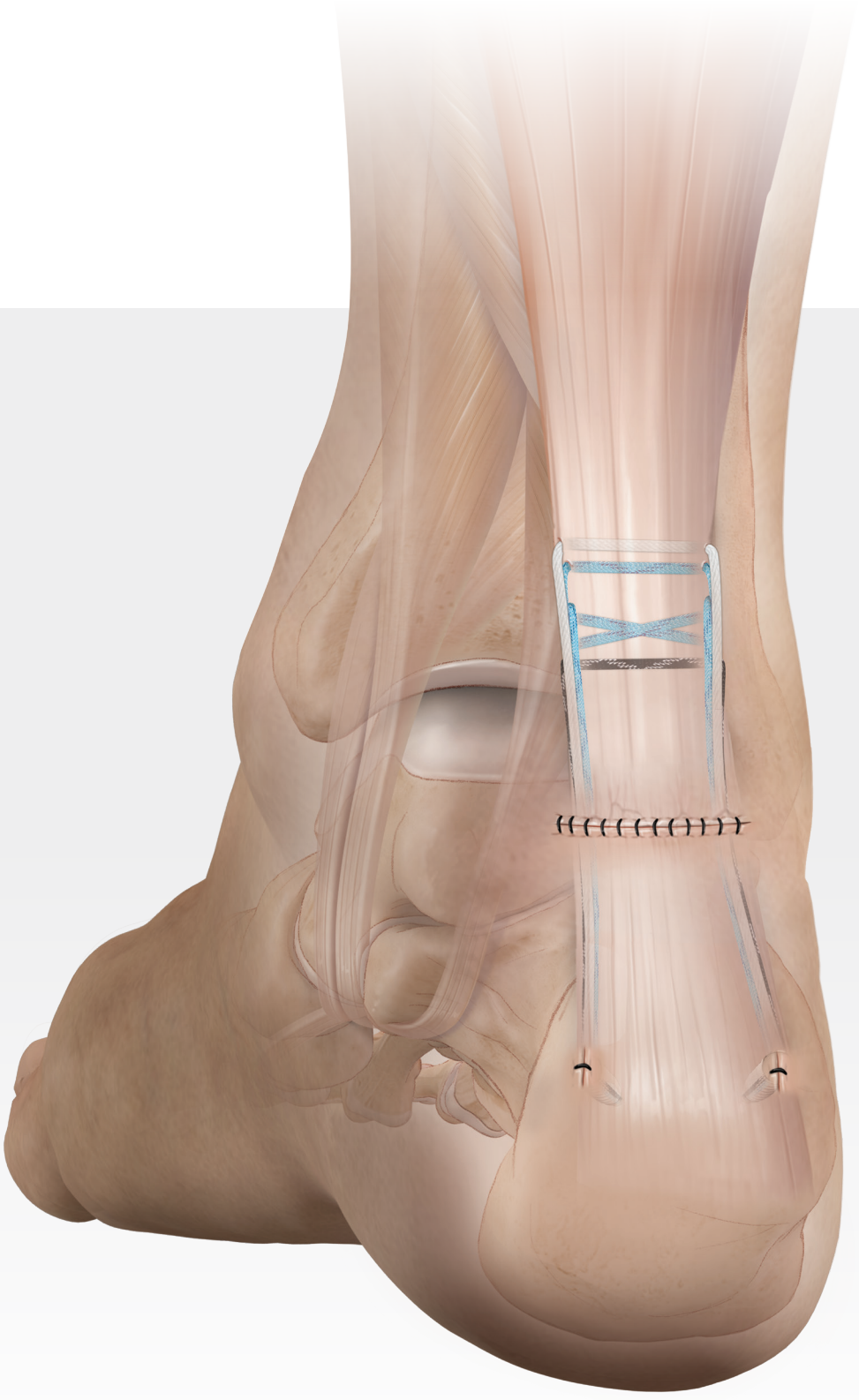
# PARS Achilles Midsubstance SpeedBridge™ Implant System

Surgical Technique



Arthrex®

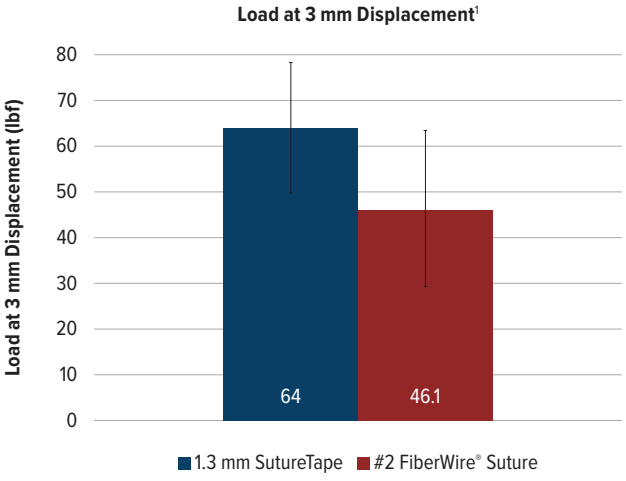
# PARS Achilles Midsubstance SpeedBridge™ Implant System

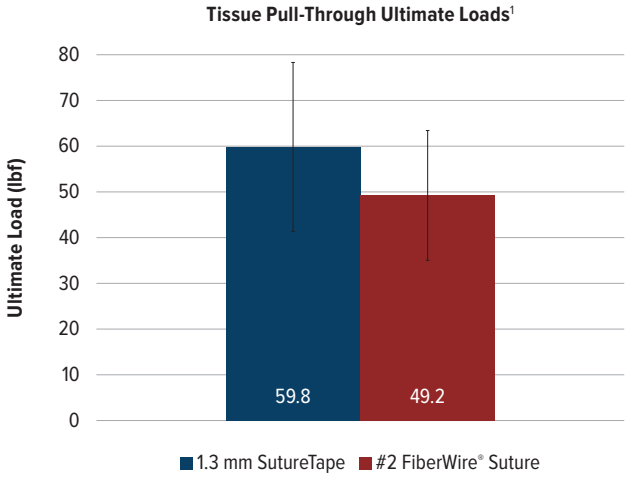
The PARS Achilles Midsubstance SpeedBridge implant system is a percutaneous, minimally invasive technique used to repair Achilles tendon ruptures. Using color-coded 1.3 mm SutureTape, the PARS system makes it easy to create a percutaneous locking stitch in the Achilles tendon, while staying inside the paratenon sheath.

The PARS Achilles Midsubstance SpeedBridge system works with the PARS jig, a minimally invasive instrument that allows for percutaneous passage of SutureTape without a large extensile incision. The PARS Achilles Midsubstance SpeedBridge technique is performed with a knotless construct by fixating the SutureTape in the proximal tendon and using DX 3.9 BioComposite SwiveLock® anchors for distal fixation in the calcaneus.

