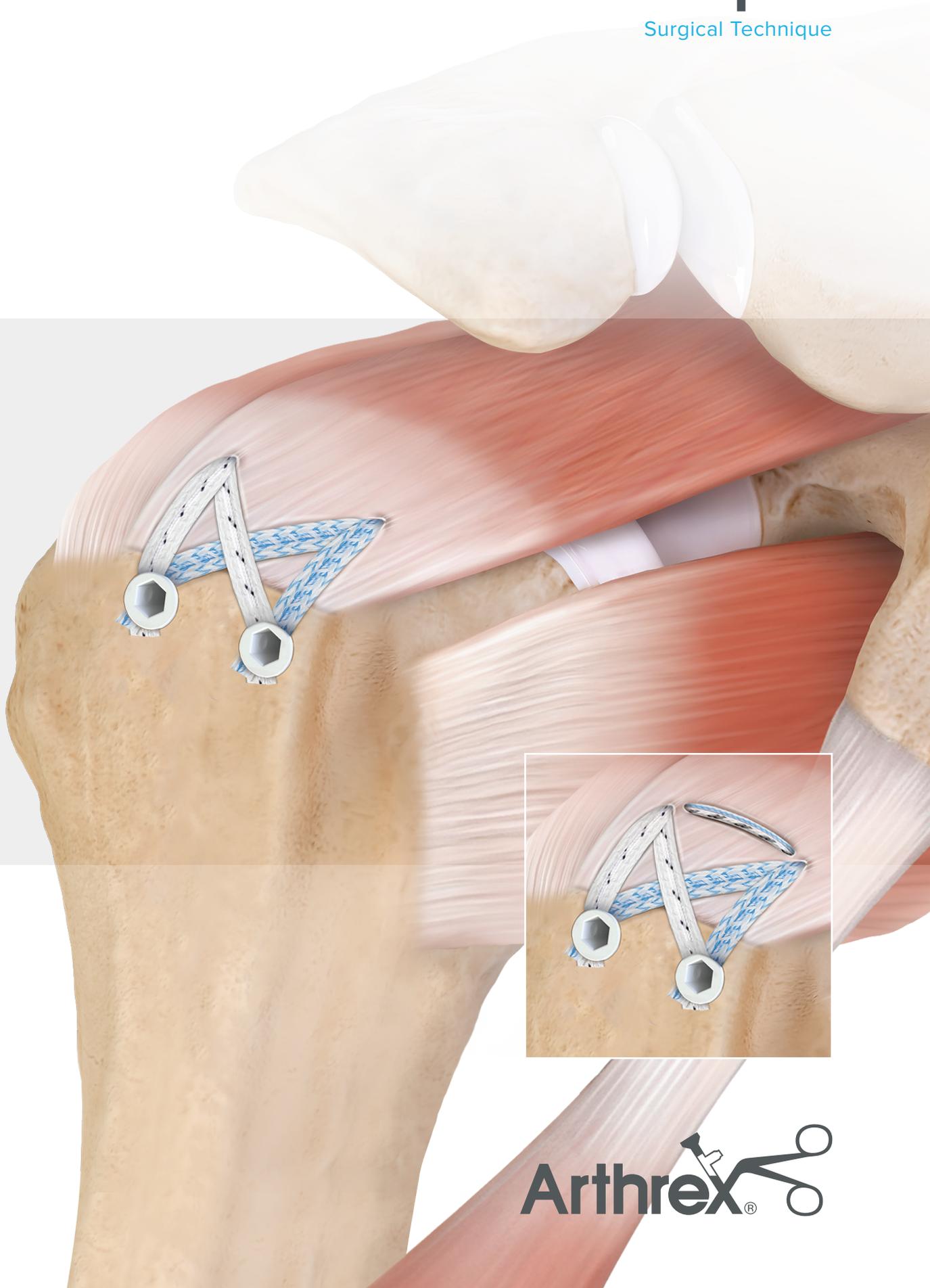


# SpeedBridge™ Knotless Rotator Cuff Repair

Surgical Technique



# SpeedBridge™ Knotless Rotator Cuff Repair



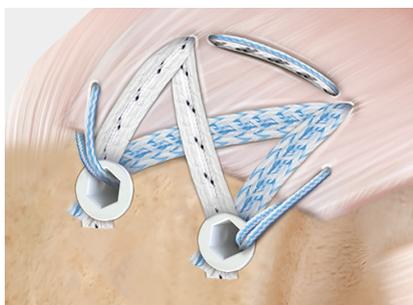
Rotator cuff repair with the SpeedBridge double-row, transosseous-equivalent technique, using fully threaded SwiveLock® anchors combined with FiberTape® suture, creates a quick and secure knotless construct with only 2 suture-passing steps. Self-punching SwiveLock anchors with PEEK eyelets remove the need to prepunch or predrill bone tunnels, reducing the number of surgical steps and improving surgeon efficiency.

Trusted by physicians since 2008, the success of this technique has been proven in multiple publications and has shown significant improvements in patient-reported outcomes that were durable at a minimum of 5 and 10 years postoperatively.<sup>1,2</sup>

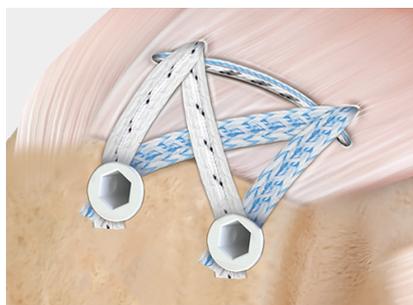
## Advantages of SpeedBridge Repair vs #2 Suture Knot-Tying Repairs

- Knotless, low-profile repair construct without risk of knot impingement
- Less likely to result in full-thickness rotator cuff retears<sup>3</sup>
- Increased repair construct strength (482 N)<sup>4</sup>
- More consistent and reproducible RC repair constructs<sup>5</sup>
- 200% more footprint compression and 30% higher tissue pull-through resistance with FiberTape suture<sup>6</sup>
- Procedural time savings of 28% compared to knot-tying repairs<sup>7</sup>

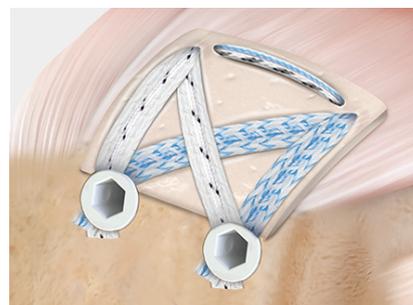
**SpeedBridge repairs with SwiveLock anchors are adaptable and can conform to traditional rotator cuff repair techniques with the additional benefits of tensionable knotless suture fixation.**



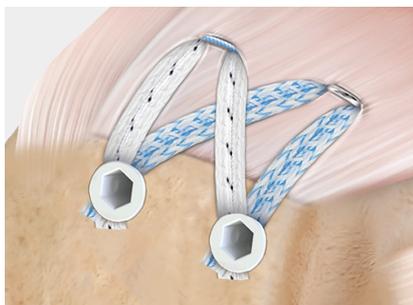
Double-Pulley With Dog-Ear Fixation



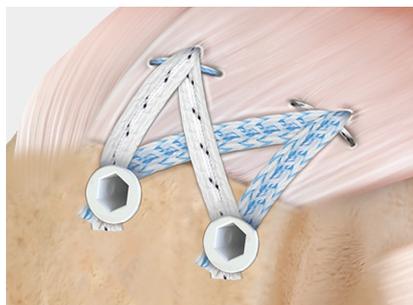
Double-Pulley Rip-Stop



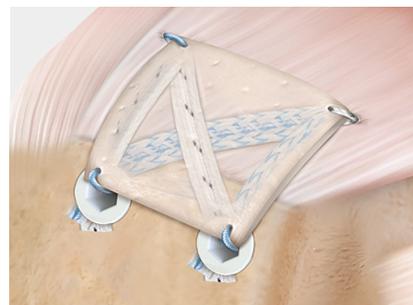
Double-Pulley With ArthroFLEX®\* Dermal Allograft Augmentation



Independent Mattresses



Independent Mattress Rip-Stops



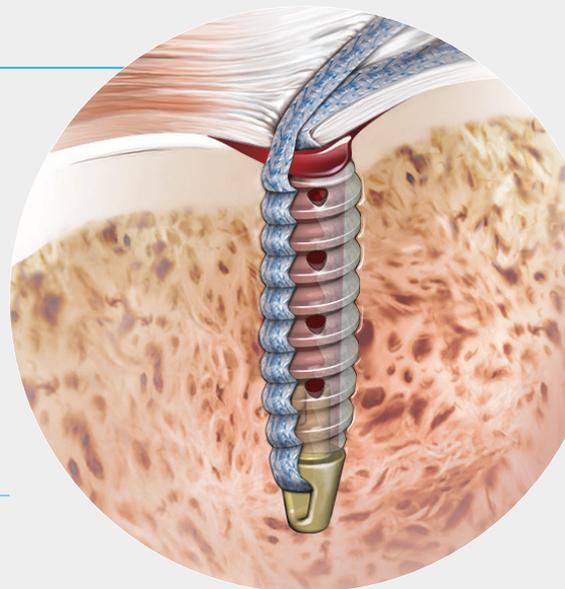
Canopy Augmentation

\*ArthroFLEX is a registered trademark of LifeNet Health.

