

# Knotless AC Repair System

Surgical Technique



**Arthrex**® 

## Arthroscopic Knotless Stabilization of Acromioclavicular Separations Using TightRope® Technology

### Introduction

The knotless AC implant and Dog Bone™ button combine to form a knotless tensionable device designed for the reduction and stabilization of acute and chronic acromioclavicular joint separations. This dual construct features a #6 TightRope suture preassembled into a clavicle insert and a Dog Bone button, which attaches to the suture loops separately after passing them antegrade through the 3-mm bone tunnels.

### Technique Note

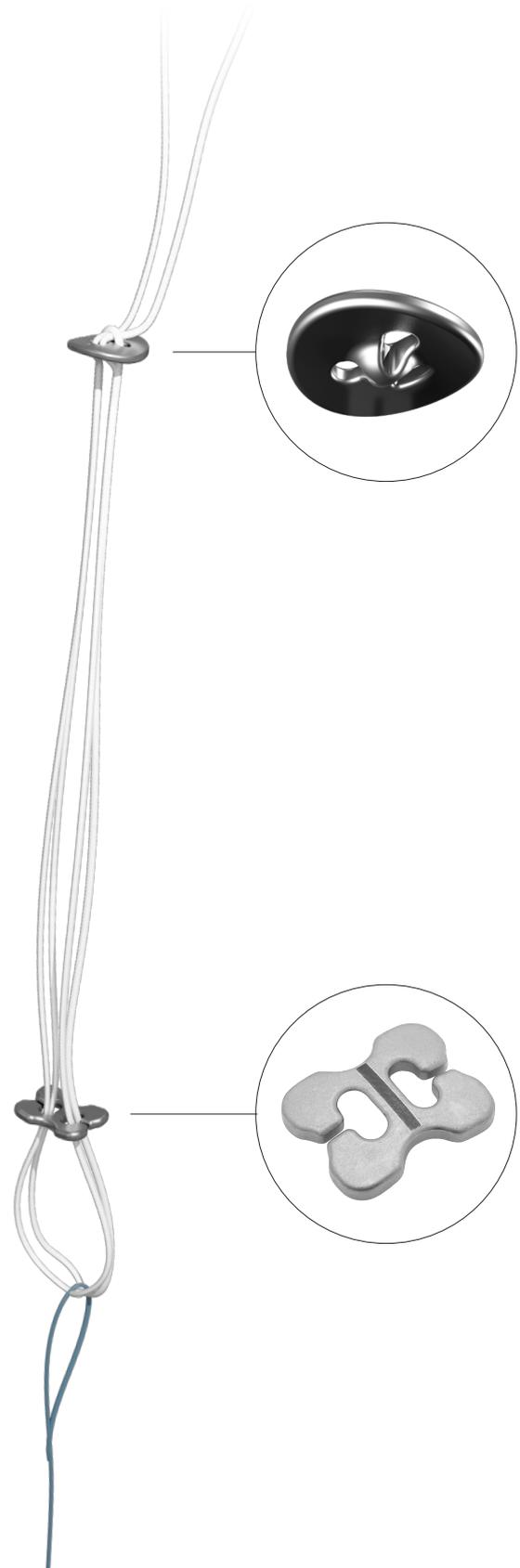
This technique is not intended to be the sole means of reconstructing a chronic AC separation. Repair of chronic AC separations should always include a biologic component (ie, allograft or autograft).

### Titanium Clavicle Insert

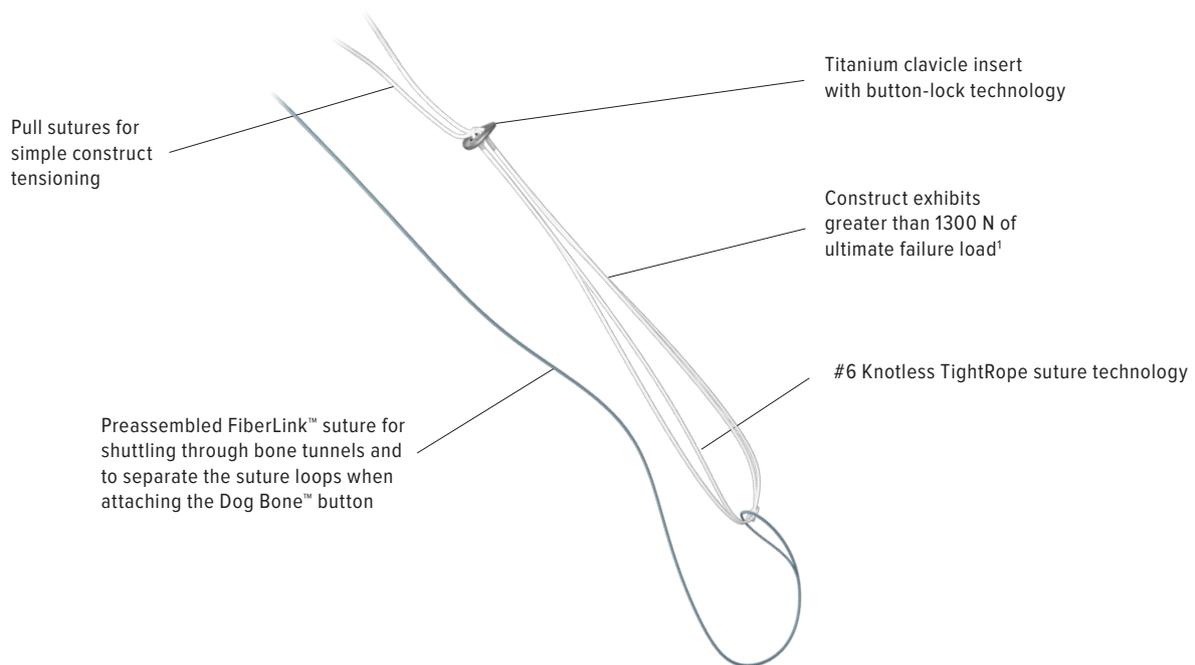
- Dimensions: 10-mm diameter anatomically curved flange, 3-mm diameter cup insert
- Optimized for AC joint procedures: Stabilizing cup insert fits into the 3-mm clavicle tunnel, which can help prevent suture abrasion
- Button-lock technology: Designed to avoid suture slippage, making additional knots unnecessary

