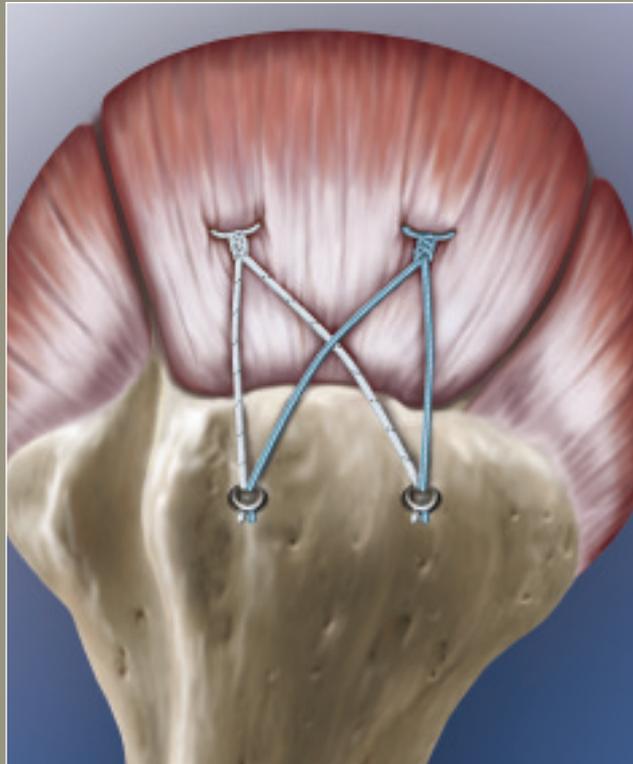




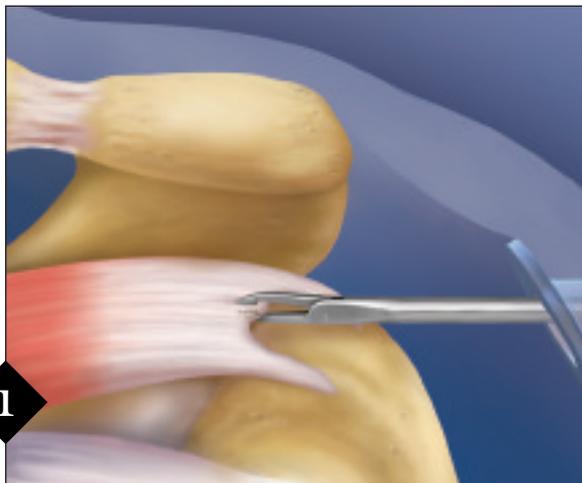
SutureBridge™ Double Row Rotator Cuff Repair

Surgical Technique



SutureBridge Rotator Cuff Repair

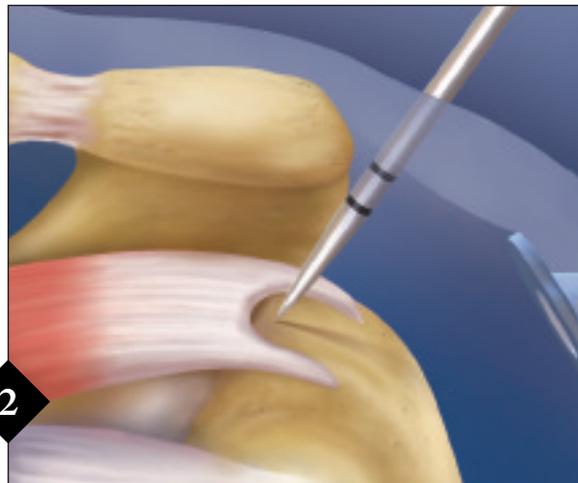
SutureBridge Double Row Rotator Cuff Repair



1

Assess the size and mobility of the tear using a KingFisher® Suture Retriever/Tissue Grasper to determine whether a U or L-shaped component exists. In the case of large tears extending to the superior aspect of the glenoid, margin convergence suturing is performed to reduce the tear volume and strain on the repair.

Create a bleeding bed for enhanced tendon to bone healing. This may be accomplished with a motorized burr to perform a light dusting of the greater tuberosity or by using a Chondro Pick to microfracture the footprint and maximize vascular channels. Avoid complete decortication of the bone to maximize suture anchor fixation.