# SwiveLock® Suture Anchors

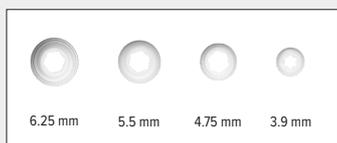
The Most Trusted Knotless Anchor System for Tendon and Ligament Repair

- More than 8 million SwiveLock anchors implanted worldwide since 2006<sup>8</sup>
- Used in more than 20 different procedures
- Biomechanical, clinical, and cost-effectiveness studies are available in a number of peer-reviewed publications

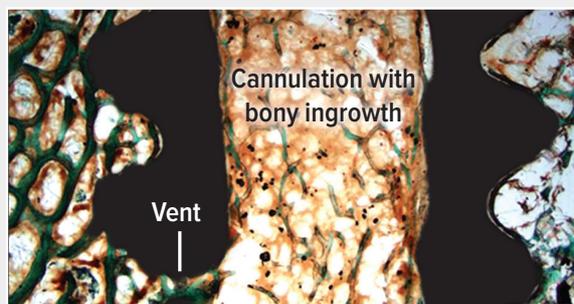


## Features

- BioComposite, PEEK, and titanium options
- Sizes range from 3.9 mm through 6.25 mm for rotator cuff repair
- Cannulated and vented
- Standard, self-punching, and tensionable knotless versions



SwiveLock anchor diameter options (shown in actual size)



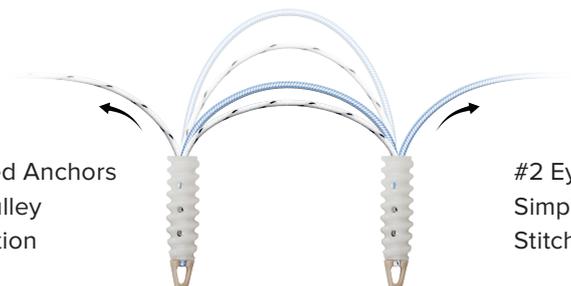
Cross section of a vented BioComposite SwiveLock anchor 8 weeks postimplantation in a canine model, showing bony ingrowth in the vents and center cannulation<sup>9</sup>

## Optional Fixation

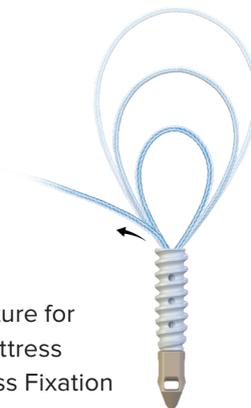
**Controlled tendon reduction under direct visualization using** Tensionable Knotless SwiveLock Suture Anchors



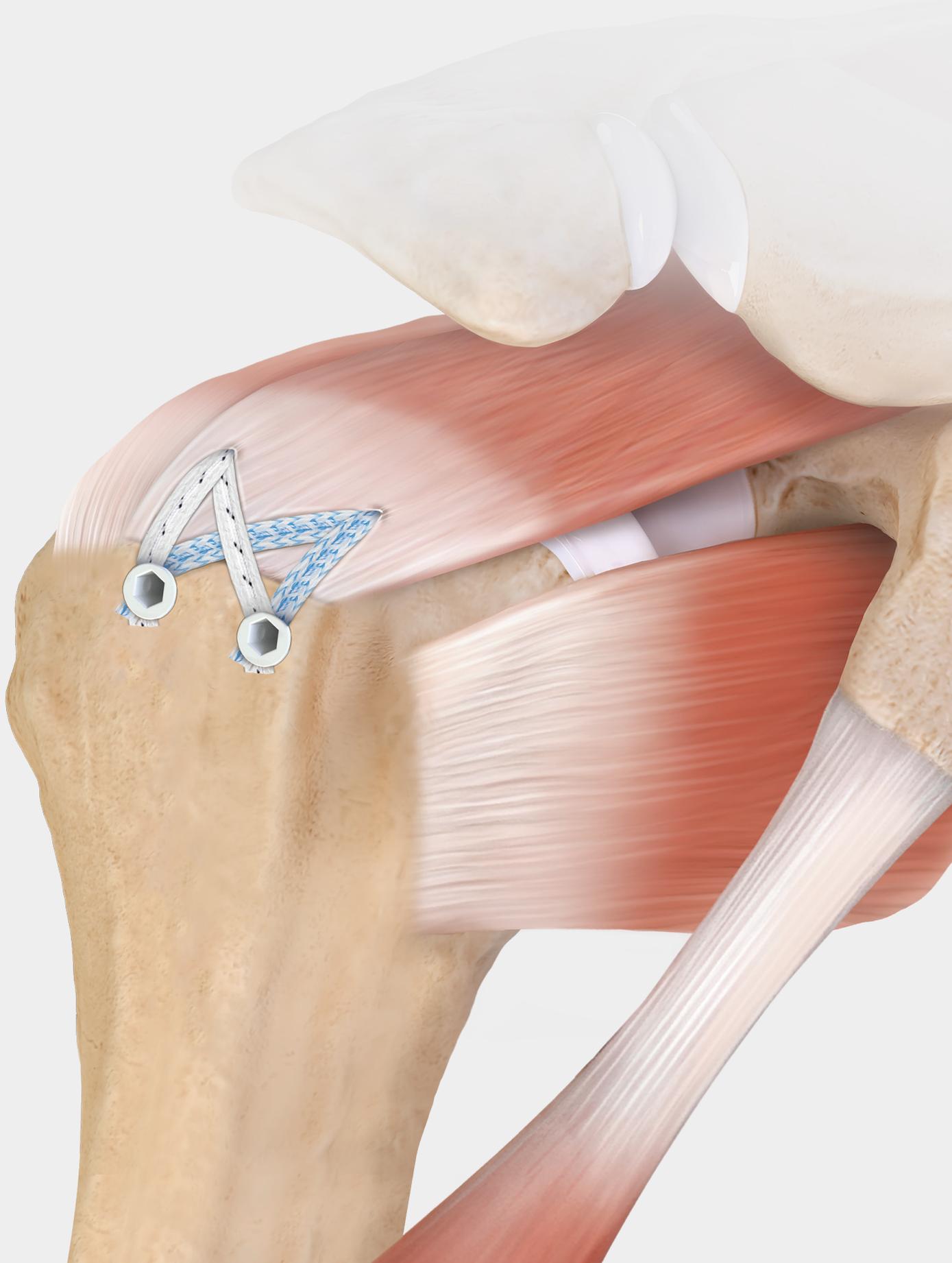
Interconnected Anchors for Double-Pulley Knotless Fixation

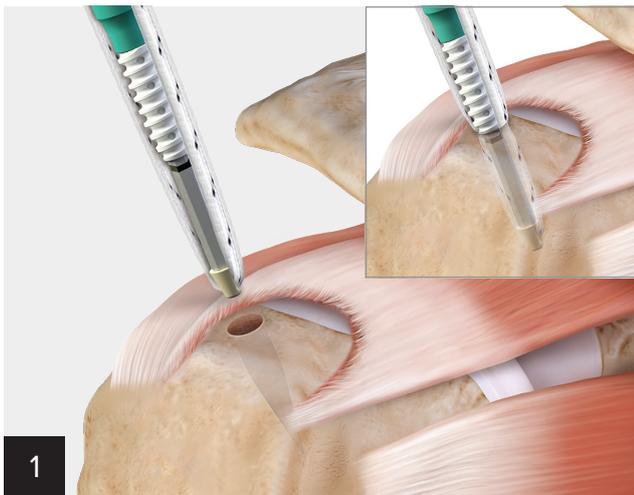


#2 Eyelet Suture for Simple or Mattress Stitch Knotless Fixation



# SpeedBridge™ Technique: Medial Row

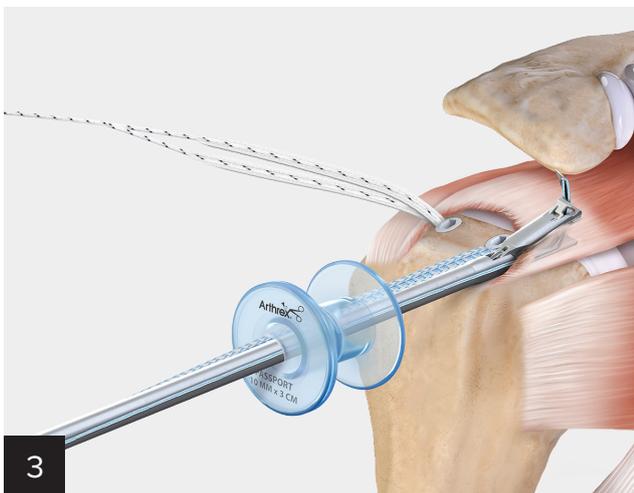




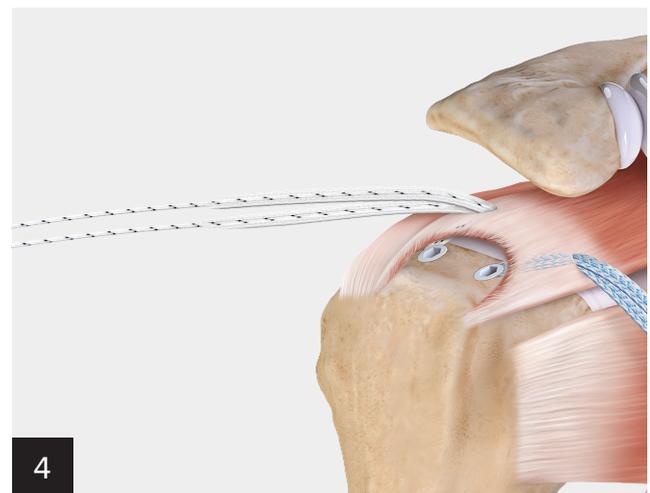
1 Prepare a bone socket using a punch. Insert the SwiveLock® anchor, which is preloaded with FiberTape® suture, into the prepared medial bone socket until the anchor body makes contact with bone.



2 Hold the thumb pad steady and rotate the driver handle clockwise until the anchor body is flush with the bone. Unwind the FiberTape suture from the thumb pad. Remove the rubber tab from the driver handle and unwind the sutures. Remove the driver.