### Dog Bone Button

- Dimensions: 10 mm (L) × 8 mm (W)
- The Dog Bone button difference: Broad surface area helps distribute forces across the coracoid and prevent button pull-through
- Ideal design: Slots allow the button to be attached to the TightRope sutures after they are passed through the bone tunnels



## Tensionable AC TightRope® Construct



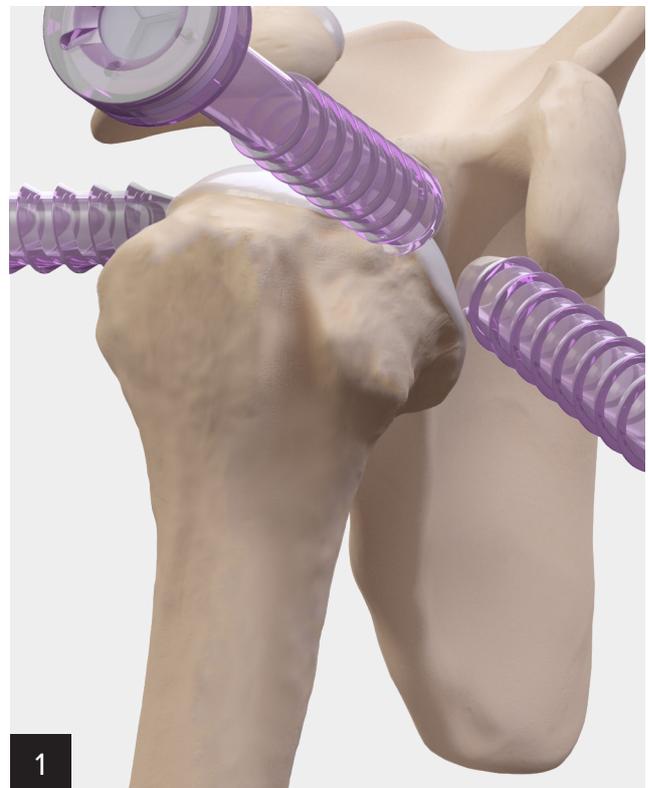
## Surgical Technique

Place the patient in the lateral decubitus or beach chair position under general anesthesia, supplemented with a scalene block (if desired). Introduce a 30° arthroscope into the glenohumeral joint via a standard posterior portal. Create an ASL portal slightly more anterior and inferior than normal, coming in at a slight angle in both the coronal and axial plane.

Insert an 8.25-mm cannula through the ASL portal. Use a shaver and/or Synergy<sup>RF</sup> bipolar ablation system with Apollo<sup>RF</sup> probe through the ASL portal to open the rotator interval and expose the coracoid.

Complete the coracoid exposure along the inferior border of the coracoid all the way to the base. A 70° arthroscope in the posterior portal can enhance arthroscopic visualization of the coracoid base.

Alternatively, use a 30° scope through the ASL portal to visualize the entire coracoid base. Create a low anterior portal lateral to the coracoid and insert an 8.25-mm cannula. This will be the primary working portal for the entire procedure.