**SutureTape Compared to #2 Suture**

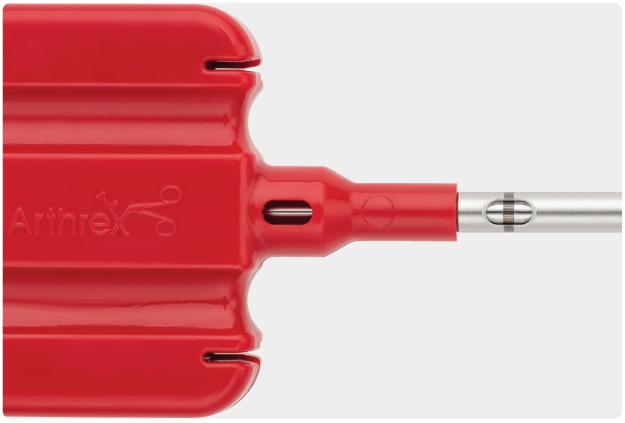
- Feels flat-out better than round suture
- Increased resistance to tissue pull-through[1]
- Stronger knotted and knotless fixation[1]
- Tighter, smaller knot stacks
- Better handling characteristics



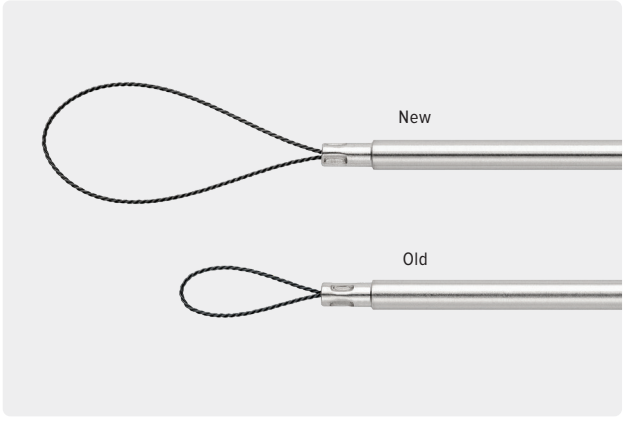
## Features and Benefits

New, **collagen-coated** SutureTape comes in colors designed for easier intraoperative differentiation.



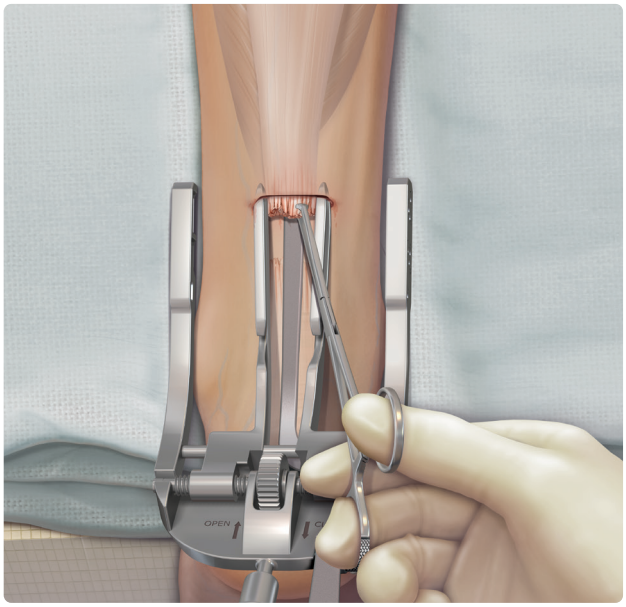

DX 3.9 mm BioComposite SwiveLock® anchors feature a laser-line window that indicates when the anchor is flush or 2 mm countersunk, allowing for more reproducible percutaneous insertion.

Cannulated drills and taps facilitate percutaneous calcaneus drill hole preparation.



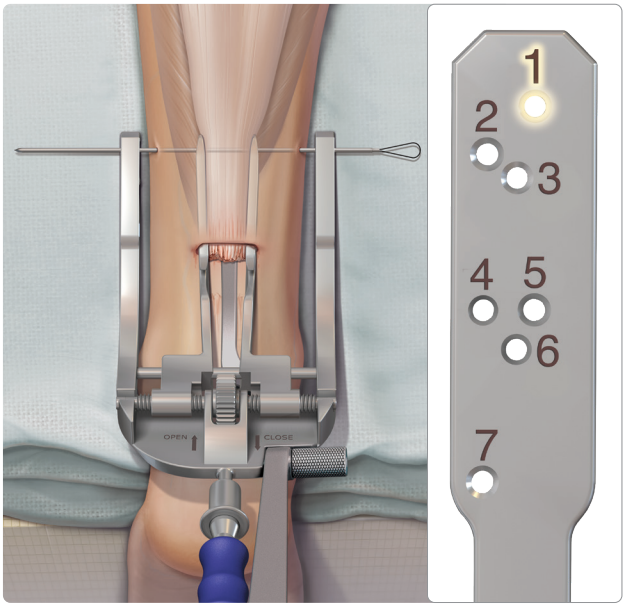

Larger PARS needle eyelets enable more reliable passing of the SutureTape.

# PARS Achilles Midsubstance SpeedBridge™ Implant System



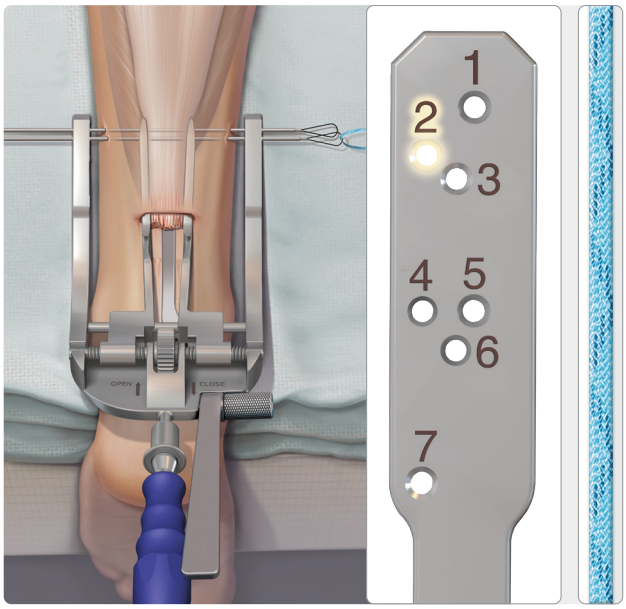
**1**

Make a percutaneous incision just proximal to the tendon rupture and insert the inner arms of the PARS jig inside the paratenon of the Achilles tendon.