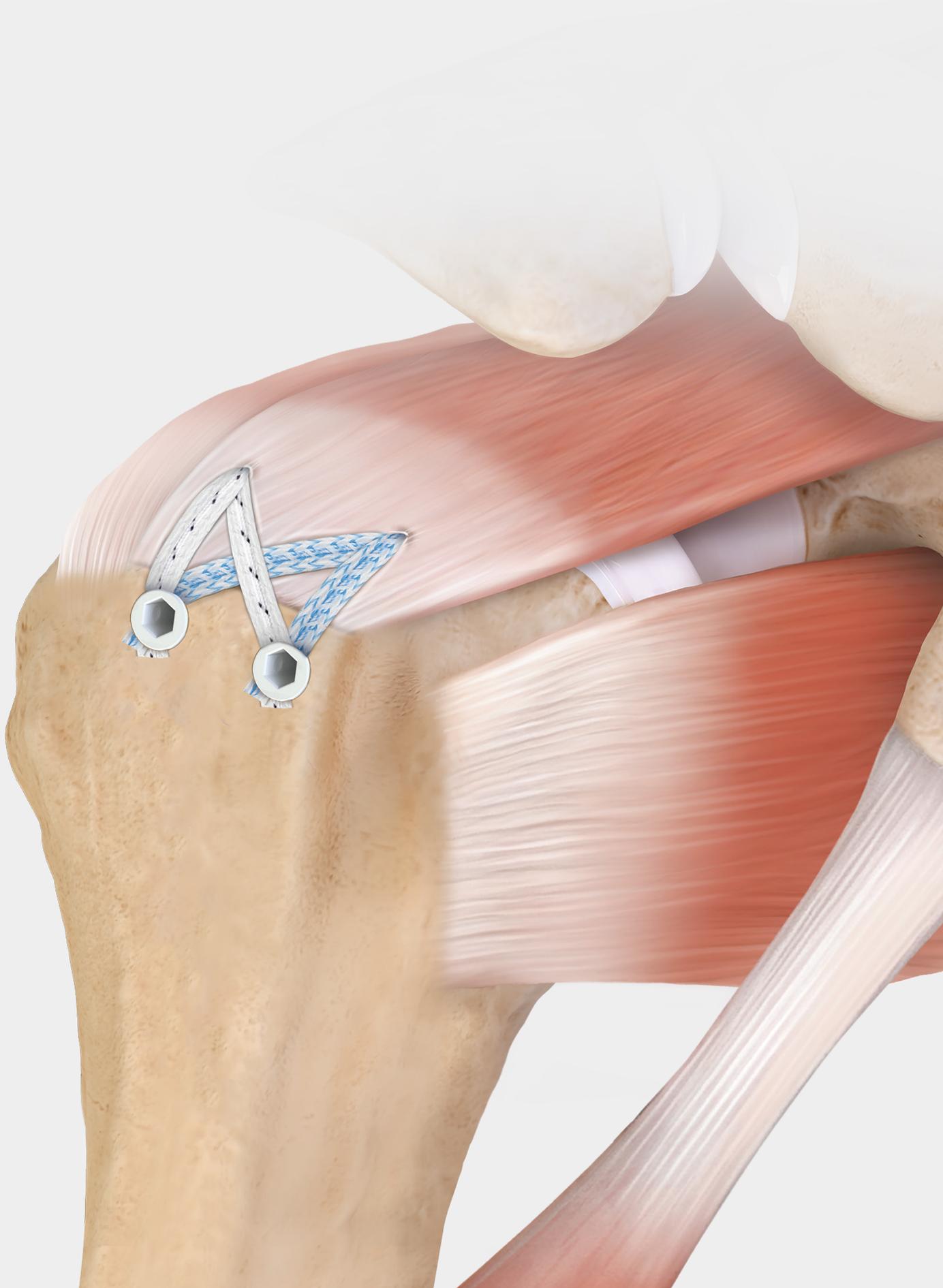


3 Load the single #2 suture end of the FiberTape suture onto a Scorpion™ suture passer and pass it through the rotator cuff. Pull the #2 suture to smoothly lead both FiberTape suture limbs through the tissue.

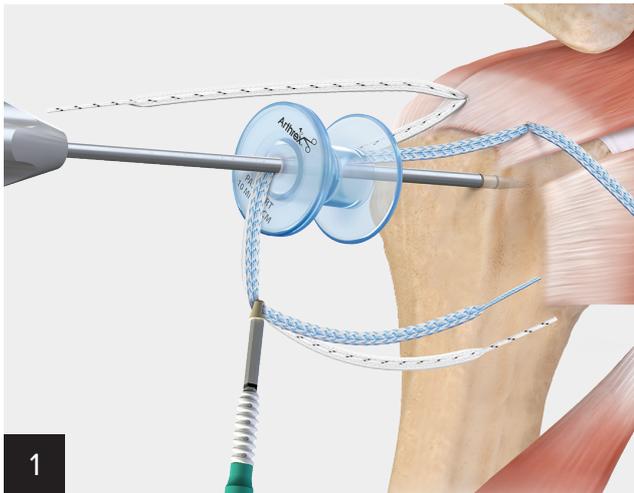


4 Cut off the spliced #2 suture tail, allowing each FiberTape suture limb to be separated for lateral fixation. Tension each FiberTape suture limb independently to remove any potential slack from under the tendon.

# SpeedBridge™ Technique: Lateral Row Fixation

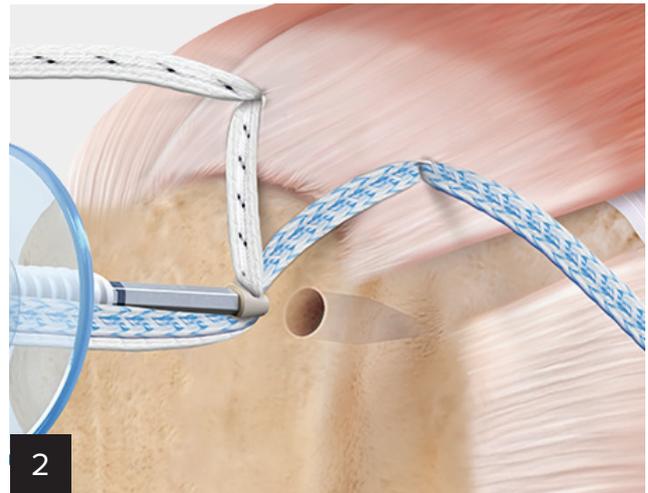


## SpeedBridge™ Technique: Lateral Row Fixation

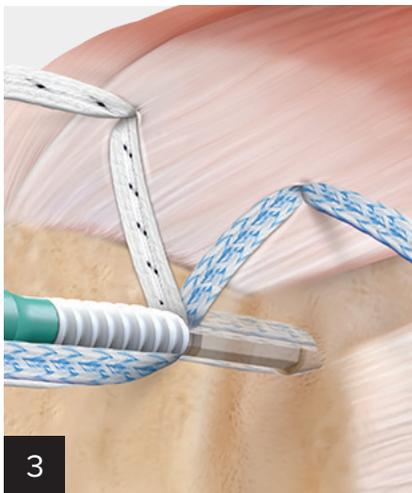


Retrieve one FiberTape® suture tail from each medial anchor and preload them through the SwiveLock® anchor eyelet. Using a punch, prepare a bone socket about 5 mm to 10 mm lateral to the edge of the tuberosity.

**Note: Use a hemostat to secure sutures in place while preparing a bone socket.**

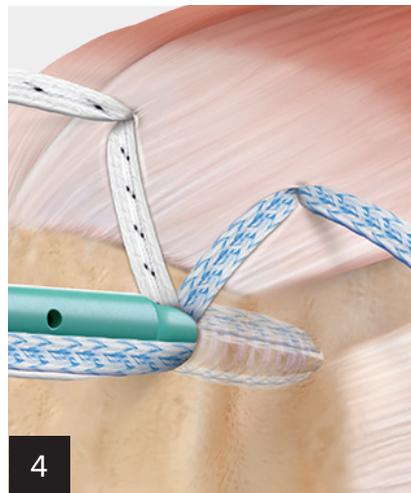


Bring the eyelet of the implant to the edge of the bone socket and remove slack from each of the FiberTape suture limbs individually. Apply tension to the FiberTape sutures so that the tissue is reduced and compressed to the bone.

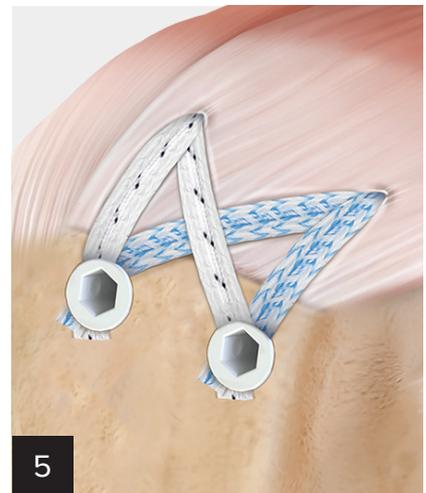


Completely advance the driver into the bone socket, beyond the first laser line, until the anchor body contacts bone. Evaluate suture tension. If tension is not adequate, back the driver out and readjust the tension.