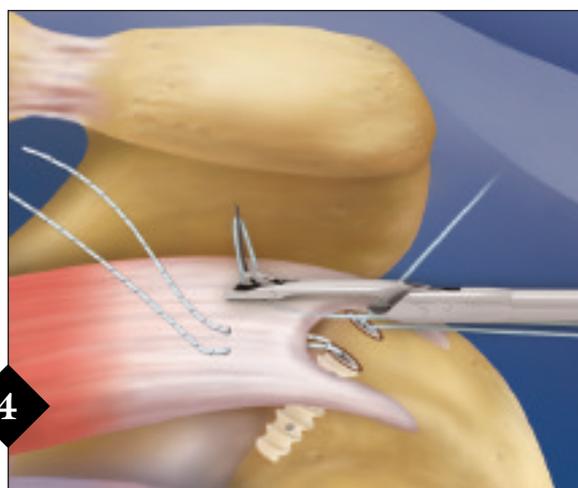
2

Prepare bone sockets for the two BioComposite Corkscrew FT anchors in the medial row using a punch, at a 45° “deadman” angle, adjacent to the articular margin of the humerus. Advance the punch to the laser line. Tapping may be required in very hard bone.



3

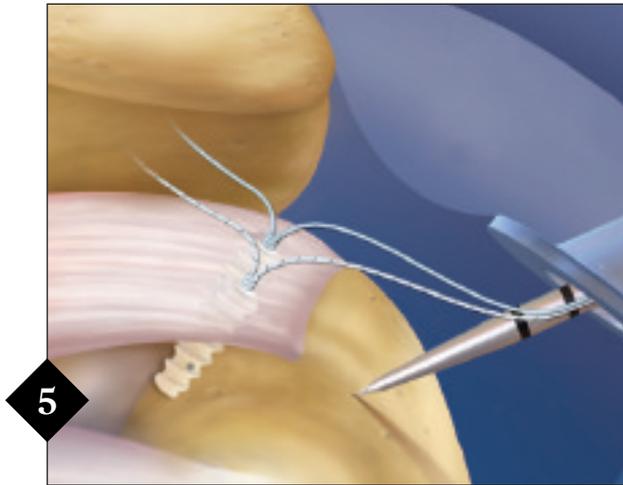
Place both BioComposite Corkscrew FT anchors. These anchors will assure full contact of the detached tendon along the medial footprint of the greater tuberosity.



4

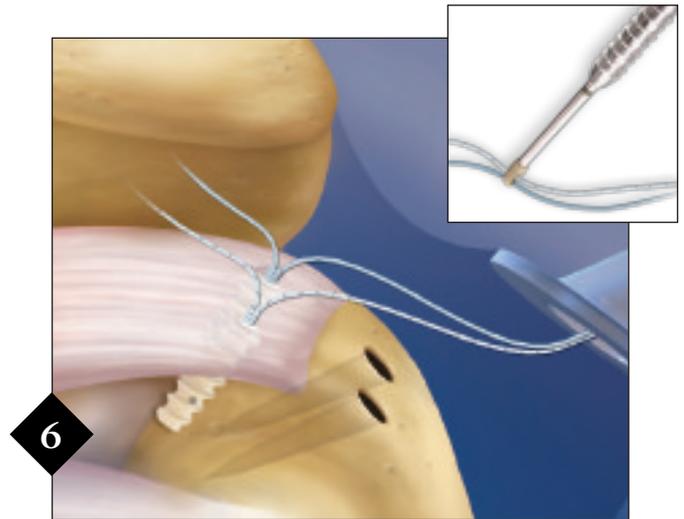
Remove one strand of suture from each anchor (preferably opposite colors). Using a KingFisher, retrieve one of the four remaining sutures through the lateral (or anterolateral) portal and pass it through the tendon using the FastPass Scorpion™ Suture Passer.

Repeat for the three remaining sutures to create a horizontal mattress configuration. Maintain a soft tissue bridge of one to two centimeters between the mattress stitches.

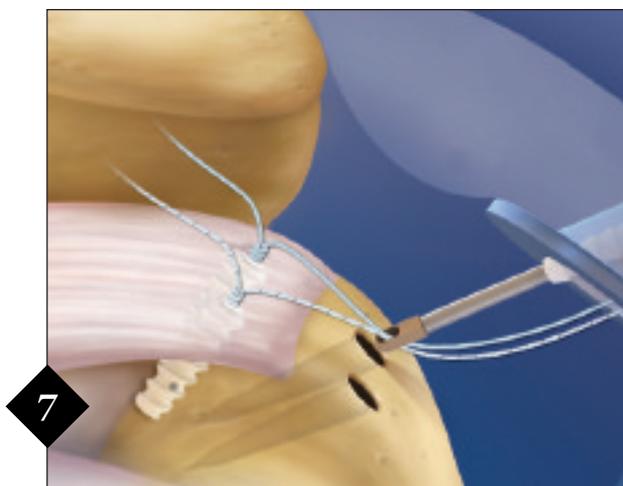


Tie the medial row, but do not cut the FiberWire® tails. These tails will be draped over the lateral aspect of the tendon and held in place with two knotless PushLock anchors.