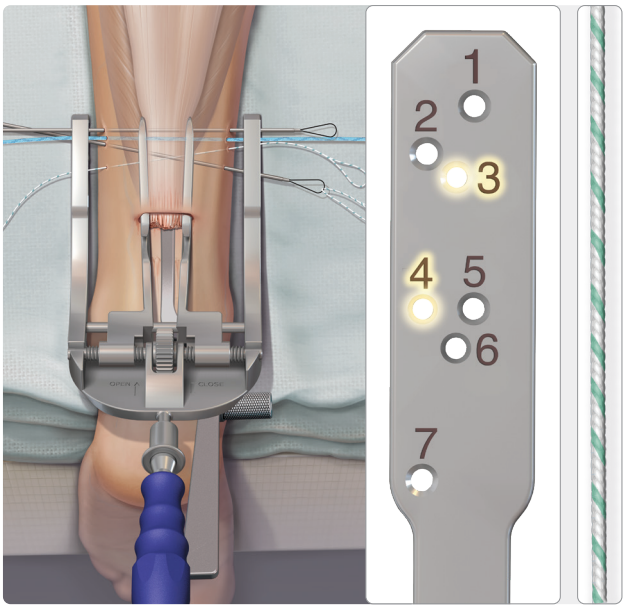

**2**

Pass the PARS needle with the nitinol loop through the #1 hole. Place manual pressure on the tendon while passing the PARS needle to enhance central placement of the SutureTape. Leave the #1 PARS needle in the #1 spot of the jig to stabilize the construct while passing all other SutureTape strands; pass the #1 white SutureTape last.



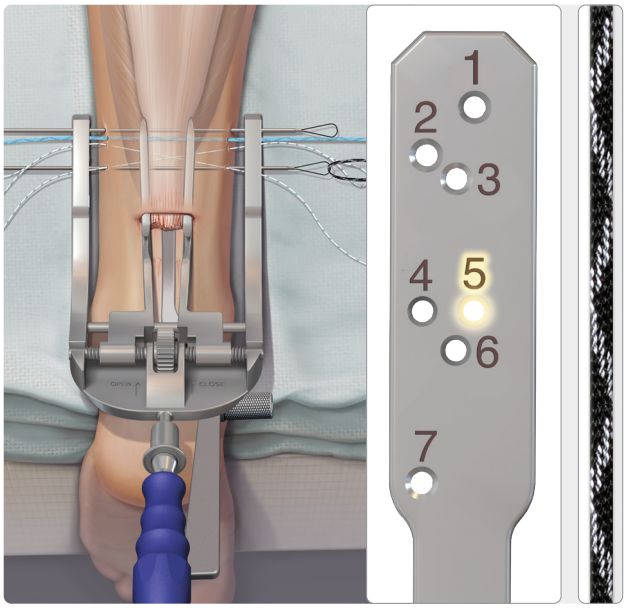

**3**

Pass the PARS needle with the nitinol loop through the #2 hole. Pull the blue SutureTape through the leg, leaving tails of equal length on both sides.



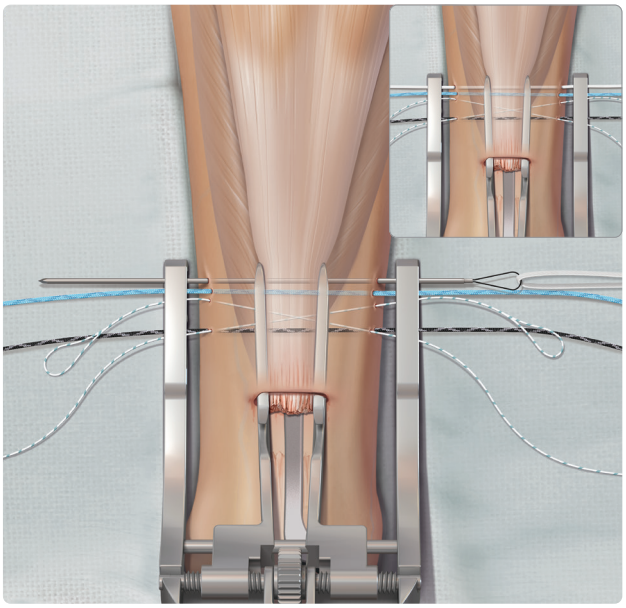

**4**

Pass the PARS needle with the nitinol loop through the #3 and #4 holes. Pull the white/green FiberLink™ suture with loops through the leg, leaving tails of equal length on both sides. Make sure there is a looped end on each side of the leg.



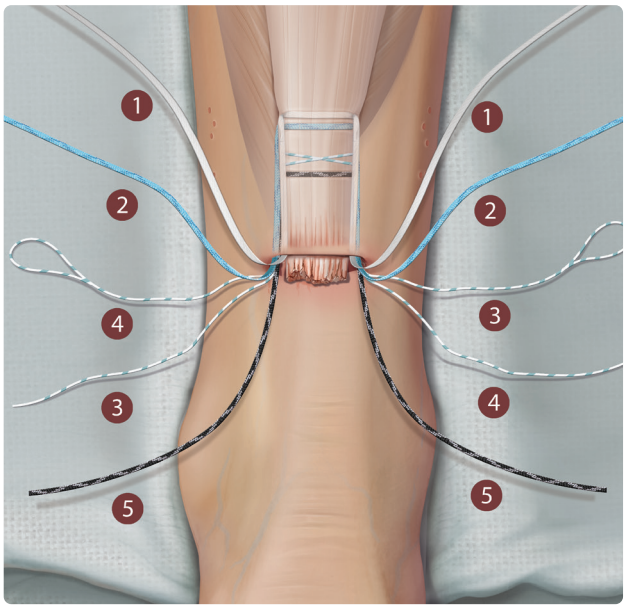

**5**

Pass the PARS needle with the nitinol loop through the #5 hole. Pull the black SutureTape through the leg, leaving tails of equal length on both sides.