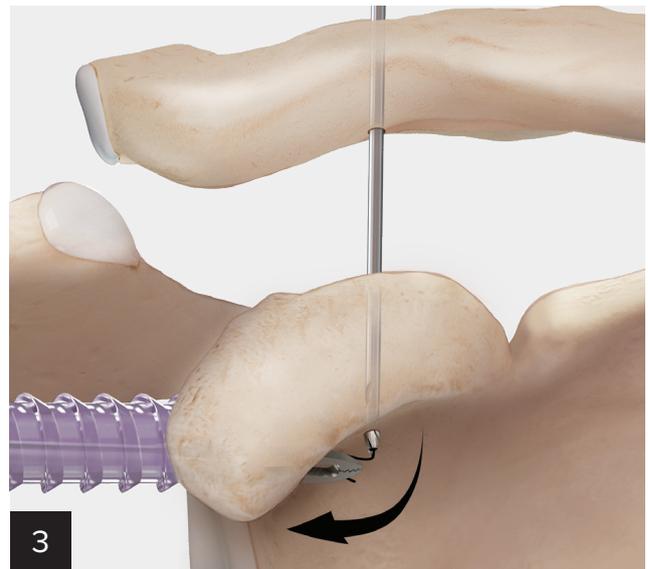


### Reference

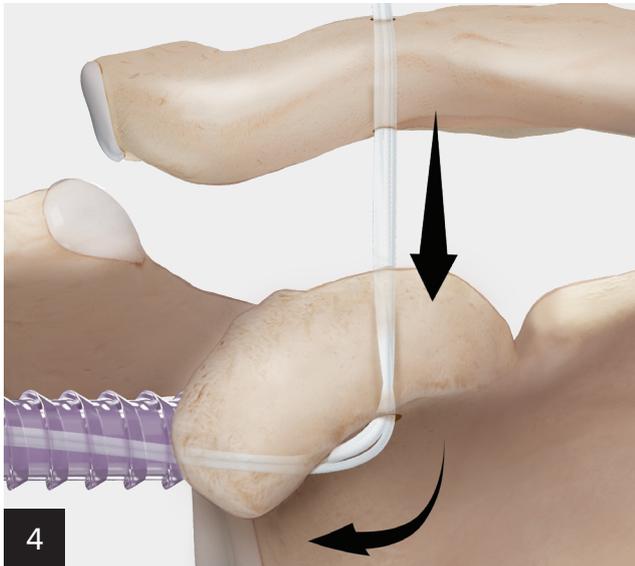
1. Arthrex, GmbH. Data on file (APT-05529). Munich, Germany; 2022.



Insert the aiming hook of the guide through the low anterior portal cannula. Place the drill sleeve of the guide on top of the clavicle. Drill a 3-mm tunnel through the clavicle and coracoid using the 3-mm cannulated drill.



Remove the guide but leave the cannulated drill in place. Remove the stylet from the 3-mm cannulated drill. Pass the SutureLasso™ SD suture passer wire through the drill cannulation, retrieving the tail end through the anterior portal and leaving the looped end for implant passage. Remove the cannulated drill, leaving only the wire in the tunnels.



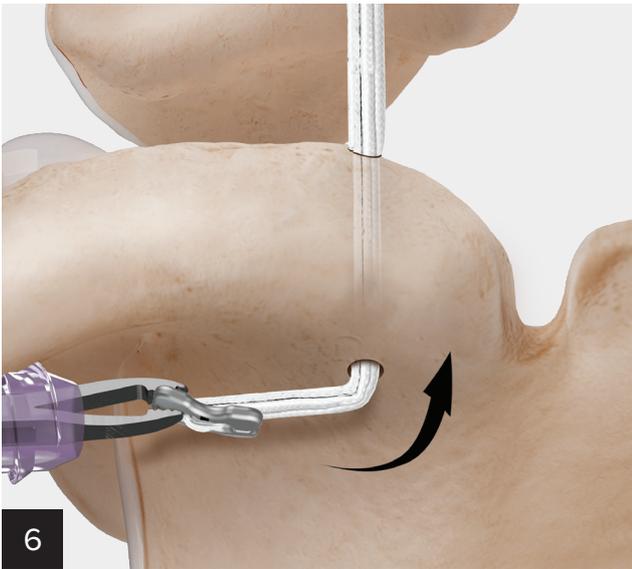
Use the nitinol wire to shuttle the FiberLink™ suture attached to the implant antegrade through the clavicle and coracoid so that the TightRope® repair loops exit the anterior cannula.

**Note: Do not cut the FiberLink suture.**



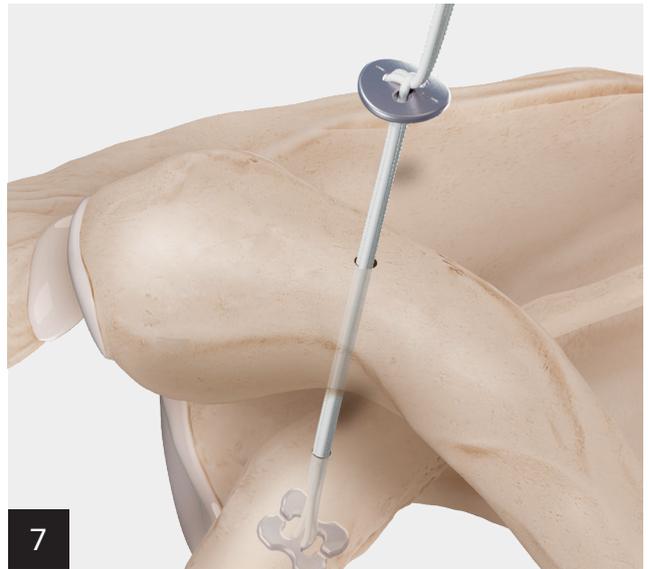
Use the FiberLink suture to separate the TightRope implant loops. Attach a Dog Bone™ button across both sides of the loops and slide it to the bottom of the loops.

**Note: Do not cut the FiberLink suture.**



6  
 Deliver the Dog Bone™ button to the coracoid base while pulling the clavicle cup button superiorly on the clavicle side. Cut off the FiberLink™ suture.

**Note: Pull on clavicle button and not on the cinching sutures.**

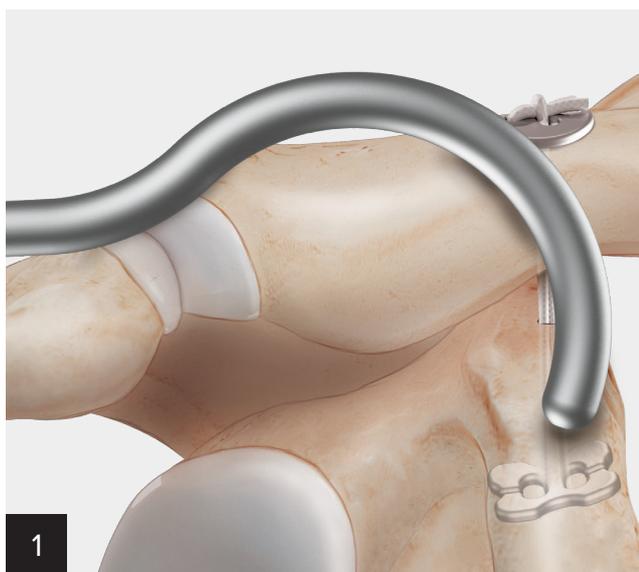


7  
 With the Dog Bone button firmly against the coracoid base, reduce the clavicle (if not done beforehand) and sequentially pull on the cinching suture limbs 1 cm to 2 cm at a time to reduce the button to the clavicle.