**Note: Do not attempt to apply tension to the sutures with the eyelet in the bone socket.**

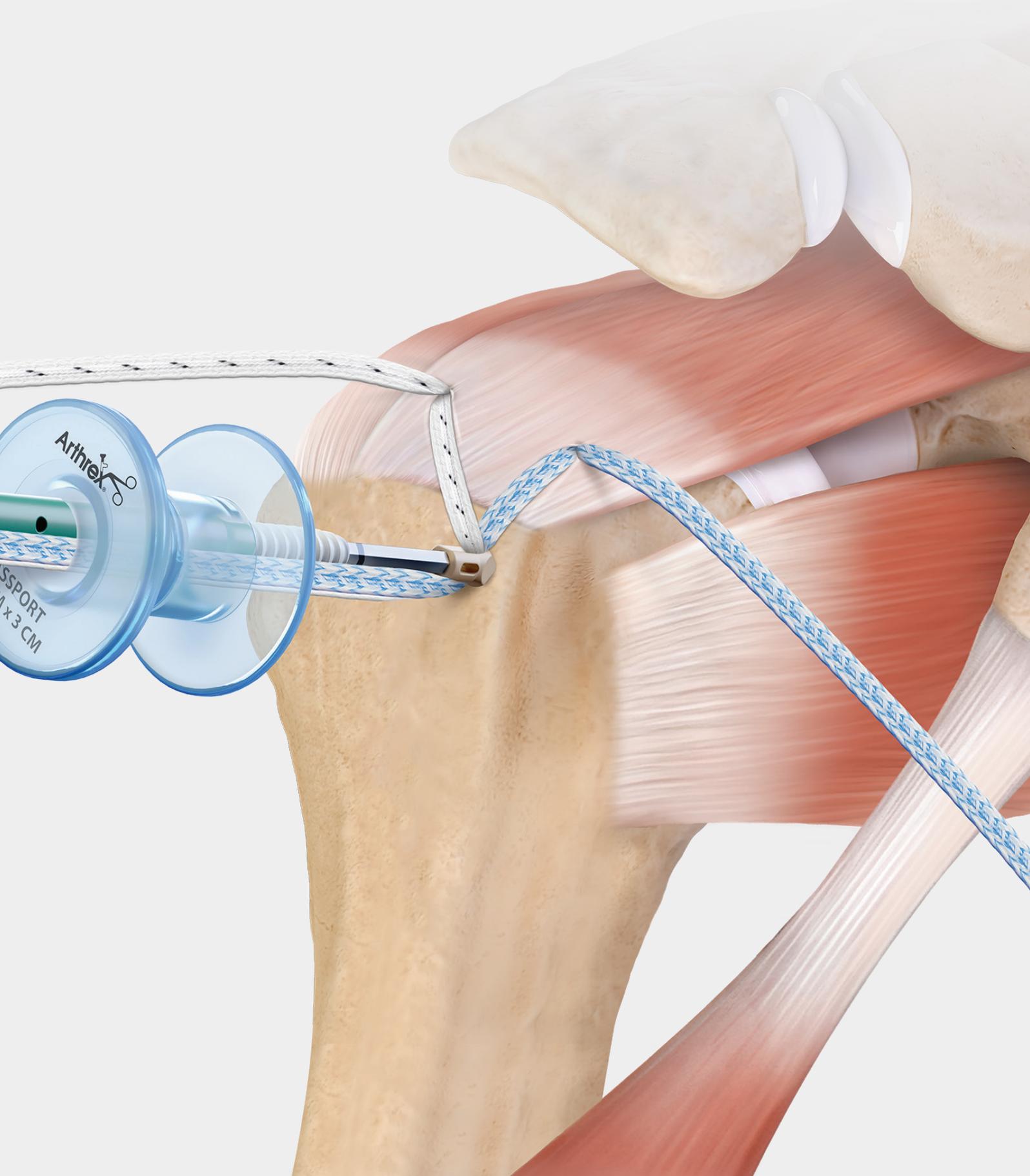


Make sure the tip of the anchor body is in contact with bone. Hold the thumb pad steady and rotate the driver handle clockwise to insert the anchor body until it is flush with the bone.

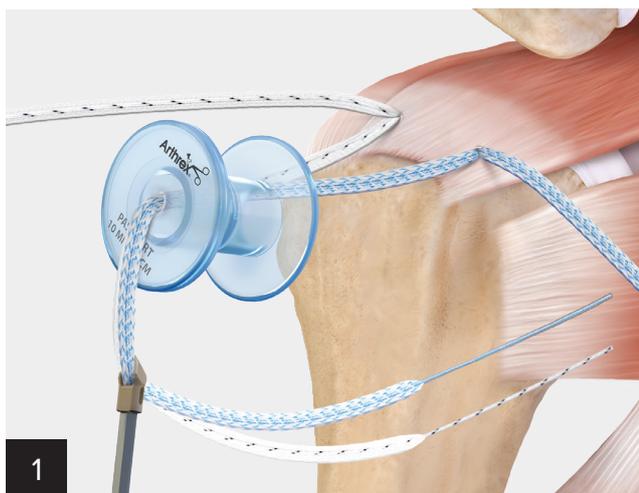


Cut the FiberTape suture tails with a FiberTape cutter. Repeat these steps for the second lateral anchor.

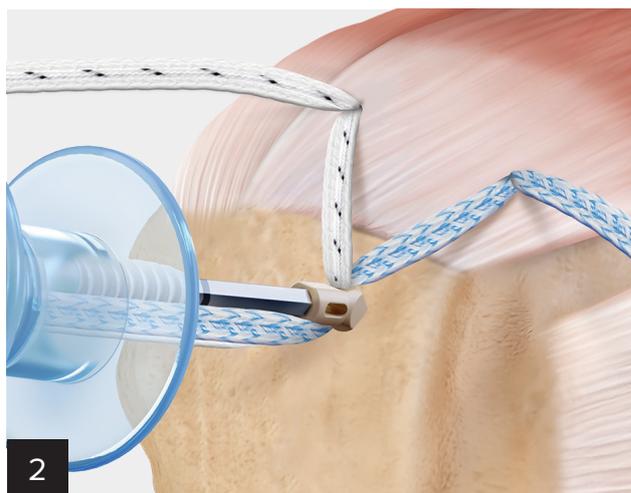
# SpeedBridge™ Technique: Lateral Row SP Fixation



## SpeedBridge™ Technique: Lateral Row SP Fixation

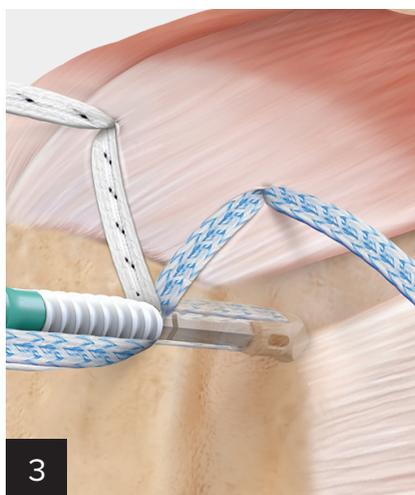


Retrieve one FiberTape® suture limb from each medial anchor and load them through the self-punching SwiveLock anchor eyelet using the megaloader.

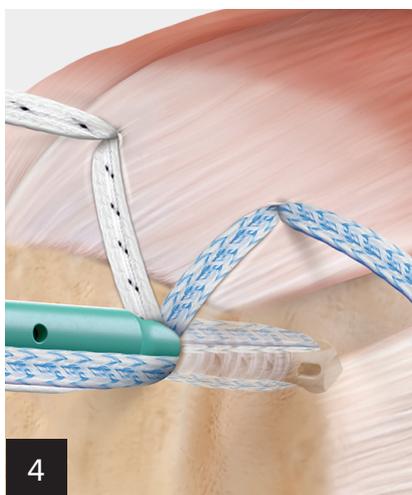


With the eyelet of the implant above bone, remove slack and tension each suture to reduce the tissue and compress it to bone.

**Note: If hard bone is encountered, use a punch to break the cortex before inserting the anchor. Be sure the eyelet and driver are perpendicular to the bone prior to malleting.**



Completely advance the driver into the bone socket, beyond the first laser line, until the anchor body contacts bone. Evaluate suture tension. If tension is not adequate, back the driver out and readjust tension.



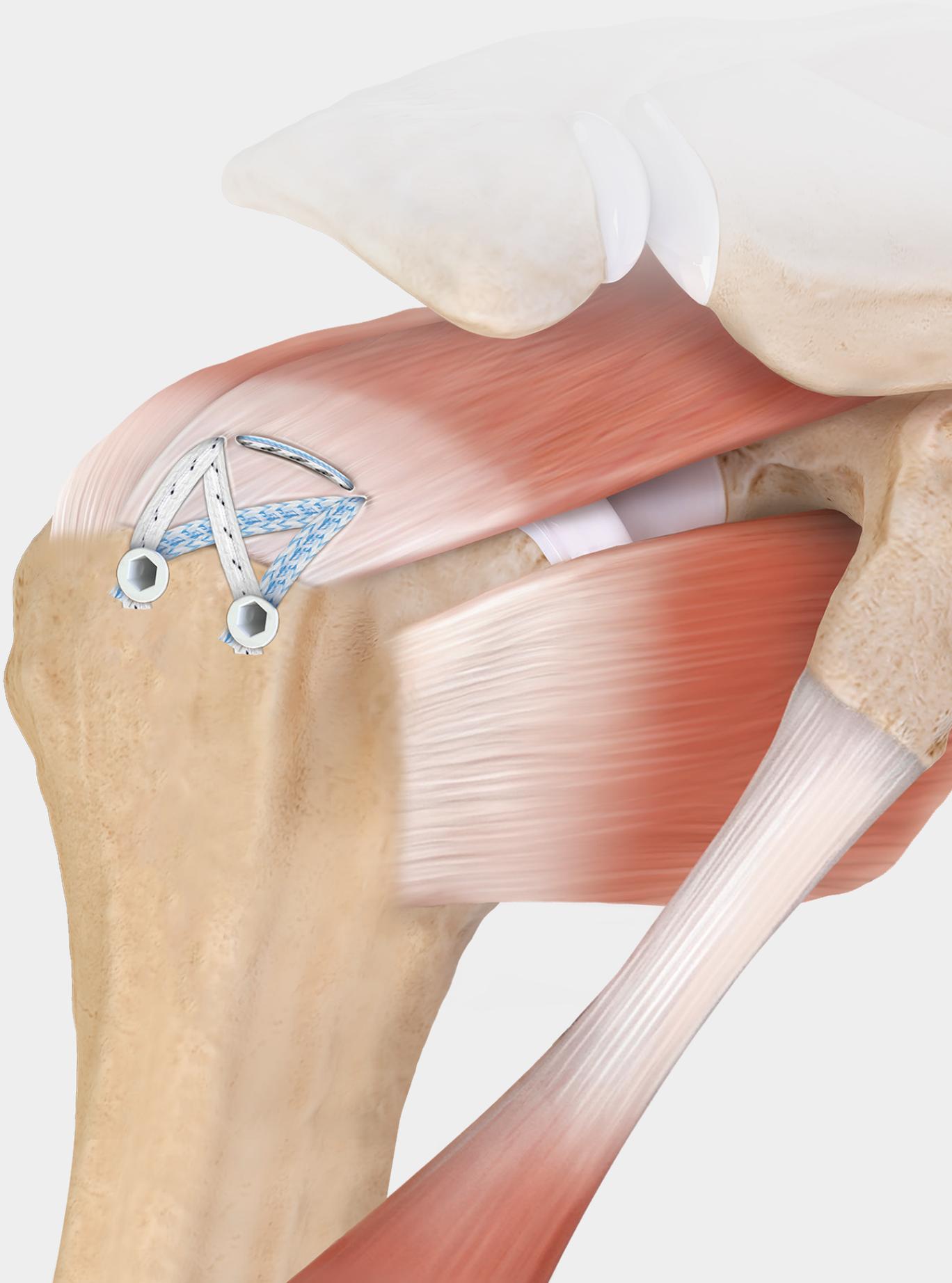
Make sure the tip of the anchor body is in contact with bone. Hold the thumb pad steady and rotate the driver handle in a clockwise direction to insert the anchor body until it is flush with the bone.