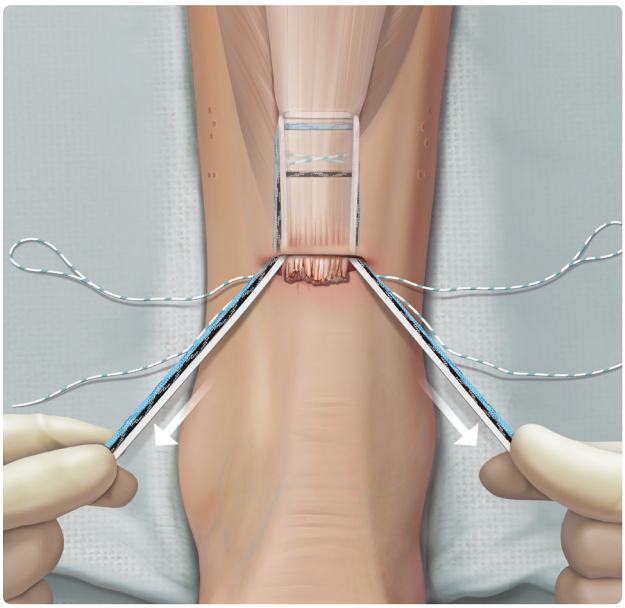
**6**

Load the white SutureTape in the #1 PARS needle and pass through the tendon.



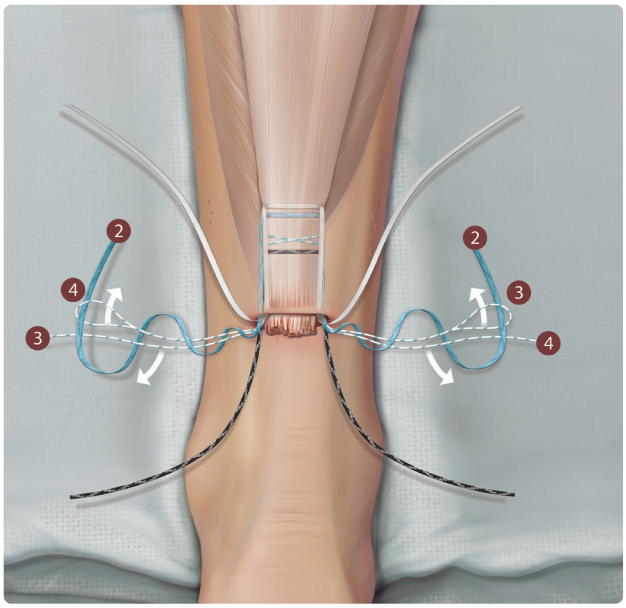

**7**

Remove the jig and organize the sutures the way they were originally placed through the PARS jig.



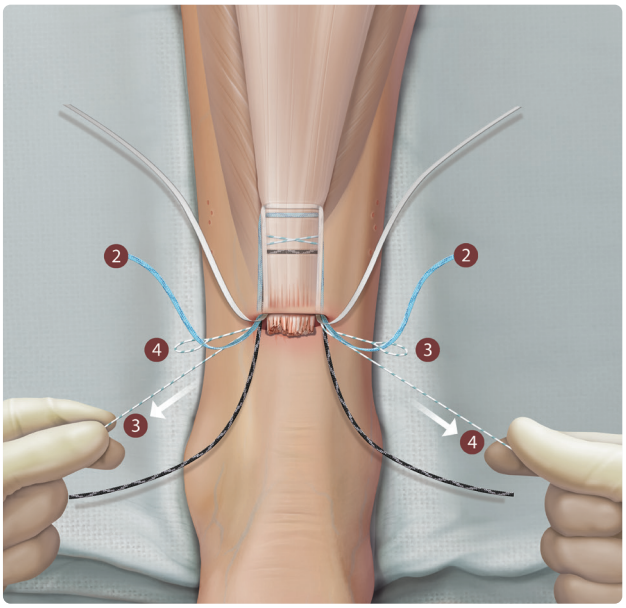
**8**

Pull each end of the SutureTape strands 10 times to ensure all creep is removed from the construct.



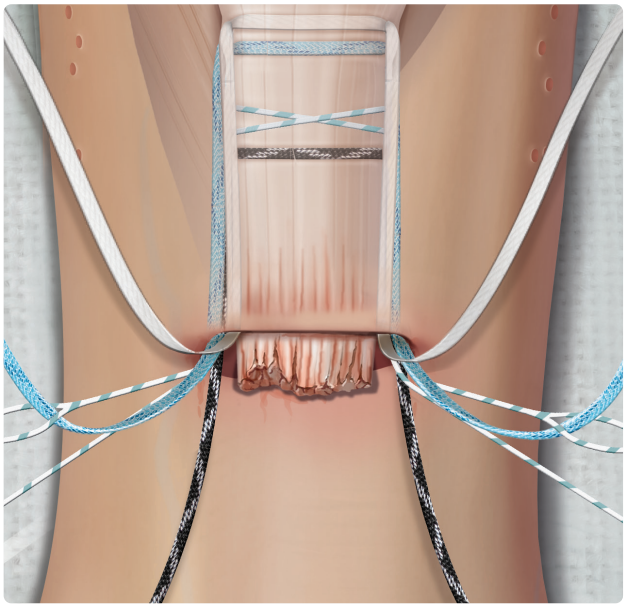

**9**

Pass the blue SutureTape **under and around** the #3 and #4 (white/green) FiberLink™ sutures **twice, in the same direction on both sides** and then through the loop of the white/green FiberLink suture.



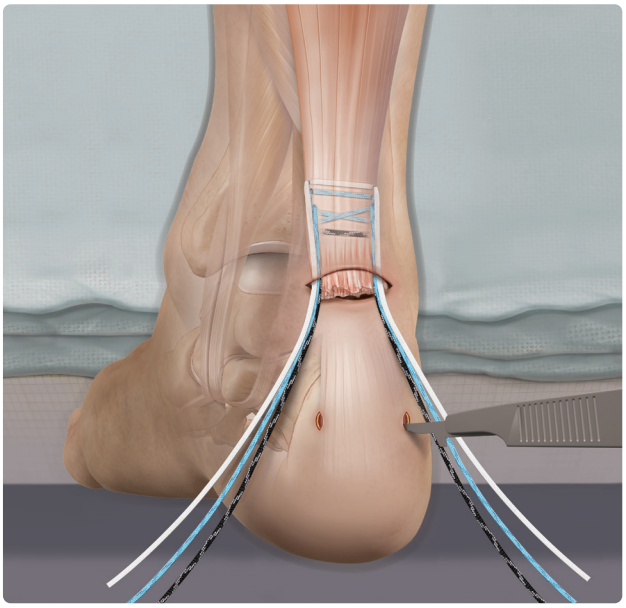

**10**

Pull the blue SutureTape through the Achilles tendon to the other side by pulling on the nonlooped side of the white/green looped sutures (#3 and #4).