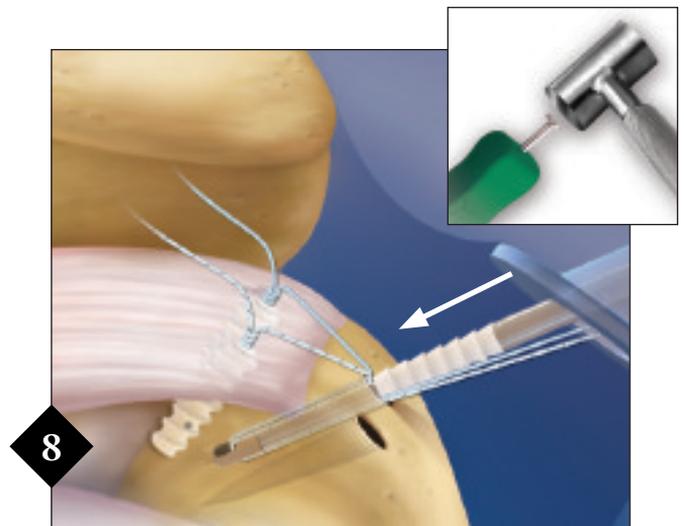
Prepare bone sockets for the BioComposite PushLock (or alternatively SwiveLock) directly in line with the medial anchors and approximately 5-10 mm distal to the lateral edge of the greater tuberosity. It may be necessary to increase abduction or to rotate the arm for optimal PushLock placement.



Retrieve one FiberWire strand from each Bio-Corkscrew FT through the lateral (or anterolateral) portal. Thread both FiberWire strands through the PushLock eyelet on the distal end of the driver.

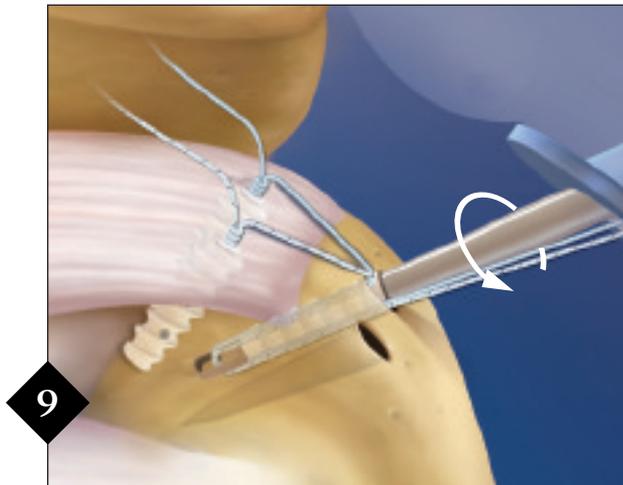


Bring the eyelet of the implant to the edge of the bone socket and remove all slack in the sutures. Apply tension to the sutures so that the tissue is reduced and compressed against the bone.



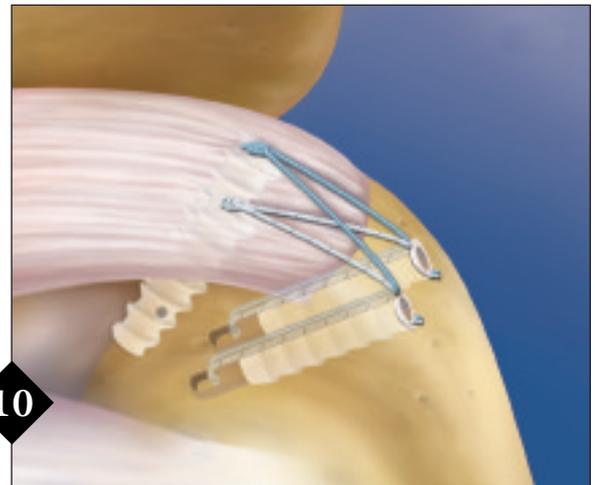
Completely advance the driver into the bone socket beyond the first laser line, until the anchor body contacts bone. Evaluate tissue tension. If it is determined that the tension is not adequate, the driver can be backed out and tension readjusted. Note: Do not attempt to apply tension with the eyelet in the bone socket.

