. Slide the window open on the driver handle to release the FiberWire sutures and needles. Pull the driver handles out of the anchors. The needles may be cut from the suture, but it is critical to leave sufficient suture tails for the SutureBridge construct.
The two 4.5 mm Bio-Corkscrew FT Anchors are single-loaded with two #1 FiberWire sutures, one in blue and one in TigerWire® (black/white). The Achilles tendon is tensioned proximally and approximated to its native location. Depending on surgeon preference, either a Mason-Allen or mattress type stitch is used to bring the tendon down to bone.

With appropriate tension maintained on the sutures, the medial button on the back of the handle is struck with a mallet to drive the anchor into the bone and lock the sutures in place. The handle is removed by turning counterclockwise until it releases from the eyelet tip.

Just distal to the end of the Achilles tendon insertion and directly inferior to the Bio-Corkscrew FT Anchor placements, the 3.2 mm PushLock® anchor disposable drill is used to create two holes for the distal row. Note: An optional reusable punch can be pulled separately if surgeon desires (AR-1926P).

One blue FiberWire and one TigerWire suture from each of the proximal anchors are passed through the eyelet of the 3.5 mm Bio-PushLock™ anchor (a 4.5 mm PushLock may be substituted in softer bone). The 3.5 mm Bio-PushLock anchor is inserted up to the laser line, just until the back tak portion of the anchor is even with the cortex. Suture tension is achieved by pulling one suture at a time.
Steps 6-8 are followed for the other 3.5 mm Bio-PushLock anchor with the one remaining blue FiberWire and one TigerWire suture from each of the 4.5 mm Bio-Corkscrew FT anchors.

The resulting suture pattern should look similar to a capital 'M' or sideways hourglass with the anchors at each corner. The FiberWire suture is trimmed at the level of the cortex.

**Ordering Information**

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

**Instruments**

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

**Implants**

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

**Post-op Protocol**

Postoperatively patients are treated with a below-knee walking boot with or without a heel lift, depending on surgeon preference - allowing them to weight-bear. The SutureBridge construct can provide excellent security, and avoiding the lift helps maximize flexibility and may enhance rehabilitation. The patient should be protected with crutches for approximately four weeks, at which point physical therapy and range of motion is begun. Gradually wean your patients from the walking boot.
This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience and should conduct a thorough review of pertinent medical literature and the product’s Directions For Use.