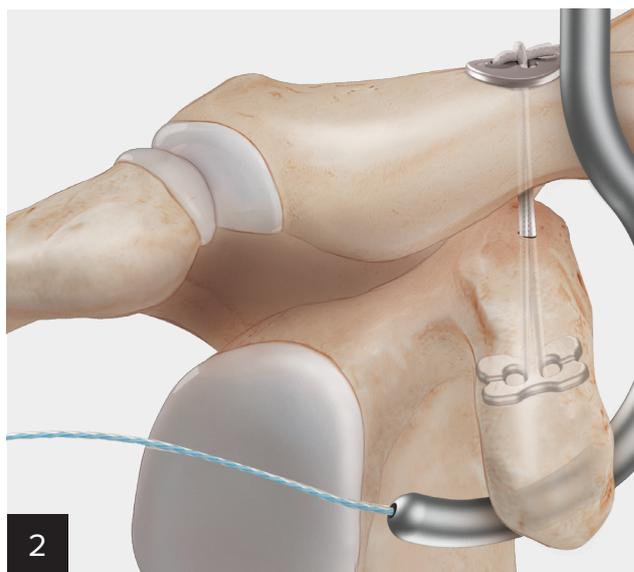


8  
 Cut the remaining suture limbs at least 3 mm from the suture bridge to complete the repair.

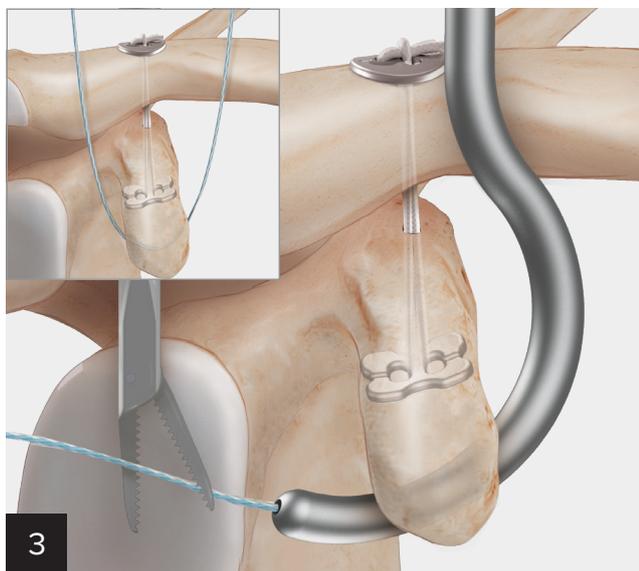
## Stabilization of Chronic Acromioclavicular Separations



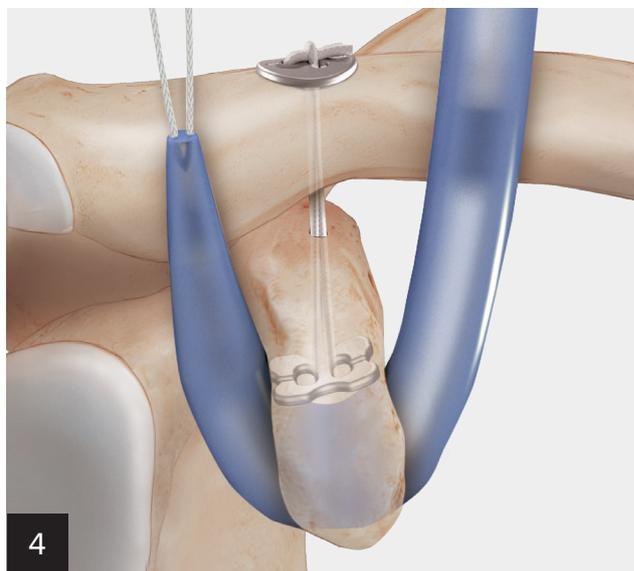
Through the same incision made for the knotless AC implant, use the coracoid passer to find the top of the coracoid. Staying on bone, slide the tip around the medial side. Lift the handle to advance the tip so it points laterally.