Use a mallet to tap the anchor body into the bone socket until the second laser line is flush with the humerus.



9

Turn the driver counterclockwise six full turns to disengage the eyelet from the driver shaft.
Cut the sutures flush using an open ended FiberWire Suture Cutter.

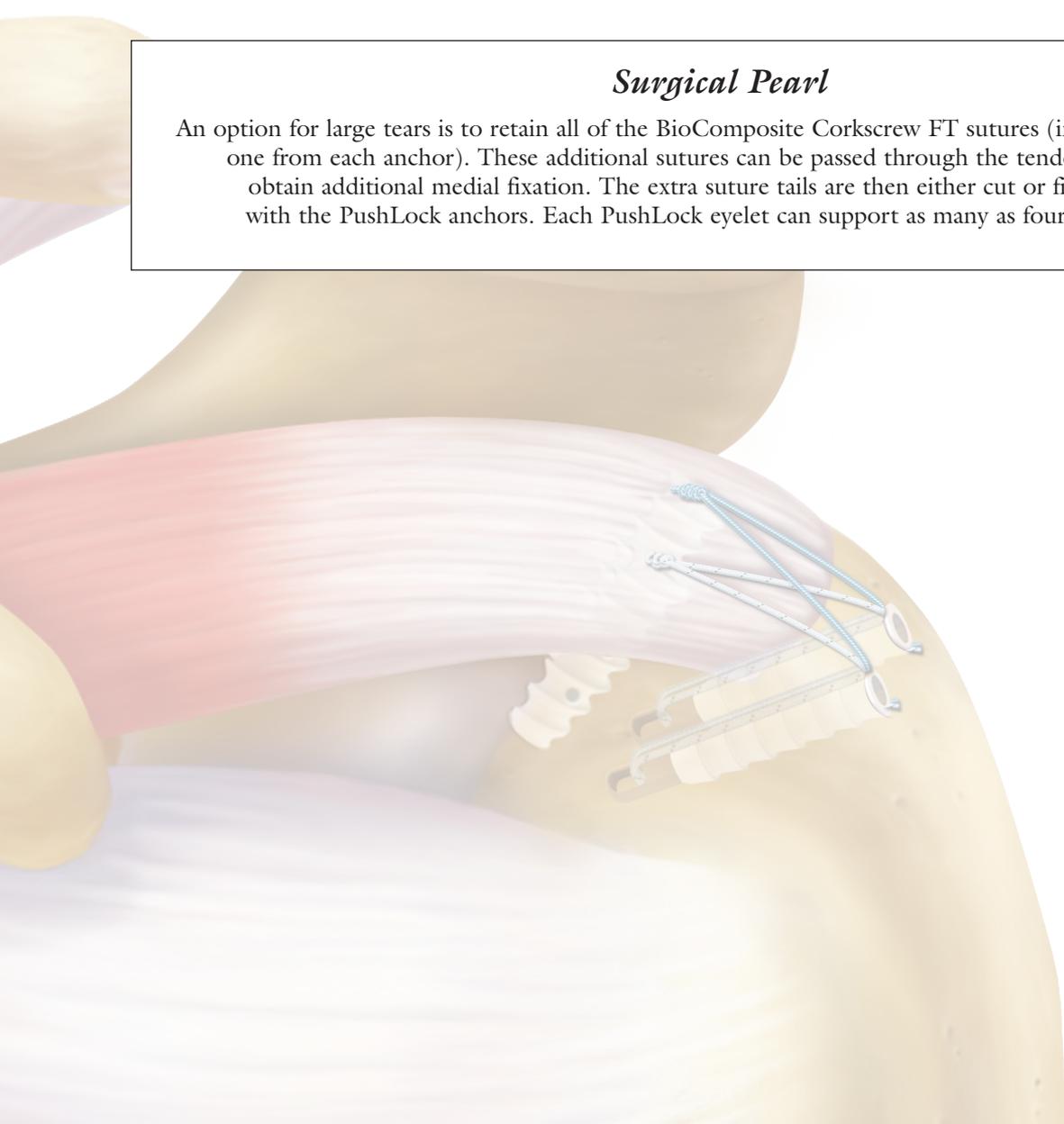


10

Repeat steps 6-9 for the second BioComposite PushLock.