Cut the FiberTape suture tails with a FiberTape cutter. Repeat steps for the second lateral anchor.

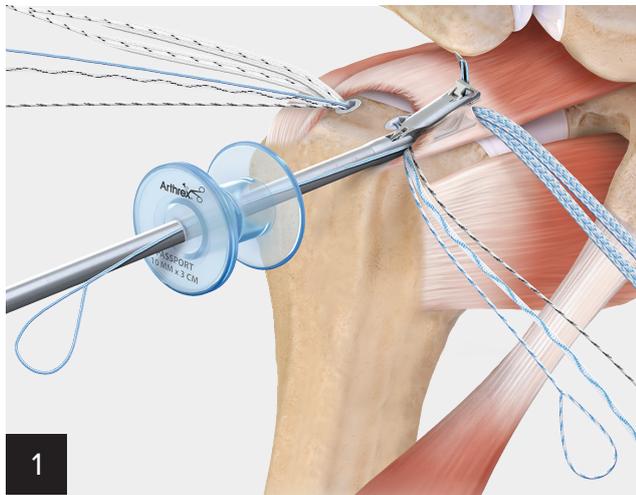
**Note: Do not attempt to apply tension to the sutures with the eyelet in the bone socket.**

# SpeedBridge™ Technique: Knotless Double-Pulley

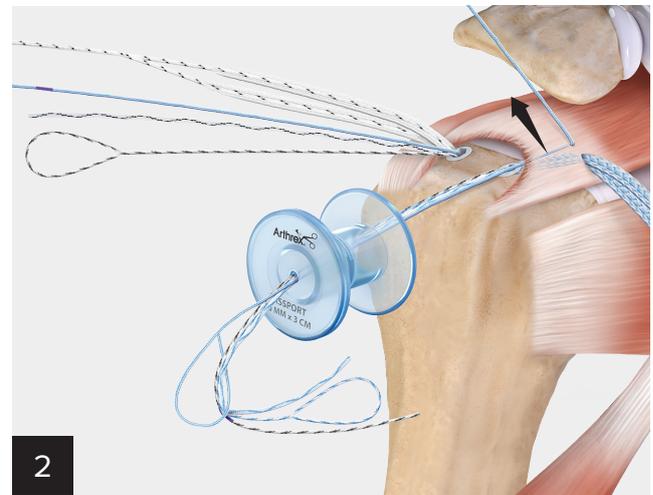


## SpeedBridge™ Technique: Knotless Double-Pulley

Tendon reduction under direct visualization and tensionable knotless medial fixation can be achieved with the knotless double-pulley. The tensionable knotless sutures are shuttled through the cuff separately from the FiberTape sutures to help prevent twists in the construct on the underside of the rotator cuff.

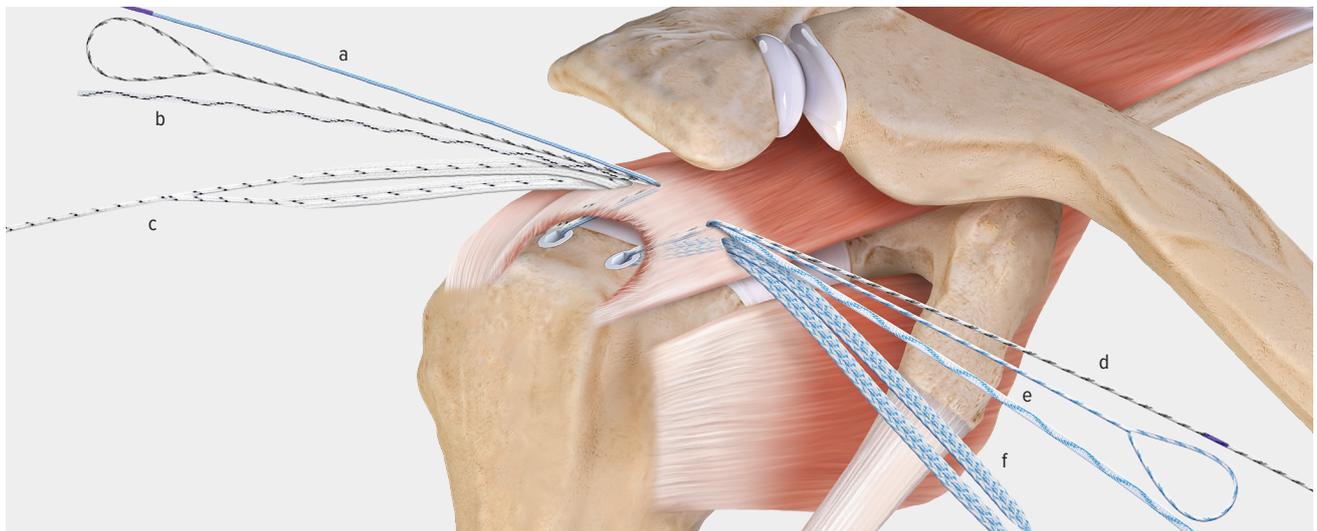


Insert the Knotless SwiveLock® anchor into the medial row and pass the FiberTape® suture. Load the single end of a FiberLink™ suture onto a Scorpion™ suture passer and pass inside the FiberTape sutures.



Retrieve the single end of the FiberLink suture from a superior portal to improve the shuttling angle through the tissue. Retrieve the Knotless SwiveLock sutures and load them into the loop of the FiberLink suture. Pull the FiberLink suture to shuttle and pass the sutures through the tissue. Repeat for the other medial row anchor.

## Knotless SwiveLock Suture Layout



**(a)** Blue Repair Stitch

**(b)** White/Black Shuttle Stitch

- Flat SutureTape (pull end)
- Round Suture Loop (loading end)

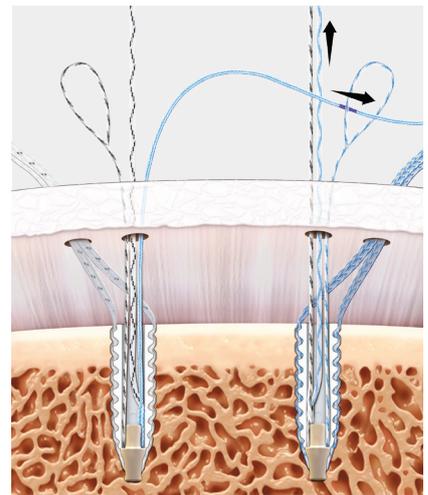
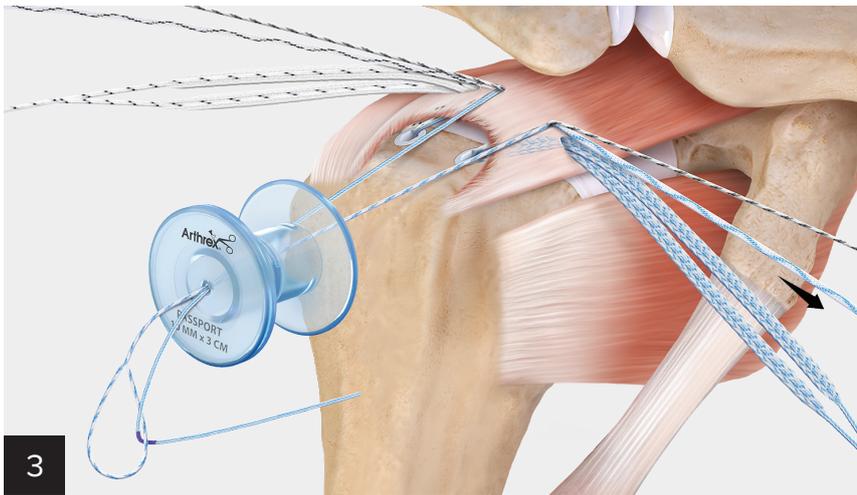
**(c)** Two White/Black TigerTape™ sutures spliced into one #2 TigerWire® suture