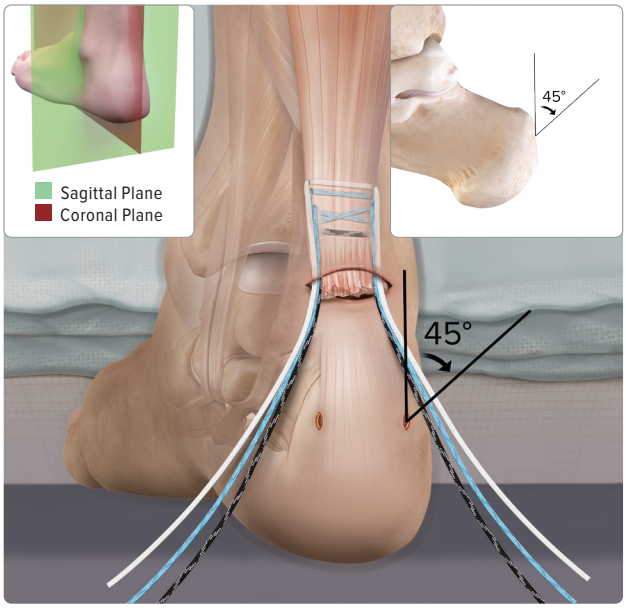
**11**

Pull on the blue SutureTape to lock the stitch in place. Two transverse sutures (#1 and #5) and one locked suture (#2) remain.



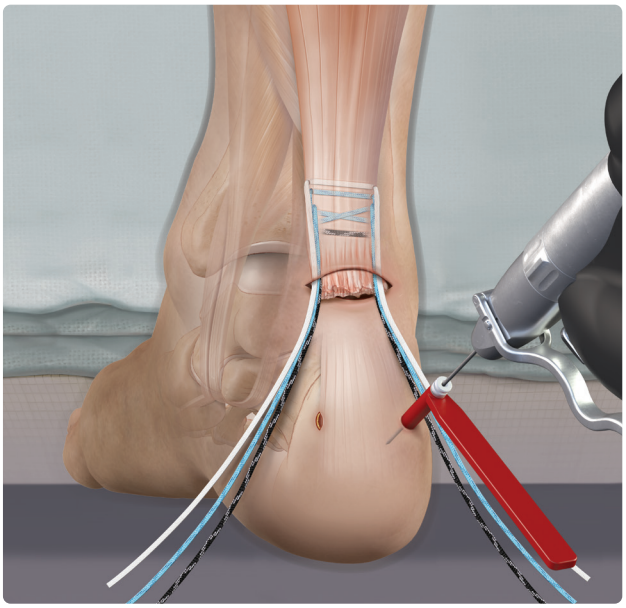
**12**

Make incisions 1 cm below the superior aspect of the posterior calcaneal tuberosity, medial and lateral to the Achilles tendon.



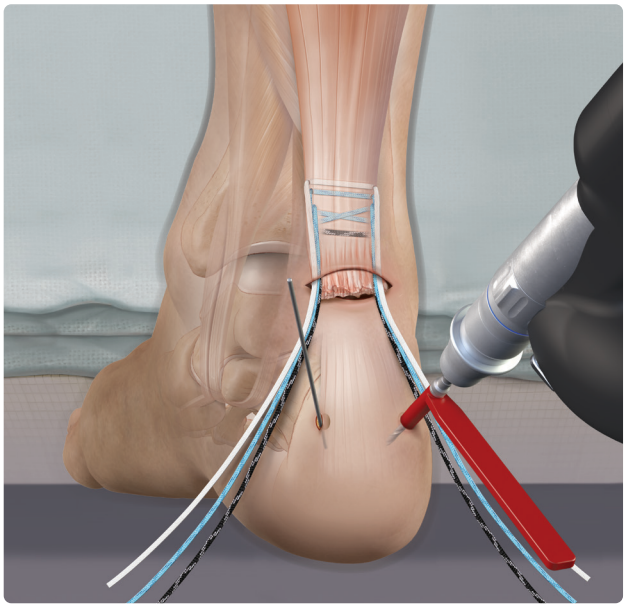

**13**

Within these stab incisions, insert the drill guide with the white guidewire sleeve down to the bone and insert the guidewire at 45° from the centerline of the Achilles in the coronal plane and 45° from posterior to anterior (sagittal plane).



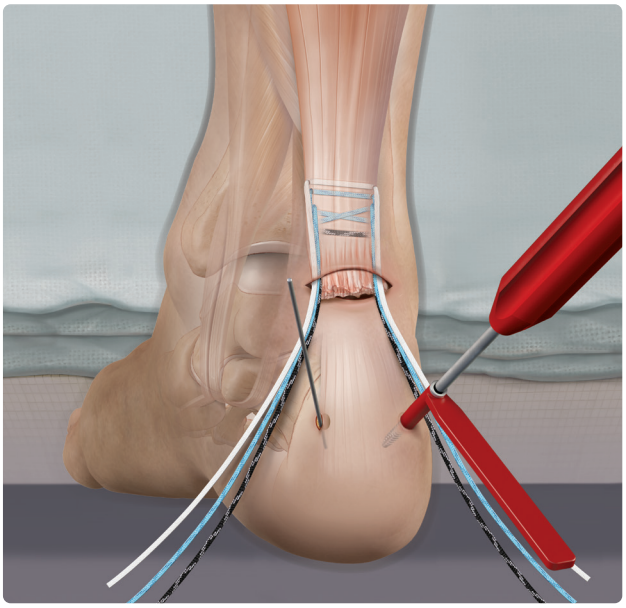
**14**

Insert the guidewire. Leaving the guide in place, remove the white guidewire sleeve.



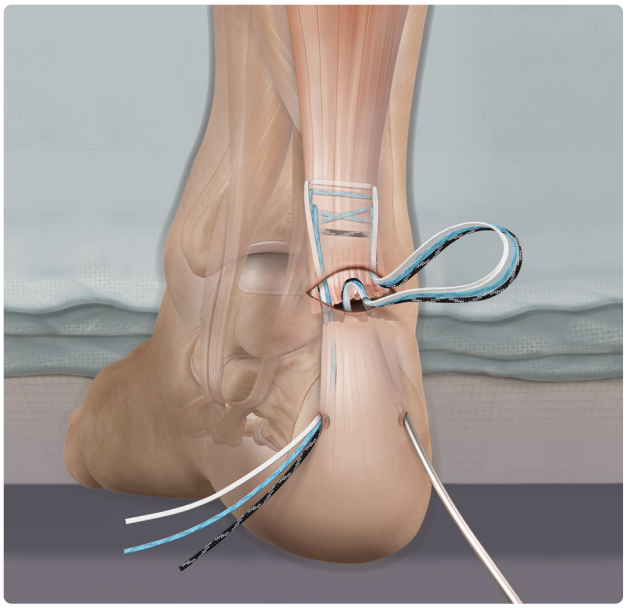
**15**

Drill to the hard stop with the 2.6 mm cannulated drill (solid 2.6 mm drill option also available).