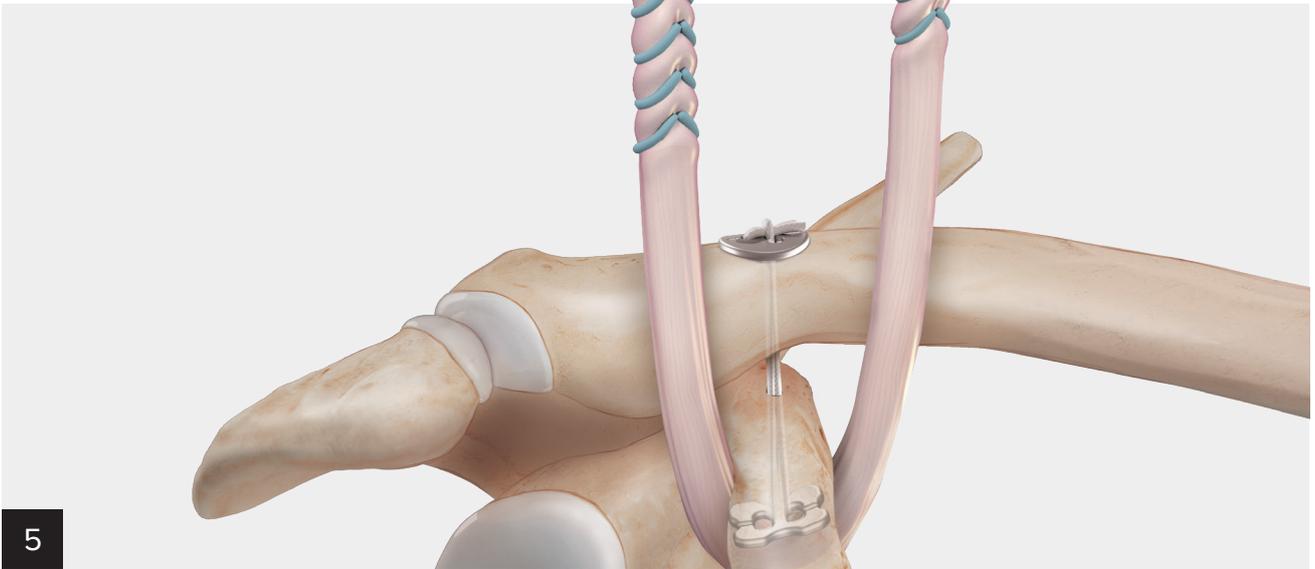
Pass a FiberStick™ suture through the cannulation.



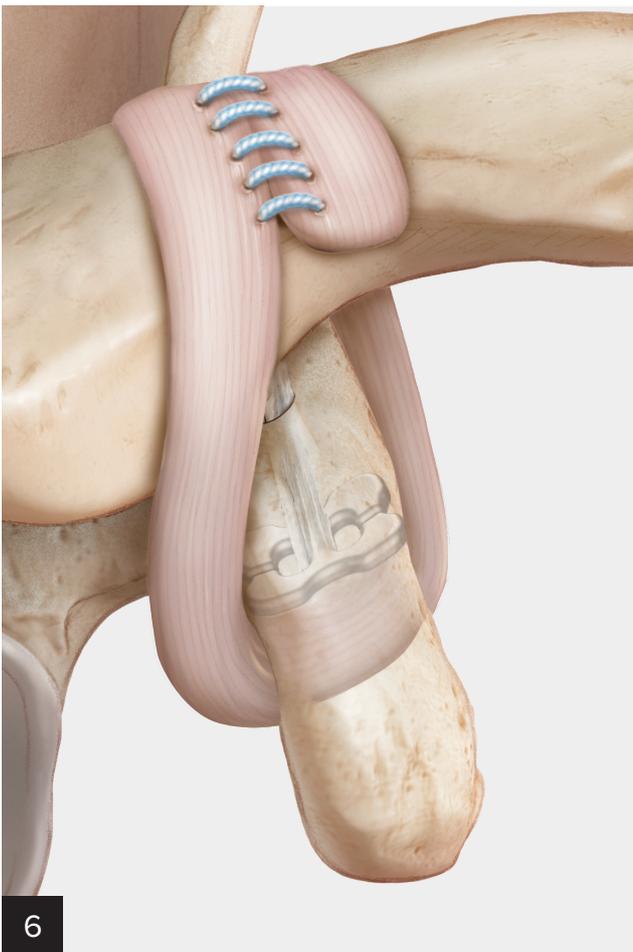
Using a grasping instrument, retrieve the FiberStick suture anterior to the clavicle and lateral to the coracoid. Remove the passer once the FiberStick suture is retrieved.



Tie the medial limb of the FiberStick suture to one end of the flexible obturator and tie the whipstitched sutures from the graft to the other end. Shuttle the obturator medial to lateral until it fully passes around the coracoid. Continue to pull until the graft is around the coracoid.



The medial graft limb can be passed posterior on the clavicle to better represent the anatomic footprint of the conoid ligament. Moving posterior to anterior around the clavicle, use the coracoid passer to advance a FiberStick™ suture or nitinol wire through the cannulation. Shuttle the whipstitched sutures to bring the graft limb posterior.



Sew the graft limbs together on top of the clavicle to complete the repair.