**(d)** White/Black Repair Stitch

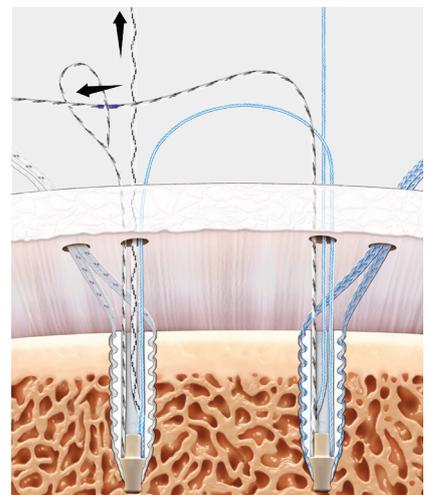
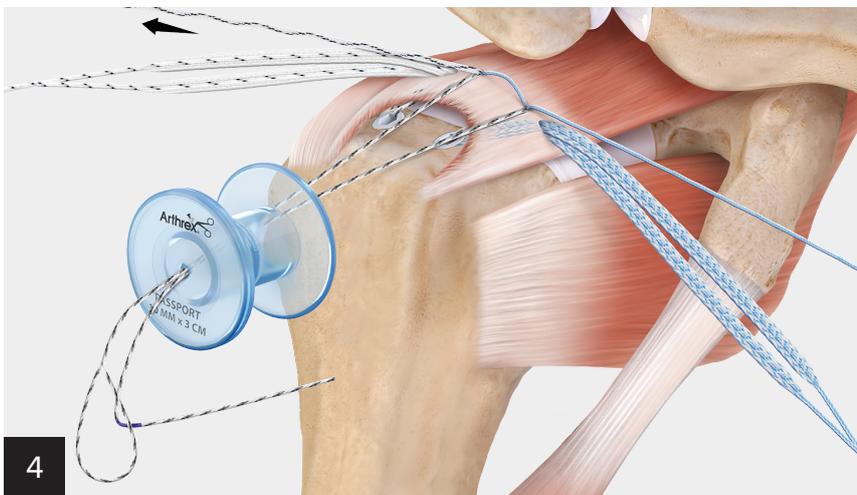
**(e)** White/Blue Shuttle Stitch

- Flat SutureTape (pull end)
- Round Suture Loop (loading end)

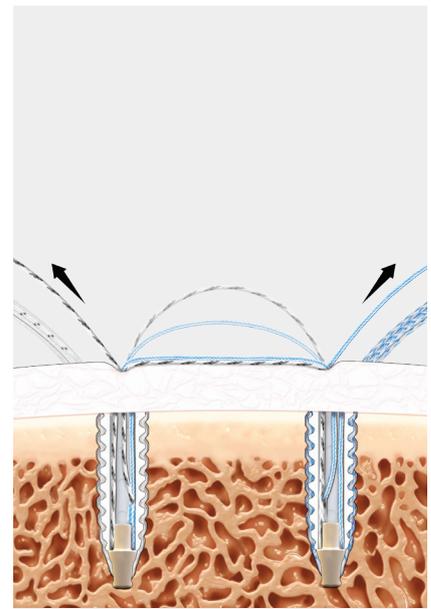
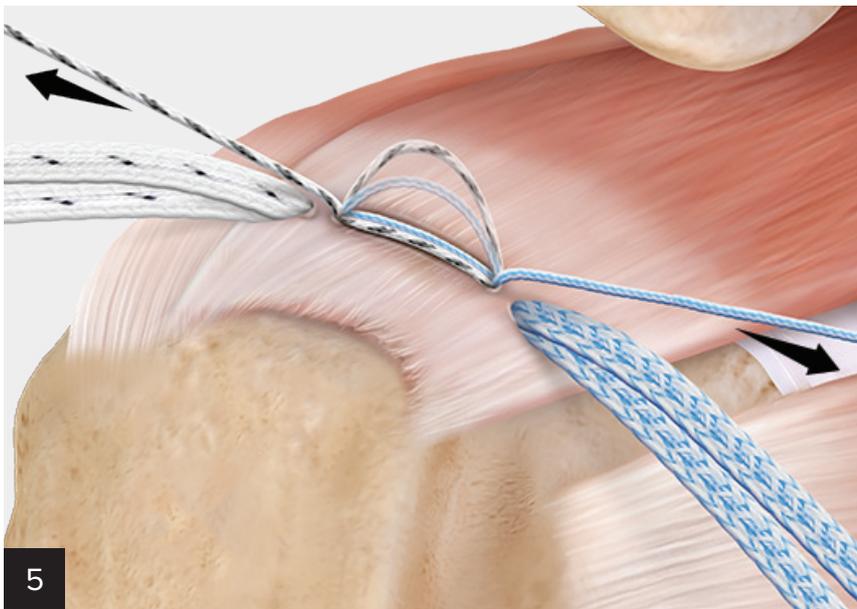
**(f)** Two Blue/White FiberTape sutures spliced into one #2 FiberWire® suture



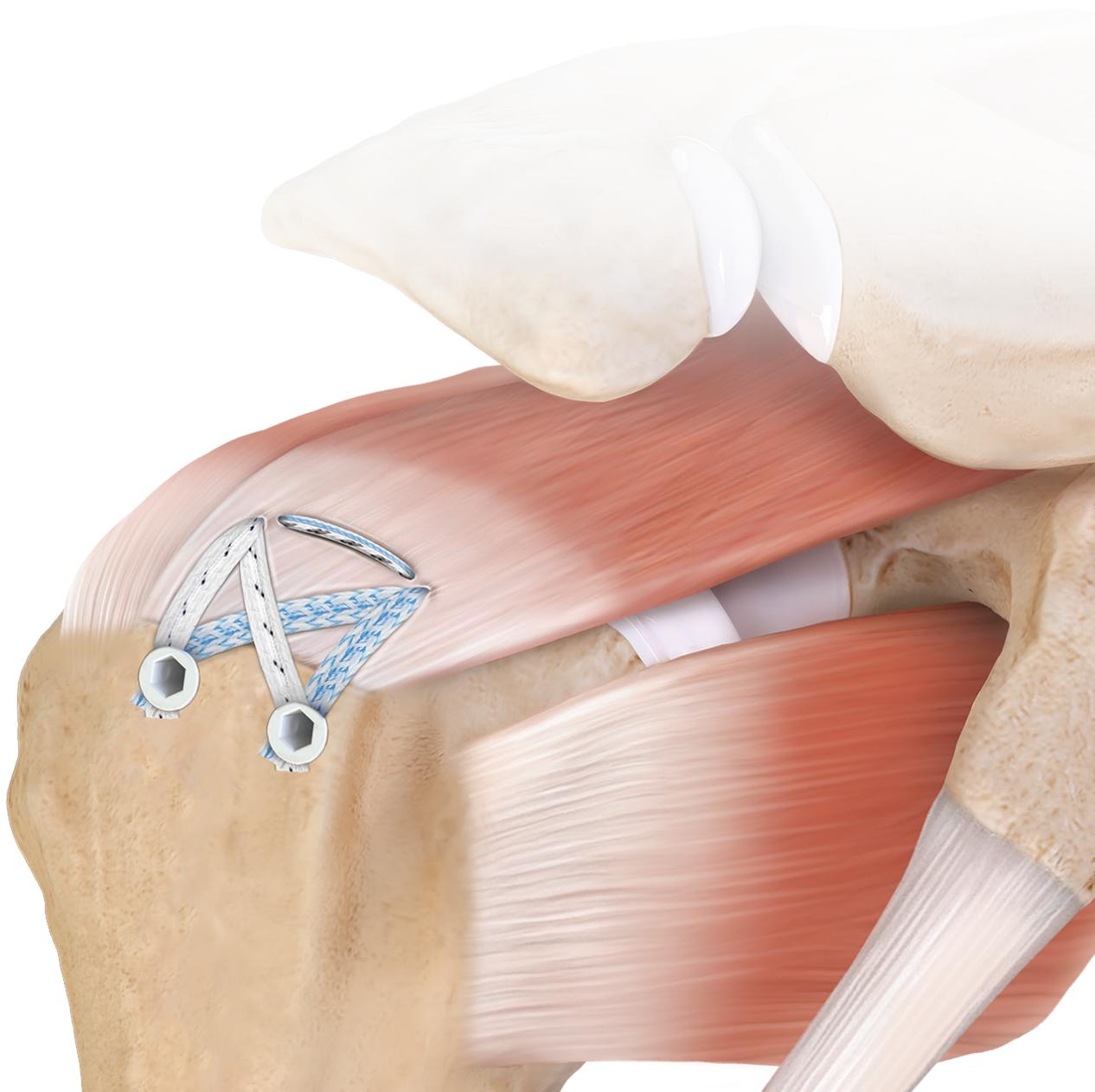
Retrieve the posterior blue repair suture **(a)** and the anterior looped end of the white/blue shuttle suture **(e)** from the lateral cannula. Feed the end of the repair suture through the loop of the shuttle suture and fold at the ink-mark indicator. Pull the tape suture tail of the white/blue shuttle suture **(e)** to shuttle the repair suture into the knotless mechanism.