Surgical Pearl

An option for large tears is to retain all of the BioComposite Corkscrew FT sutures (instead of removing one from each anchor). These additional sutures can be passed through the tendon and tied to obtain additional medial fixation. The extra suture tails are then either cut or fixed laterally with the PushLock anchors. Each PushLock eyelet can support as many as four suture tails.



SutureBridge

A transosseous equivalent SutureBridge that enhances footprint compression and promotes tendon healing-to-bone can be achieved with minimal knot tying. The repair consists of a tied medial row constructed with two BioComposite™ Corkscrew® FT anchors, combined with knotless lateral fixation using two BioComposite PushLocks®. The result is a quick, secure and low profile repair with maximized contact between tendon and bone. The construct provides stability in rotation and protects a broad healing zone from synovial fluid infiltration.

Developed in conjunction with Neal ElAttrache, M.D., and James Tibone, M.D., at Kerlan-Jobe Orthopaedic Clinic, Los Angeles, CA.



BioComposite
Corkscrew FT



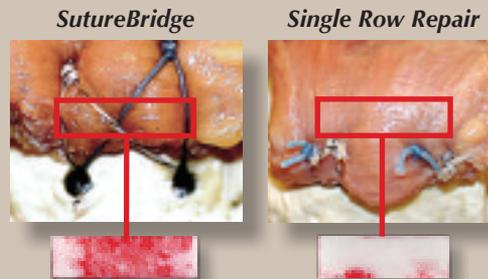
BioComposite
PushLock



BioComposite
PushLock SP

...the Science Behind the Technology

Pressure sensitive Fuji film studies show greater tendon compression for the SutureBridge vs. a standard single row repair.



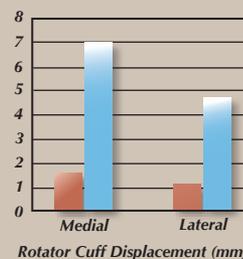
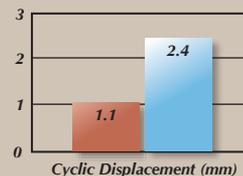
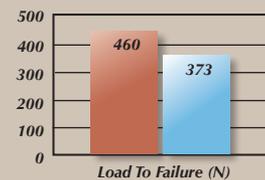
A matched-pair cadaveric study compared the SutureBridge to a standard single row repair using two Bio-Corkscrew FT anchors and four simple stitches.

The SutureBridge averaged a **23% higher load-to-failure** and a **54% reduction in gap formation** under cyclic loading.

SutureBridge
 Single Row

Two reference points were marked on the rotator cuffs (medial and lateral) and the specimens were subjected to a total of 120° of internal and external rotation. Displacement of the points was measured.

The average displacement was 76% less with the SutureBridge.



Data on file.

Ordering Information

Implants/Disposables

BioComposite Corkscrew FT, 5.5 mm x 14.7 mm, w/two #2 FiberWire	AR-1927BCF
BioComposite PushLock, 4.5 mm x 24 mm	AR-1922BC
BioComposite PushLock SP, 4.5 mm x 28 mm	AR-1922BCM
SureFire Scorpion Needle	AR-13991N
PassPort Button Cannula, 8 mm I.D. x 20 mm	AR-6592-08-20
PassPort Button Cannula, 8 mm I.D. x 30 mm	AR-6592-08-30
PassPort Button Cannula, 8 mm I.D. x 40 mm	AR-6592-08-40
PassPort Button Cannula, 8 mm I.D. x 50 mm	AR-6592-08-50

Accessory Instruments

Bio-Corkscrew FT Punch, reusable	AR-1927PB
Bio-Corkscrew FT Punch, disposable	AR-1927PBS
Punch/Tap for Bio-Corkscrew FT, reusable	AR-1927CTB
Punch for 4.5 mm PushLock	AR-1922P
FastPass Scorpion Suture Passer	AR-13997SF
KingFisher Suture Retriever/Tissue Grasper	AR-13970SR
Suture Cutter, open ended	AR-11794L
PassPort Measuring Device (<i>used for determining proper PassPort length</i>)	AR-6592M
PassPort Hemostat, Curved (<i>used for PassPort insertion</i>)	AR-6592

Other implant sizes and materials are available. Knotless SwiveLocks may be substituted for PushLocks in the SutureBridge if desired. Please contact your Arthrex Sales Representative for more information.



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.

U.S. PATENT NOS. 5,964,783; 6,652,563; 6,716,234; 7,029,490; 7,329,264; 7,993,369; 8,038,652 and PATENT PENDING.