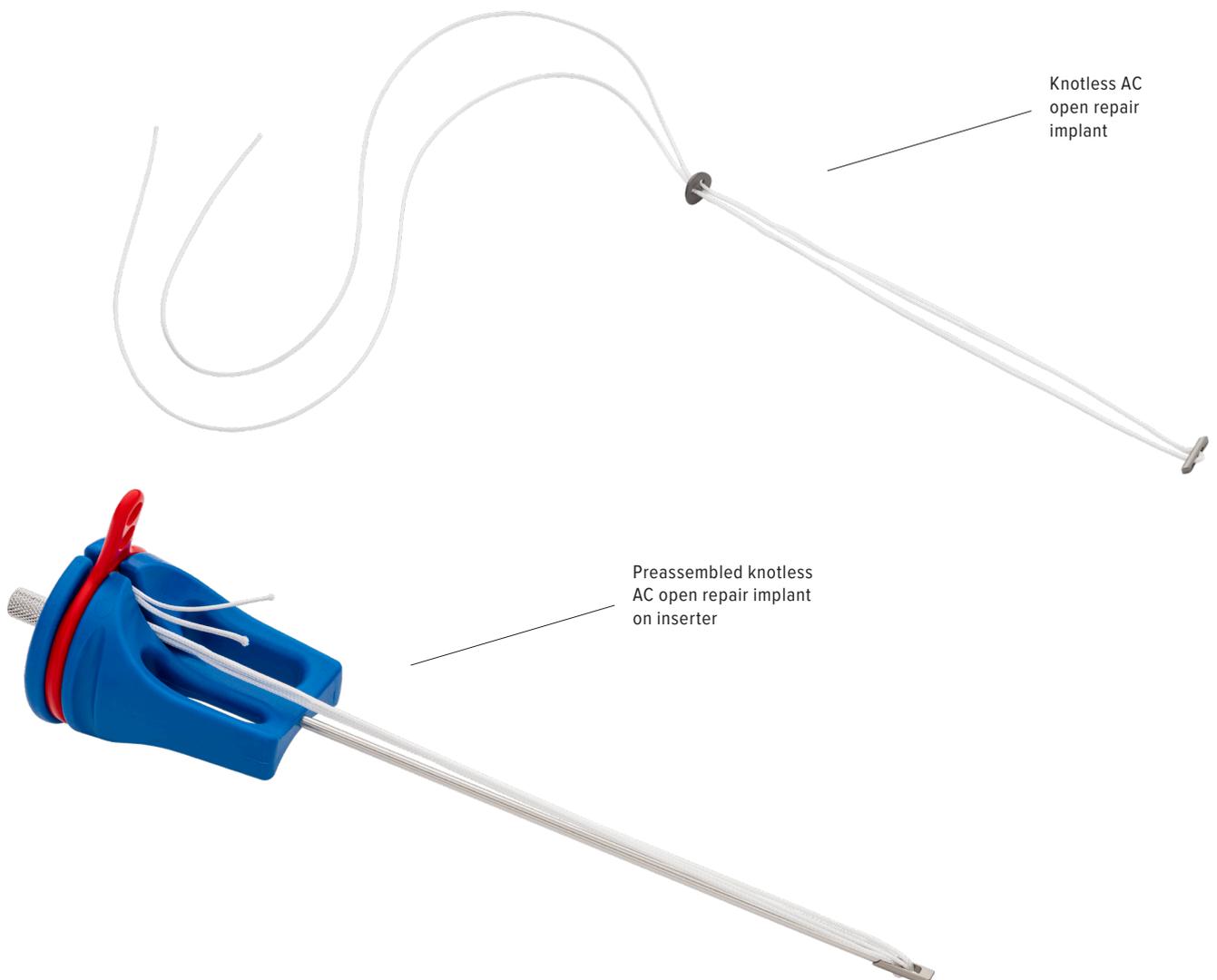
## Mini-Open Knotless Stabilization of Acromioclavicular Separations Using TightRope® Technology

### Introduction

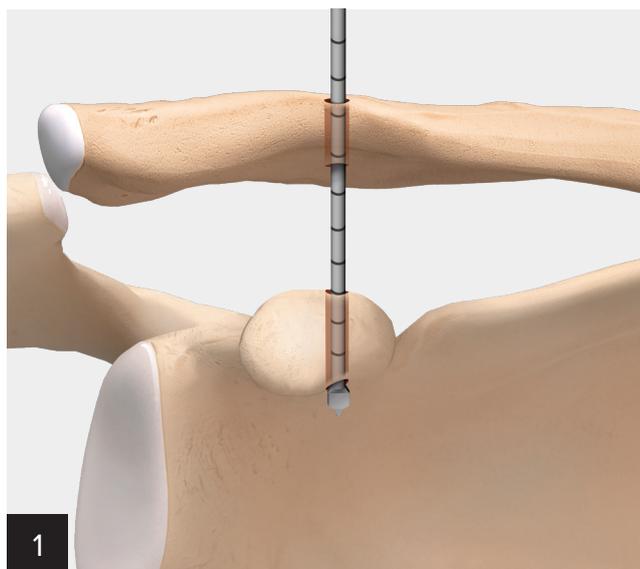
The knotless AC open repair implant is designed for the reduction and stabilization of acute and chronic acromioclavicular joint separations. This dual construct features a #6 TightRope suture preassembled into a clavicle insert and a large pec button, preloaded onto an inserter, which allows for an open or mini-open “push-through” technique without having to use a scope or access beneath the coracoid.