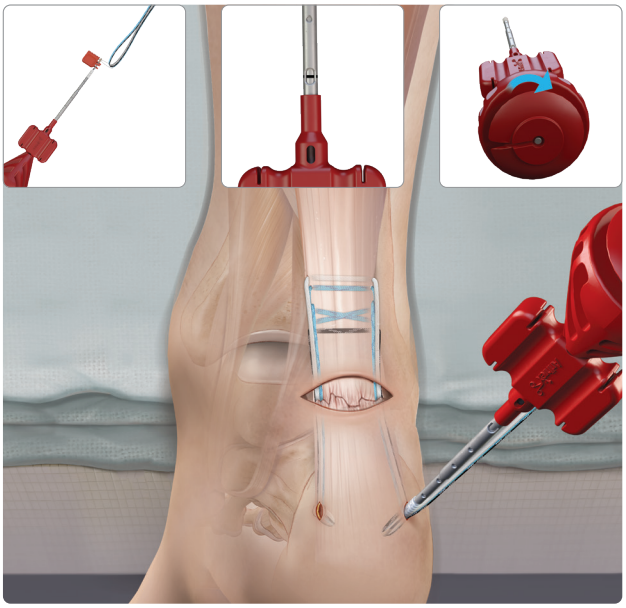
**16**

Leaving the drill guide in place, use the 3.9 mm tap to prepare the holes for the SwiveLock® anchors.



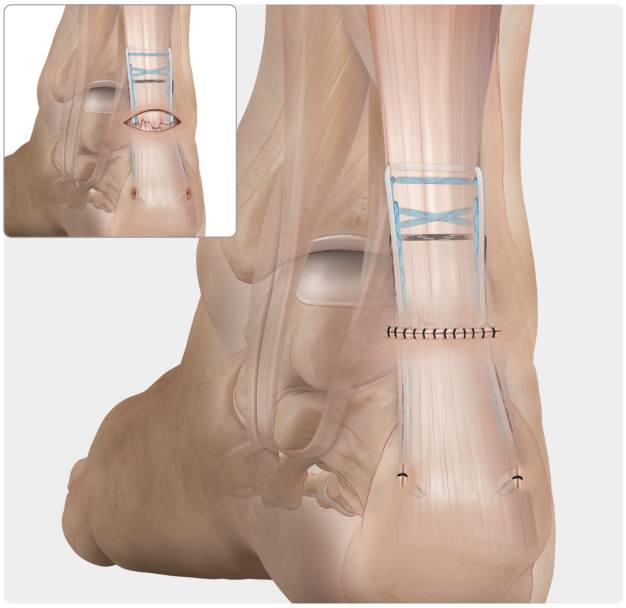
**17**

With the guidewires or PARS passing wires in the prepared bone tunnels, advance the Banana SutureLasso™ suture passer through the distal Achilles tendon and retrieve the proximal SutureTape.



**18**

Secure the SutureTapes to the distal Achilles with two DX 3.9 mm BioComposite SwiveLock® anchors with the foot in 10°-15° greater plantar flexion than the resting position of the contralateral foot. To insert the SwiveLock anchors, hold the square tab in place and turn the pear-shaped driver until you see the laser line in the window of the inserter. When the line appears, the anchor is flush. When the line is centered, the anchor is 2 mm countersunk.

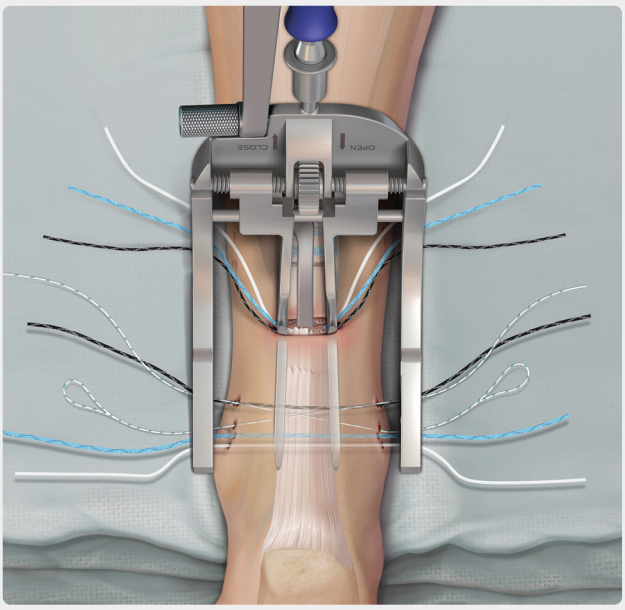


**19**

After final fixation, apply JumpStart® antimicrobial wound dressing on the incision. JumpStart wound dressing kills a broad spectrum of harmful pathogens, including multidrug-resistant and biofilm-forming bacteria to help reduce the risk of infection.[2,3]

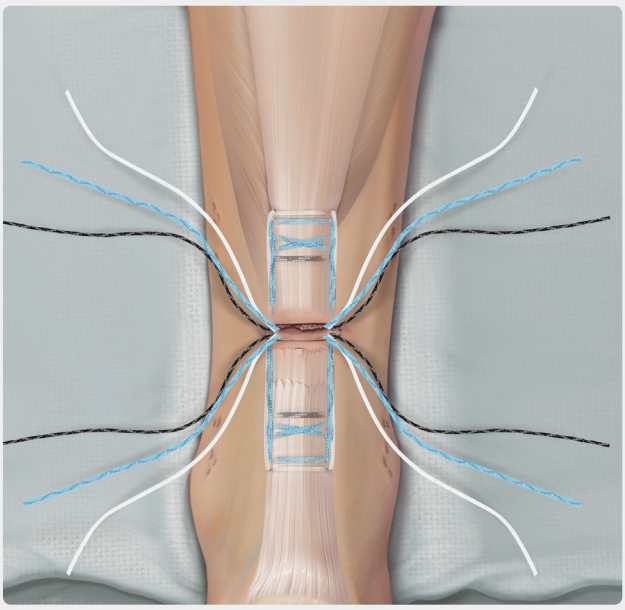
## Technique Variation - PARS to PARS

An alternative surgical technique option is presented on the following pages. Perform steps 1-11 as described in the general technique before transitioning to the alternate steps listed here.



