The Achilles SpeedBridge™ Implant System

The Achilles SpeedBridge implant system is a novel concept in Achilles reattachment, following debridement for insertional calcific tendinosis. While standard anchor fixation of the tendon creates only a single point of compression directly over the anchor, the Achilles SpeedBridge implant system enables an hourglass pattern of FiberTape® suture to be laid over the distal end of the Achilles tendon. The 4-anchor construct enables a true knotless repair and a greater area of compression for the Achilles tendon on the calcaneus, which improves stability.

Pullout Strength Comparison

<table>
<thead>
<tr>
<th>Load-to-Failure (lbf)</th>
<th>80</th>
<th>70</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
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<tbody>
<tr>
<td>4.75 mm Bio-Swivelock® C Anchor w/FiberTape Suture</td>
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<td>Mitek Versalok® Suture Anchor</td>
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<td>ArthroCare SpeedScrew™ Implant</td>
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<tr>
<td>ArthroCare Opus® Magnum® Implant</td>
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<td>4.5 mm ConMed Poplok® Suture Anchor</td>
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<tr>
<td>Smith &amp; Nephew Footprint PK® Suture Anchor</td>
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NEW! Achilles SpeedBridge Implant System Including JumpStart® Antimicrobial Wound Dressings

JumpStart wound dressings are an easy-to-use, conformable, and protective solution for the postoperative management of surgical incisions. This advanced wound dressing uses Advanced Microcurrent Technology® to provide sustained, broad-spectrum antimicrobial efficacy, including protection against antibiotic- and biofilm-resistant pathogens.1

Embedded in the JumpStart dressing are islands of elemental silver and zinc, which create microcell batteries designed to generate electrical currents. These microcurrents initiate a stimulus to initiate cell migration and re-epithelialization, an essential activity to wound healing.2

Included in this implant system:
2 in × 5 in Single Layer Dressing ABS-4025
Achilles SpeedBridge™ Implant System

- 3.5 mm Drill Bit
- Tap with Handle
- 4.75 mm SwiveLock® Anchors w/ #2 FiberWire® Suture and FiberTape® Loop w/ Needle
- Tap with AO Quick Connect
- Drill Guide
- 4.75 mm SwiveLock Anchors w/#2 FiberWire Suture
Make a direct midline incision posteriorly with the patient in the prone position. Carry the incision down to the calcaneus and calcaneal tendon insertion. Split the Achilles tendon at the line incision, full thickness, from posterior to anterior and debride, removing all tendinopathic tissue. Release the Achilles tendon distally, reflected medially and laterally and expose the whole calcaneal tuberosity with a Haglund’s prominence. Take care to maintain some medial and lateral attachments to assist with the accurate restoration of the Achilles’ length. In some cases, complete tendon debridement may require complete tendon detachment.

Remove the Haglund’s prominence using a microsagittal saw and osteotome. Take care 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 (2) 4.75 mm BioComposite SwiveLock® anchors by drilling down to the laser line or to the shoulder stop when using the drill guide. Create 2 holes about 1 cm proximal to the distal insertion of the Achilles tendon and central to each half of the tendon.

Use the 4.75 mm SwiveLock tap to prepare the holes for the 4.75 mm SwiveLock anchors. Fixed handled or quick connect 4.75 mm SwiveLock Taps are available. Tap to the laser line or the shoulder stop.
Insert the two (2) 4.75 mm BioComposite SwiveLock® anchors loaded with FiberTape® suture, 1 blue and 1 white/black, into the proximal holes. Place the eyelet completely in the drill hole until the anchor body makes contact with the bone. Hold the thumbpad steady and rotate the driver handle in a clockwise direction until the anchor body is flush with the bone.

*Note: To remove the driver, unwind the #2 FiberWire® tip retention suture that holds the PEEK tip in place during anchor insertion. This suture may be incorporated into the repair or discarded.*

5

Pass the needle attached to the 2 mm FiberTape suture through the Achilles tendon on each side.