### Technique Note

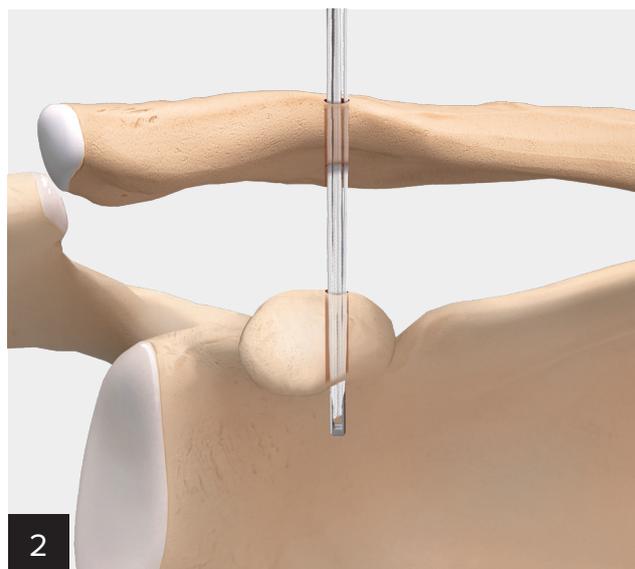
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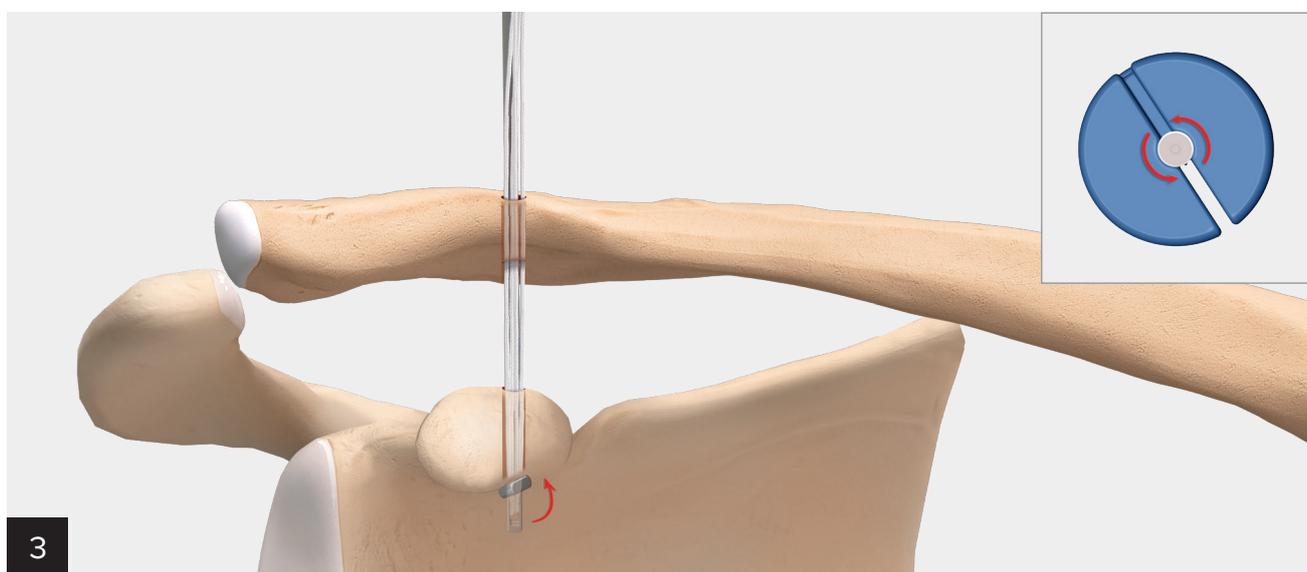
## Surgical Technique



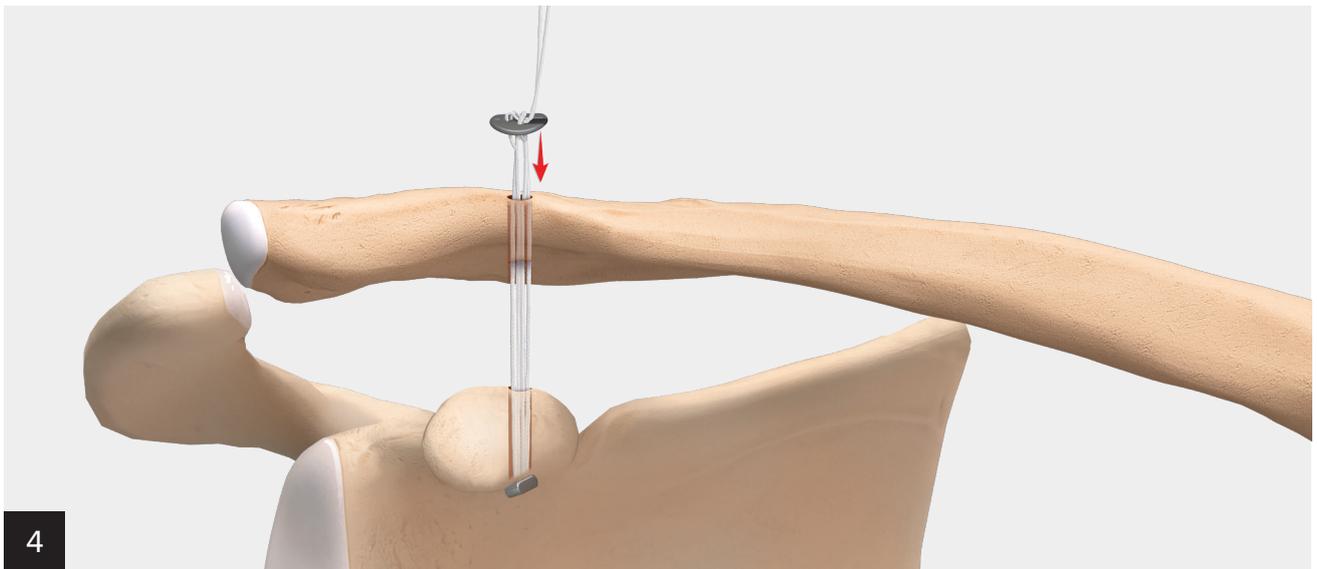
Through an open or mini-open incision, drill a 3.7 mm tunnel through both the clavicle and coracoid. Fluoroscopy can be used to confirm proper tunnel placement.