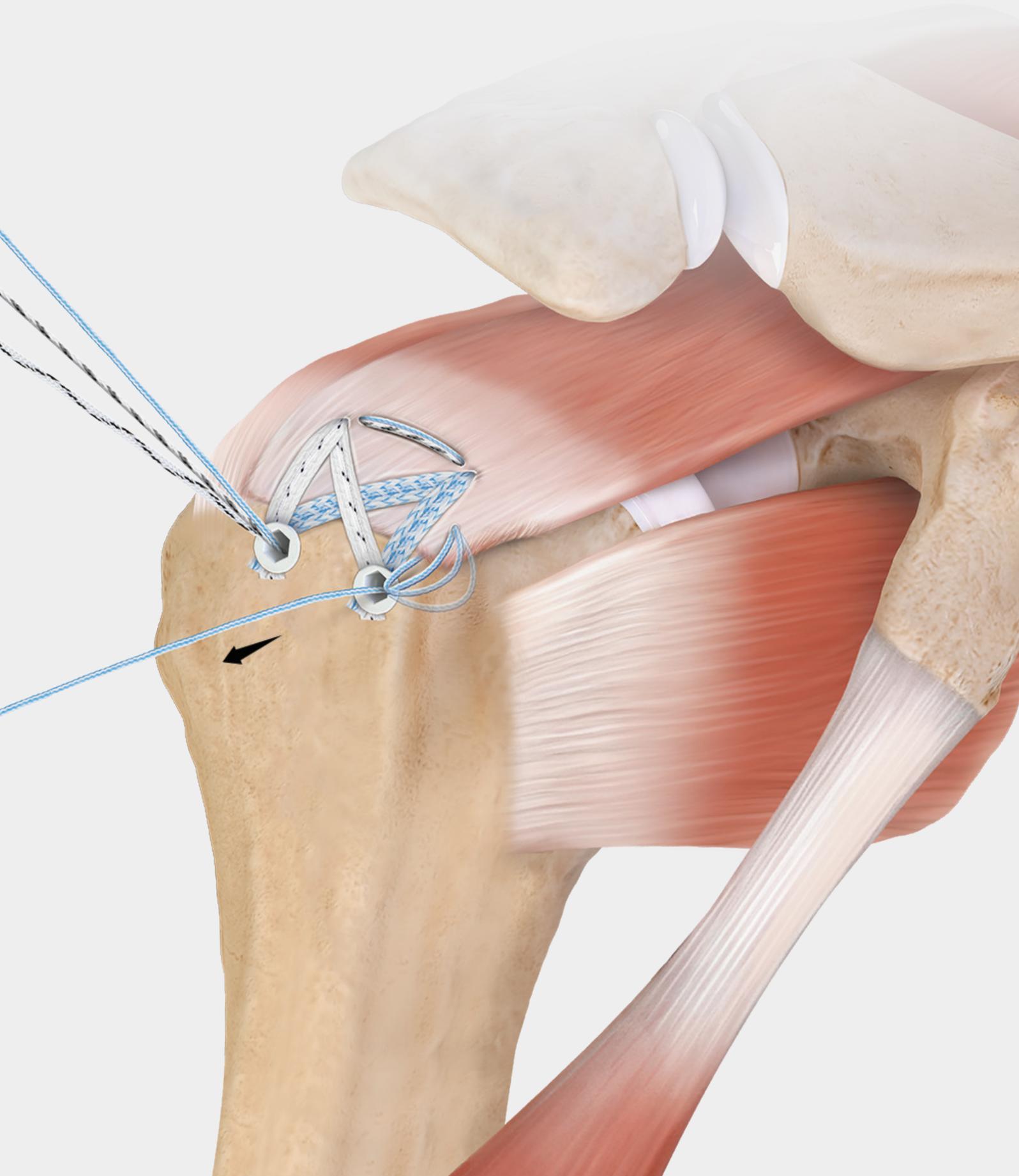
Repeat the previous steps using the anterior white/black repair suture and the posterior looped end of the white/black shuttle suture.



Tension the two repair sutures, reducing and fixating the tendon to the bone. Tension the FiberTape® suture limbs independently to remove any potential slack from under the tendon. Cut the repair sutures flush once adequate fixation is achieved. Refer back to **Lateral Row Fixation** to complete the repair.

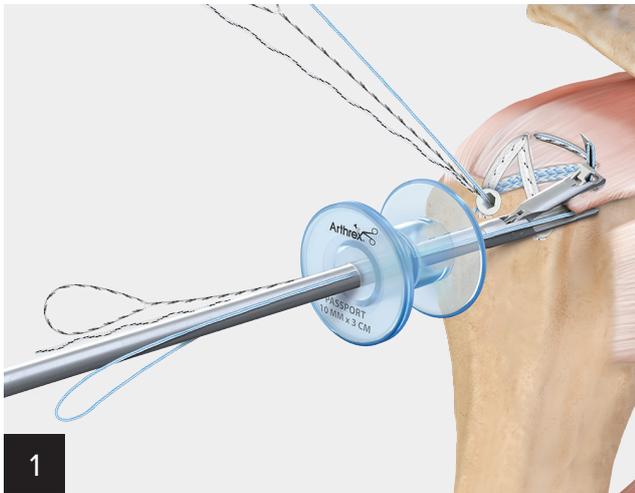


# SpeedBridge™ Technique: Dog-Ear Fixation

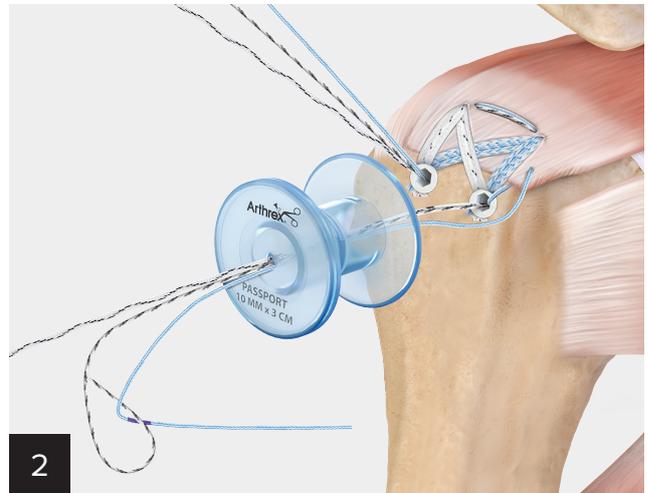


## SpeedBridge™ Technique: Dog-Ear Fixation

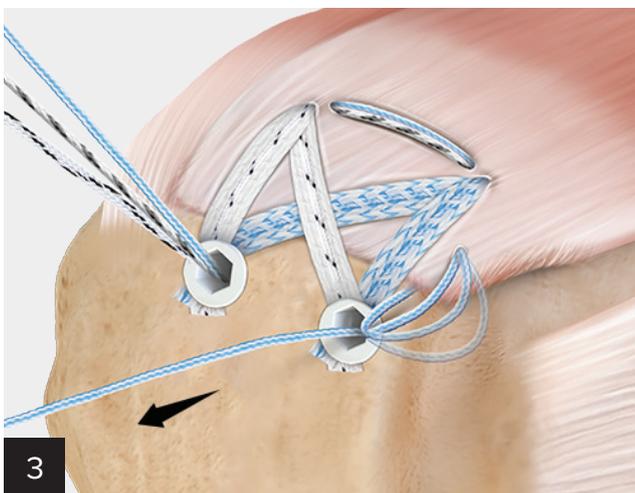
Achieve anterior and posterior lateral tissue fixation using the knotless repair stitches from Knotless SwiveLock® anchors.



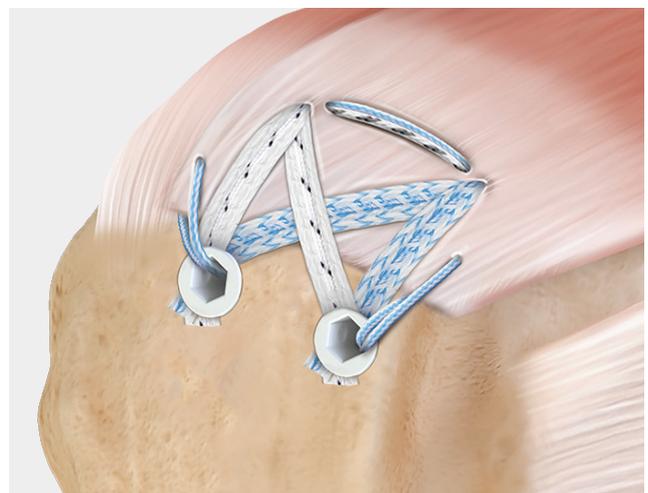
Retrieve the knotless sutures from the lateral cannula. Load the blue repair suture onto a Scorpion™ suture passer and pass through tissue.



Feed the end of the repair suture through the loop of the shuttle suture and fold it at the ink-mark indicator. Pull the tape shuttle suture tail to shuttle the repair suture into the knotless mechanism.

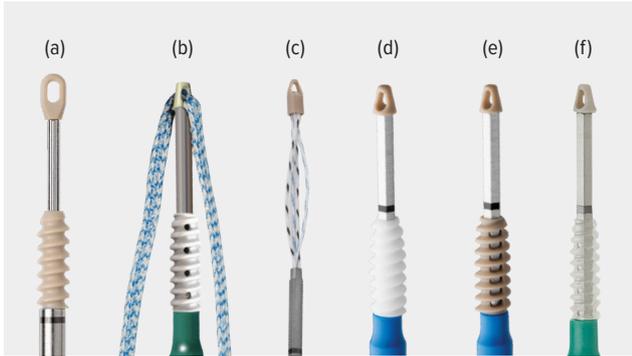


Tension the repair suture, reducing and fixing the tendon to the bone. Cut the repair suture flush once adequate fixation is achieved.



**NOTE:** If using Knotless SwiveLock anchors and additional lateral fixation is not required, pull one end of the shuttle stitch to remove the FiberTape® sutures and cut the repair stitch using a FiberTape suture cutter.

## SwiveLock® C Suture Anchor



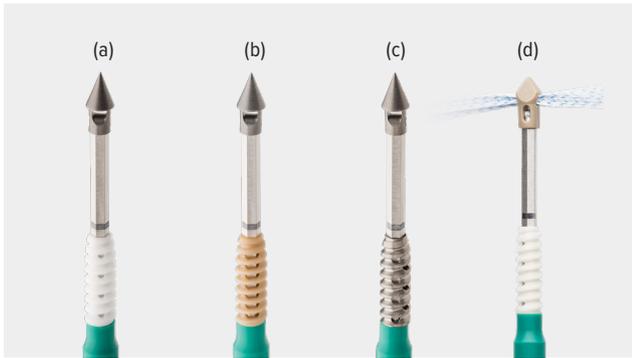
This closed-eyelet, twist-in knotless anchor can be used as the lateral row of the SutureBridge™ repair. Additionally, it can be combined with FiberTape® suture for SpeedFix™ and SpeedBridge™ repairs.