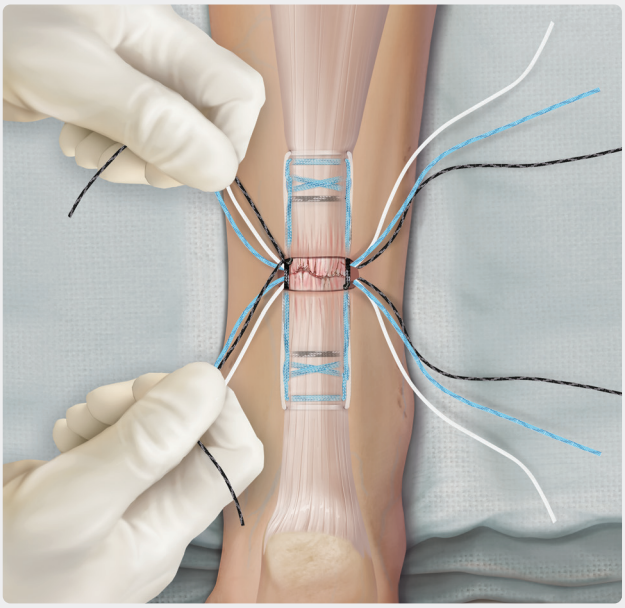

**12**

Place the jig in the distal part of the incision and perform the exact steps as for the proximal side of the tendon.



**13**

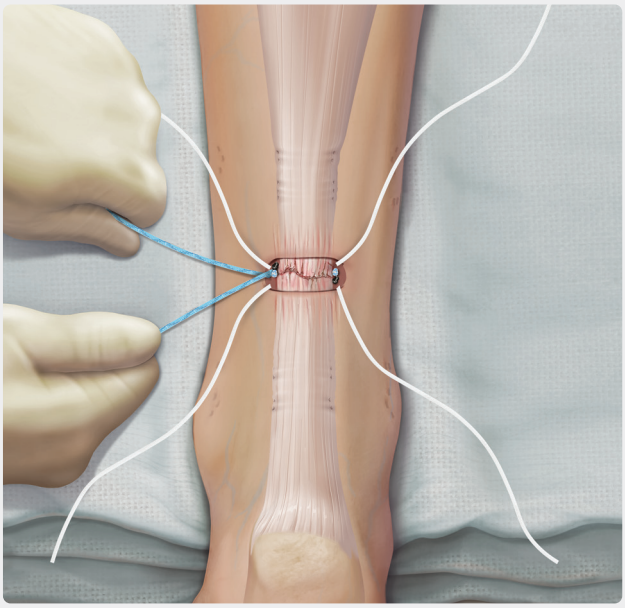
Three sutures remain proximally and three distally, ready for reapproximation of the tendon.



**14**

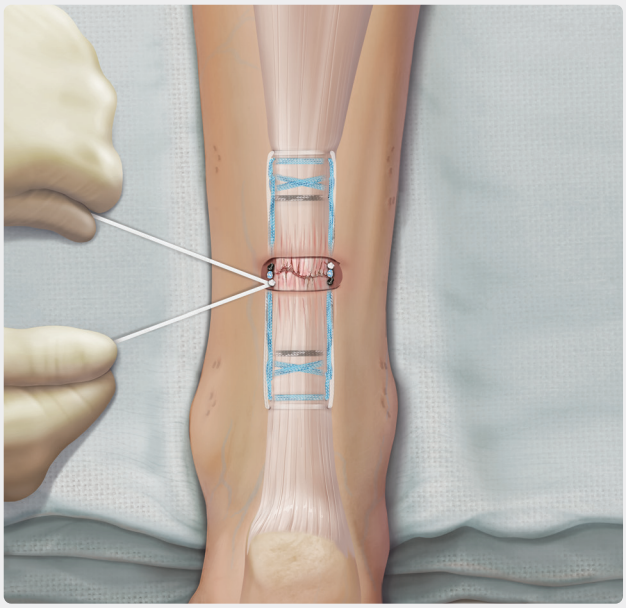
Tension appropriately, comparing to the contralateral foot, and tie the black SutureTape first on both sides of the leg. Three to four surgeon's knots are recommended.

> **Note:** The first side tied is the "stay" stitch, which will slide. Lock this knot down when tying the other side.



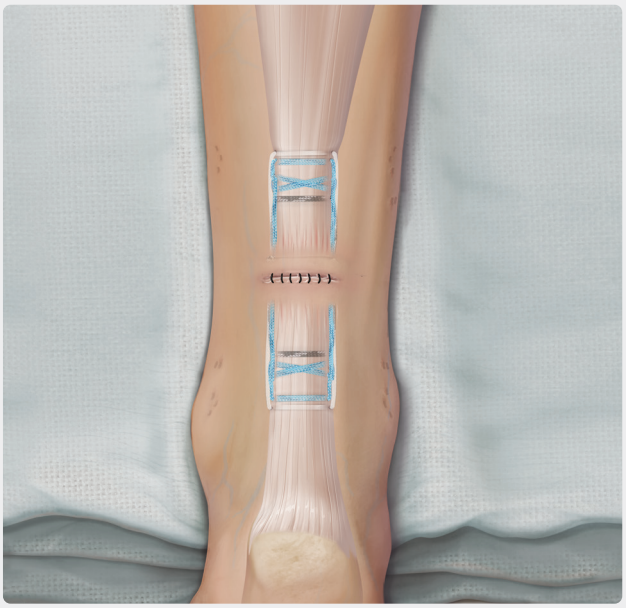
**15**

Tension appropriately, comparing to the contralateral foot, and tie the locked blue SutureTape on both sides of the leg. Three to four surgeon's knots are recommended.



**16**

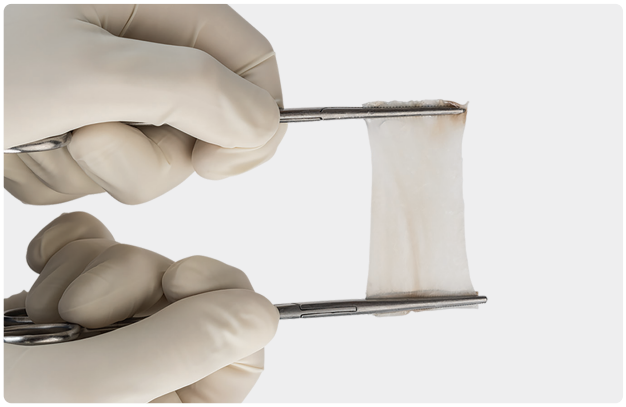
Tension appropriately, comparing to the contralateral foot, and tie the white SutureTape last on both sides of the leg. Three to four surgeon's knots are recommended.