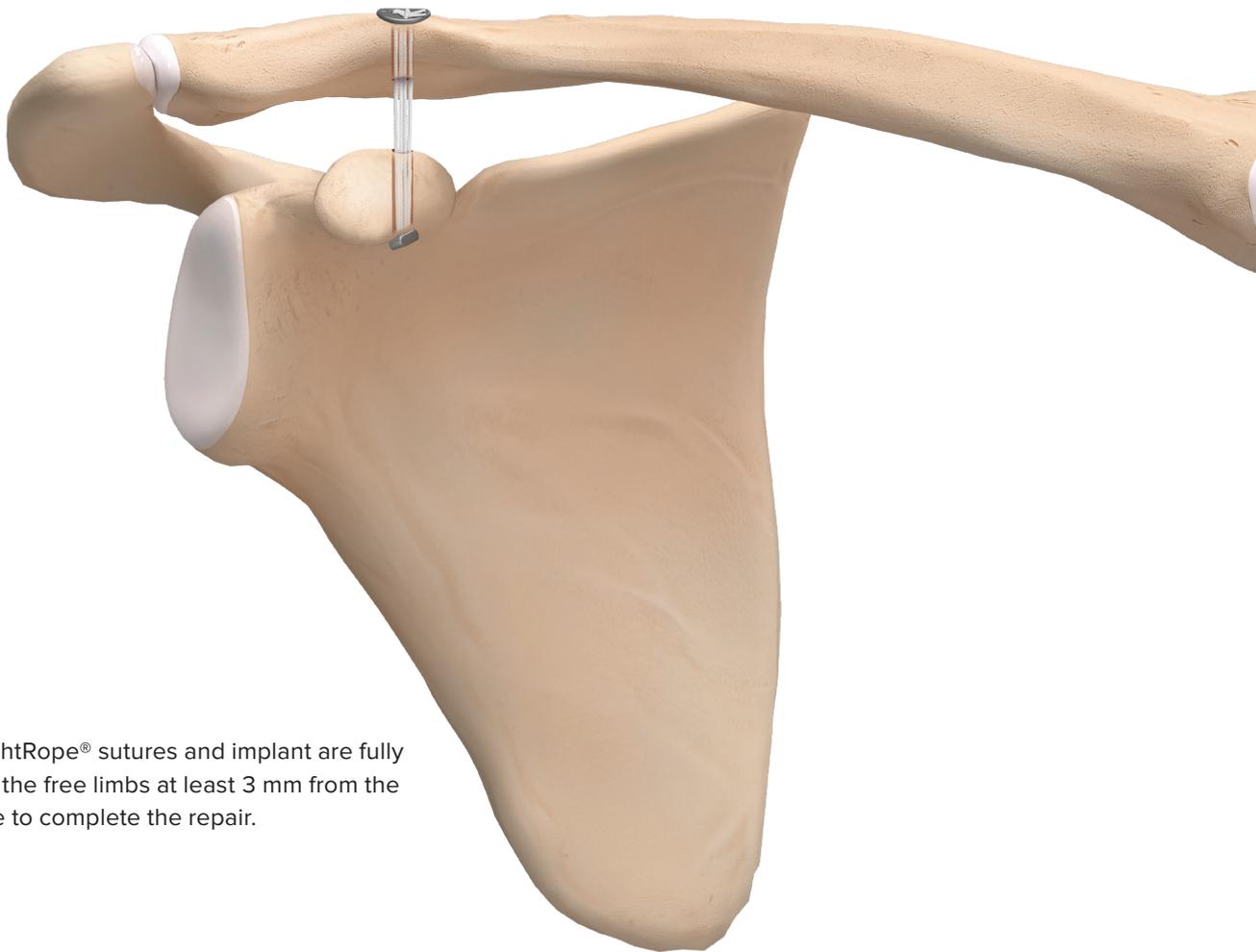
Insert the coracoid button through the clavicle and coracoid tunnels. Light taps on the inserter handle can aid in advancing the button through the tunnels. Fluoroscopy can be used to confirm the implant is properly deployed through both tunnels.



Remove the red pull tab from the handle to release the sutures and clavicle button from the inserter. Turn the knurled stylet counterclockwise to release the coracoid button from the inserter. With the inserter in the coracoid tunnel, grab the TightRope® implant sutures below the clavicle cup button and pull up to seat the button against the coracoid. Use fluoroscopy to confirm that the button flipped properly. Remove the driver from the tunnels.



With the button firmly against the base of the coracoid, sequentially pull on the free suture limbs 1 cm to 2 cm at a time to reduce the clavicle cup button onto the clavicle. A hemostat or blunt instrument can be placed under the clavicle cup button to aid in reduction.



Once the TightRope® sutures and implant are fully reduced, cut the free limbs at least 3 mm from the suture bridge to complete the repair.

## Ordering Information

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### Arthroscopic Knotless AC Repair System (AR-2371BL)

Product Description	Item Number
Knotless AC Repair Implant	AR-2370BL
Dog Bone™ Button	AR-2270
Drill, cannulated for AC repair, 3 mm	AR-2257D-30
SutureLasso™ SD Suture Passer Wire Loop	AR-4068-05SD

### Open Knotless AC Repair

Product Description	Item Number
Knotless AC Open Repair Implant	AR-2372BL0
3.7 mm Drill Pin	AR-2272

### Required Instruments

Product Description	Item Number
AC Target Guide, left	AR-2253L
AC Target Guide, right	AR-2253R
AC Drill Guide Assembly	AR-2373
RetroConstruction™ Drill Guide Handle, side release	AR-1510HR
Drill Sleeve, 3 mm	AR-2255CG-05
AC Wire Passer	AR-2252

### Required Disposables

Product Description	Item Number
Flexible Obturator	AR-2275

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