BioComposite	Item Number
Knotless, 4.75 mm x 19.1 mm, w/ blue FiberTape loop and white/black #2 suture	AR-2324KBCC
Knotless, 4.75 mm x 19.1 mm, w/ white/black TigerTape™ loop and blue #2 suture	AR-2324KBCC
Knotless, 4.75 mm x 19.1 mm, w/ blue #2 suture	AR-2324KBCC
Knotless, 5.5 mm x 19.1 mm, w/ blue #2 suture	AR-2323KBCC
3.9 mm × 17.9 mm	AR-2326BCC
4.75 mm × 19.1 mm	AR-2324BCC
4.75 mm × 22 mm, w/ two #2 TigerWire® CL suture (1 white/blue, 1 white/black) (c)	AR-2324BCC-2
4.75 mm × 22 mm, w/ two #2 TigerTail® sutures (1 white/black, 1 blue/black)	AR-2324BCT-2
4.75 mm × 19.1 mm, w/ blue FiberTape loop (b)	AR-2324BCCT
4.75 mm × 19.1 mm, w/ white/black TigerTape loop	AR-2324BCCTT
5.5 mm × 22 mm, w/ two #2 TigerTail sutures (1 white/black, 1 blue/black)	AR-2323BCT-2
5.5 mm × 19.1 mm (d)	AR-2323BCC

PEEK	Item Number
Knotless, 4.75 mm x 19.1 mm, w/ blue FiberTape loop and white/black #2 suture	AR-2324KPCT
Knotless, 4.75 mm x 19.1 mm, w/ white/black TigerTape loop and blue #2 suture	AR-2324KPCTT
Knotless, 4.75 mm x 19.1 mm, w/ blue #2 suture	AR-2324KPSLC
Knotless, 5.5 mm x 19.1 mm, w/ blue #2 suture	AR-2323KPSLC
3.9 mm × 17.9 mm (a)	AR-2326PSLC
4.75 mm × 19.1 mm	AR-2324PSLC
4.75 mm × 22 mm, w/ two #2 TigerTail sutures (1 white/black, 1 blue/black)	AR-2324PSLC-2
4.75 mm × 19.1 mm, w/ blue FiberTape loop	AR-2324PCT
4.75 mm × 19.1 mm, w/ white/black TigerTape loop	AR-2324PCTT
5.5 mm × 22 mm, w/ two #2 TigerTail sutures (1 white/black, 1 blue/black)	AR-2323PSLC-2
5.5 mm × 19.1 mm (e)	AR-2323PSLC

Bio	Item Number
4.75 mm × 19.1 mm (f)	AR-2324BSLC
Required Instruments	Item Number
Punch for 5.5 mm Corkscrew® FT and 4.75 mm and 5.5 mm SwiveLock anchors	AR-1927PB
Punch for 3.9 mm SwiveLock anchor	AR-2326P
Optional Instruments	Item Number
Punch/tap for 5.5 mm Corkscrew FT and 5.5 mm SwiveLock anchors	AR-1927CTB
Punch/tap for 4.75 mm SwiveLock anchors	AR-2324PTB
Disposable punch for 5.5 mm Corkscrew FT and 4.75 mm and 5.5 mm SwiveLock anchors	AR-1927PBS
Spade tip drill for 5.5 mm Corkscrew FT and 4.75 mm and 5.5 mm SwiveLock anchors	AR-1927D
Punch/tap for 3.9 mm SwiveLock anchor	AR-2326PTB
Spade tip drill for 3.9 mm SwiveLock anchor	AR-2326D

## SwiveLock® SP Suture Anchor



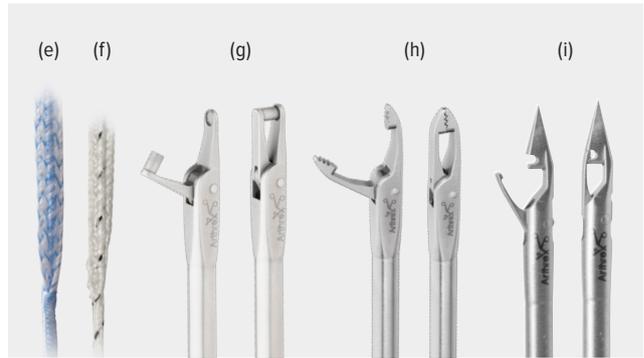
Eliminate the need for prepunching a bone socket with the SwiveLock SP (self-punching) anchor, which combines a PEEK or titanium tip with a BioComposite, PEEK, or titanium anchor body. This self-punching design can help save valuable OR time, while increasing the precision of the final construct. Combine the SwiveLock SP anchor with FiberTape® suture to complete a SpeedFix™ or SpeedBridge™ knotless rotator cuff repair.

### PEEK Self-Punching Eyelet

BioComposite	Item Number
4.75 mm Knotless <b>(d)</b>	AR-2324KBCSP
5.5 mm Knotless	AR-2323KBCSP
4.75 mm with SutureTape	AR-2324BCSP
5.5 mm with SutureTape	AR-2323BCSP
PEEK	Item Number
4.75 mm Knotless	AR-2324KPSP
5.5 mm Knotless	AR-2323KPSP
4.75 mm with SutureTape	AR-2324PSP
5.5 mm with SutureTape	AR-2323PSP

### Titanium Self-Punching Eyelet

BioComposite	Item Number
4.75 mm × 24.5 mm <b>(a)</b>	AR-2324BCM
5.5 mm × 24.5 mm	AR-2323BCM
PEEK	Item Number
4.75 mm × 24.5 mm <b>(b)</b>	AR-2324PSLM
5.5 mm × 24.5 mm	AR-2323PSLM
Titanium	Item Number
4.75 mm × 19.1 mm <b>(c)</b>	AR-2324SLM
5.5 mm × 19.1 mm	AR-2323SLM



Recommended FiberTape Suture Options for SwiveLock C and SP Anchors	Item Number
36 in (blue) tape, w/ each end tapered to #2 FiberWire® suture, 54 in	AR-7237
7 in (blue) tape, w/ each end tapered to #2 FiberWire suture, 30 in <b>(e)</b>	AR-7237-7
7 in (blue) tape, w/ each end tapered to #2 FiberWire suture, collagen-coated	AR-7237-7B
7 in (white/black) tape, w/ each end tapered to #2 TigerWire® suture, 30 in <b>(f)</b>	AR-7237-7T
17 in (blue) tape, w/ each end tapered to #2 FiberWire suture w/ tapered needle, 26.5 mm, ½ circle	AR-7237-17N

FiberTape Suture Instruments	Item Number
Mini FiberTape suture retriever w/ self-release (SR) handle <b>(g)</b>	AR-12974SR
Mini FiberTape suture retriever w/ nonratcheting (NR) handle	AR-12974NR
Mini FiberTape suture retriever w/ WishBone™ handle	AR-12974W
FiberTape suture retriever w/ SR handle	AR-13974SR
FiberTape suture retriever w/ NR handle	AR-13974NR
FiberTape suture retriever w/ WishBone handle	AR-13974W
KingFisher® FiberTape suture retriever/grasper w/ SR handle	AR-13971SR
KingFisher FiberTape suture retriever/grasper w/ NR handle	AR-13971NR
KingFisher FiberTape suture retriever/grasper w/ WishBone handle <b>(h)</b>	AR-13971W
Penetrator™ FiberTape suture retriever, 15° up curved	AR-2167-3
Penetrator FiberTape suture retriever, straight	AR-2167ST-3
Penetrator FiberTape suture retriever w/ WishBone handle, 15° up curved	AR-2167W-3
Penetrator FiberTape suture retriever w/ WishBone handle, straight <b>(i)</b>	AR-2167STW-3
FiberTape suture cutter	AR-13250
FiberTape suture cutter w/ WishBone handle	AR-13250W

## SpeedBridge™ Implant Systems



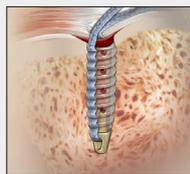
(a)



SpeedBridge Repair



SpeedFix™ Repair



SwiveLock® Anchor

SpeedBridge implant systems facilitate a more convenient and efficient SpeedBridge repair. Implant systems are packaged in a single “peel-pack” blister and contain all SwiveLock implants and sutures required to perform a typical 4-anchor SpeedBridge repair. These systems are also available with the self-punching (SP) eyelet option.

Implant Systems	Item Number
<b>Knotless, BioComposite SwiveLock C Implant System w/ SCORPION-Multifire Needle</b>	
Two <b>Knotless 4.75 mm</b> SwiveLock anchors w/ 1 preloaded FiberTape® loop (1 blue, 1 white/black) for medial row Two <b>Knotless 4.75 mm</b> SwiveLock anchors w/ 1 #2 Suture (1 blue, 1 white/black) for lateral row Disposable punch <b>SCORPION-multifire needle</b>	<b>AR-2600SBS-10</b>
<b>Knotless, BioComposite SwiveLock C Implant System w/ SCORPION-Multifire Needle</b>	
Two <b>Knotless 4.75 mm</b> SwiveLock anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>Knotless 5.5 mm</b> SwiveLock anchors w/ 1 #2 Suture (1 blue, 1 white/black) for lateral row Disposable punch <b>SCORPION-multifire needle</b>	<b>AR-2600SBS-11</b>
<b>BioComposite SwiveLock C Implant System w/ SCORPION-Multifire Needle</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>4.75 mm</b> SwiveLock C anchors for lateral row Disposable punch <b>SCORPION-multifire needle</b>	<b>AR-2600SBS-8</b>
<b>BioComposite SwiveLock C Implant System w/ SCORPION-Multifire Needle (a)</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>5.5 mm</b> SwiveLock C anchors for lateral row Disposable punch <b>SCORPION-multifire needle</b>	<b>AR-2600SBS-9</b>
<b>BioComposite SwiveLock C Implant System</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>4.75 mm</b> SwiveLock C anchors for lateral row Disposable punch	<b>AR-2600SBS-4</b>
<b>BioComposite SwiveLock SP Implant System</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>5.5 mm SwiveLock SP</b> anchors for lateral row Disposable punch	<b>AR-2600SBS-5</b>
<b>PEEK SwiveLock C Implant System</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>4.75 mm</b> SwiveLock C anchors for lateral row Disposable punch	<b>AR-2600SBS-6</b>
<b>PEEK SwiveLock SP Implant System</b>	
Two <b>4.75 mm</b> SwiveLock C anchors w/ 1 preloaded FiberTape loop (1 blue, 1 white/black) for medial row Two <b>5.5 mm SwiveLock SP</b> anchors for lateral row Disposable punch	<b>AR-2600SBS-7</b>

## References

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Products may not be available in all markets because product availability is subject to the regulatory approvals and medical practices in individual markets. Please contact your Arthrex representative if you have questions about the availability of products in your area



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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