**17**

For the final repair, the wound can be closed with suture of choice. Postoperative routine is also surgeon's preference. Apply JumpStart® antimicrobial wound dressing on the incision to kill a broad spectrum of harmful pathogens, including multidrug-resistant and biofilm-forming bacteria to help reduce risk on infection.[2-4]

# Biologic Augmentation Options



**Arthrex Amnion™ Matrices**
Arthrex Amnion matrices, available in thick and thin options, are rich in growth factors and maintain the natural healing properties of amnion. Used as an anatomical barrier or wrap in a variety of orthopedic applications, Arthrex Amnion matrices provide essential biological and mechanical protection while helping prevent adhesion.[5]

| | |
|---|---|
| Arthrex Amnion matrix – thin | |
| 2 cm × 2 cm | ABS-4100-022 |
| 2 cm × 3 cm | ABS-4100-023 |
| 4 cm × 4 cm | ABS-4100-044 |
| 4 cm × 6 cm | ABS-4100-046 |
| 7 cm × 7 cm | ABS-4100-077 |
| Arthrex Amnion matrix – thick | |
| 2 cm × 2 cm | ABS-4200-022 |
| 2 cm × 3 cm | ABS-4200-023 |
| 3 cm × 3 cm | ABS-4200-033 |
| 3 cm × 4 cm | ABS-4200-034 |
| 3 cm × 6 cm | ABS-4200-036 |
| 3 cm × 8 cm | ABS-4200-038 |
| 5 mm × 40 mm | ABS-4200-054 |

**Interfyl® Connective Tissue Matrix (CTM)**
Interfyl CTM is used to fill irregular spaces or soft-tissue deficits resulting from wounds, trauma, or surgery. It is suited for a variety of surgical applications when there is a need to replace or supplement damaged or inadequate integumental tissue.

| | |
|---|---|
| Interfyl tissue matrix, 50 mg particulate | HCTM050 |
| Interfyl tissue matrix, 100 mg particulate | HCTM100 |
| Interfyl tissue matrix, 0.3 mL flowable | HCTM030 |
| Interfyl tissue matrix, 0.6 mL flowable | HCTM060 |
| Interfyl tissue matrix, 1 mL flowable | HCTM010 |
| Interfyl tissue matrix, 1.5 mL flowable | HCTM015 |

Interfyl is a registered trademark of Celularity, Inc.

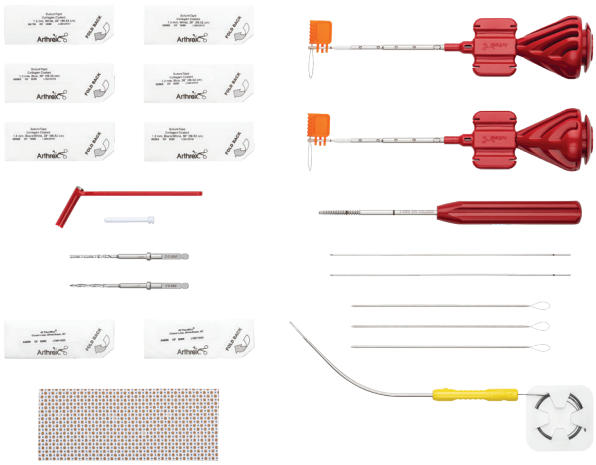
**JumpStart® Dressings**
JumpStart antimicrobial wound dressings are composed of advanced microcurrent-generating technology used for the management of surgical incision sites and provide antimicrobial protection to assist with wound healing.[2-4] JumpStart dressings can be applied directly over sutures, staples, Steri-Strip wound closures, and liquid skin adhesives.

| **Included in Implant System** | |
|---|---|
| JumpStart single-layer dressing, 2 in × 5 in | ABS-4025 |

# Ordering Information

| Achilles Midsubstance SpeedBridge™ Implant System | AR-9929BC-CP |
|---|---|

- Cannulated drill bit, 2.6 mm
- Solid drill bit, 2.6 mm
- Guidewire, qty. 2
- Straight needles w/ nitinol loops, 1.6 mm, qty. 3
- FiberWire® SutureTape, white, 1.3 mm, qty. 2
- FiberWire SutureTape, blue, 1.3 mm, qty. 2
- FiberWire SutureTape, black/white, 1.3 mm, qty. 2
- #2 FiberWire suture, closed loop, white/green, qty. 2
- JumpStart® single-layer dressing, 2 in × 5 in
- Cannulated tap for 3.9 mm SwiveLock® anchor
- DX 3.9 mm Biocomposite SwiveLock anchors, qty. 2
- Banana SutureLasso™ suture passer w/ nitinol wire
- Drill guide, 3.9 mm

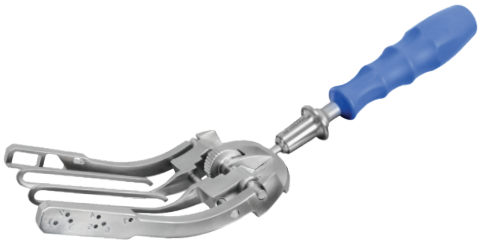


Implant System, PARS Achilles Midsubstance SpeedBridge with JumpStart Dressing – AR-9929BC-CP

**PARS Achilles Jig Instrument Set**

| | |
|---|---|
| PARS Achilles jig | AR-8860J |
| Driver handle w/ AO connection, cannulated | AR-13221AOC |
| PARS Achilles repair instrument case | AR-8860C |
| Tendon elevator (optional) | AR-8860J-01 |

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.



PARS Achilles Jig
AR-8860J

Tendon Elevator (optional)
AR-8860J-01

**References**


1. Arthrex, Inc. LA1-00038-EN_B. Naples, FL; 2017.
2. Kim H, Makin I, Skiba J, et al. Antibacterial efficacy testing of a bioelectric wound dressing against clinical wound pathogens. *Open Microbiol J*. 2014:21;8:15-21. doi:10.2174/1874285801408010015
3. Kim H, Izadjoo MJ. Antibiofilm efficacy evaluation of a bioelectric dressing in mono- and multi-species biofilms. *J Wound Care*. 2015;24(suppl 2):S10-S14. doi:10.12968/jowc.2015.24.Sup2.S10
4. Banerjee J, Das Ghatak P, Roy S, et al. Silver-zinc redox-coupled electroceutical wound dressing disrupts bacterial biofilm. *PLoS One*. 2015;10(3):e0119531. doi:10.1371/journal.pone.0119531.
5. Kim SS, Sohn SK, Lee KY, Lee MJ, Roh MS, Kim CH. Use of human amniotic membrane wrap in reducing perineural adhesions in a rabbit model of ulnar nerve neurorrhaphy. *J Hand Surg Eur Vol*. 2010;35(3):214-219. doi:10.1177/1753193409352410




Arthrex manufacturer, authorized representative, and importer information (Arthrex eIFUs)

US patent information