6

Prepare the distal holes with the 3.5 mm drill in the same manner as the proximal holes.

7

Tap the distal holes in preparation for the 4.75 mm SwiveLock anchors.

8
After cutting the swedged portion on each proximal anchor, retrieve 1 FiberTape® suture tail from each proximal anchor (1 blue and 1 white/black) and preload them through the distal SwiveLock® anchor eyelet. Adjust tension of the FiberTape suture and insert the 4.75 mm SwiveLock anchor into the prepared distal bone socket until the anchor body contacts bone. Do not attempt to adjust tension while the eyelet is in the hole. Make sure the anchor is flush to the bone prior to removing the handle.

Repeat Step 9 for the other distal 4.75 mm SwiveLock anchor using the remaining 2 tails from the proximal row.

Cut the tails on the distal row flush to the SwiveLock anchor, resulting in the final knotless repair.

Note: Two (2) #2 FiberWire® sutures may be used to provide additional fixation to the distal tendon.

JumpStart® Antimicrobial Wound Dressing Application

Remove the 2 in × 5 in single-layer JumpStart wound dressing from the sterile package. Cut the dressing if needed to a size that extends 1 cm-2 cm beyond the top and bottom of the incision. Apply saline or hydrogel to the dotted side. Place the dressing over the incision dotted side down so the dots are in direct contact with the incision. Cover the back side of JumpStart wound dressing with moistened gauze to maintain moist environment and keep batteries activated.
Post-op Protocol

Postoperatively, patients can be treated with a below-the-knee walking boot with or without a heel lift, and weightbearing can begin according to surgeon preference.

Patients should be use crutches for approximately 4 weeks, at which point physical therapy and range of motion can begin. Gradually wean patients from the walking boot.

Ordering Information

BioComposite Achilles SpeedBridge™ Repair with JumpStart®, Implant System (AR-8928BCJ-CP)
- BioComposite SwiveLock® Suture Anchor w/ #2 FiberWire® Suture, 4.75 mm, qty. 2
- BioComposite SwiveLock Suture Anchor w/ #2 FiberWire Suture and FiberTape® Loop w/ Needle, 4.75 mm
- BioComposite SwiveLock Suture Anchor w/ #2 FiberWire Suture and TigerTape™ Loop w/ Needle, 4.75 mm
- Punch/Tap w/ AO Quick Connect
- Punch/Tap w/ Handle
- Drill Guide
- Drill Bit, 3.5 mm
- 2 in × 5 in JumpStart Single-Layer Dressing

PEEK Achilles SpeedBridge Implant System (AR-8928PJ-CP) includes:
- PEEK SwiveLock Anchors, 4.75 mm × 15 mm, qty. 2
- PEEK SwiveLock Anchor w/ FiberTape Needle Assembly, blue
- PEEK SwiveLock Anchor w/ TigerTape Needle Assembly, white/black
- Drill, 3.5 mm
- Drill Guide
- Punch/Tap for 4.75 mm SwiveLock Anchor w/ AO
- Punch/Tap for 4.75 mm SwiveLock Anchor w/ Quick Connect

PEEK Achilles SpeedBridge Implant System (AR-8928P-CP) includes:
- PEEK SwiveLock Anchors, 4.75 mm × 15 mm, qty. 2
- PEEK SwiveLock Anchor w/ FiberTape Needle Assembly, blue
- PEEK SwiveLock Anchor w/ TigerTape Needle Assembly, white/black
- Drill, 3.5 mm
- Drill Guide
- Punch/Tap for 4.75 mm SwiveLock Anchor w/ AO
- Punch/Tap for 4.75 mm SwiveLock Anchor w/ Quick Connect

References
This technique was developed in conjunction with Thomas San Giovanni, MD

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. Postoperative management is patient-specific and dependent on the treating professional’s assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

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