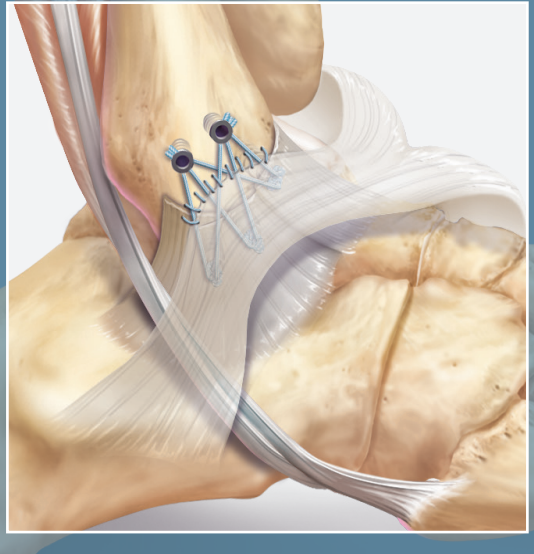
Arthrex®

Modified Brostrom-Gould Technique for Lateral Ankle Ligament Reconstruction

Surgical Technique



Modified Brostrom-Gould Technique

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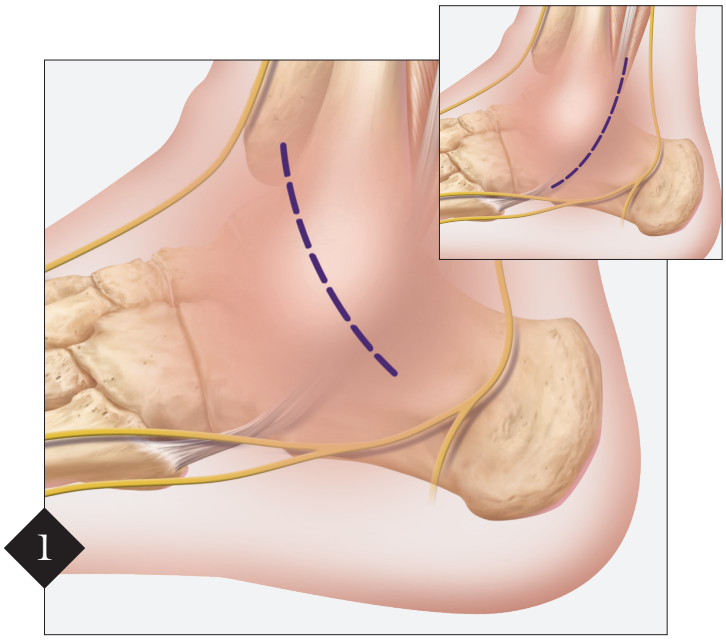
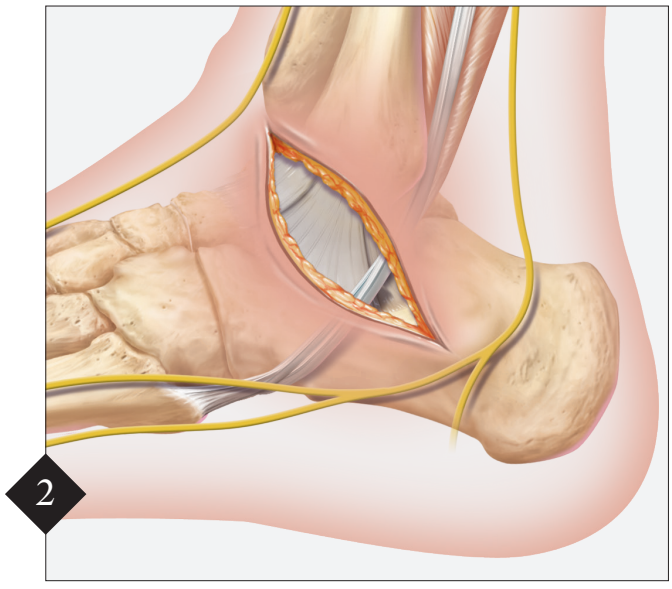
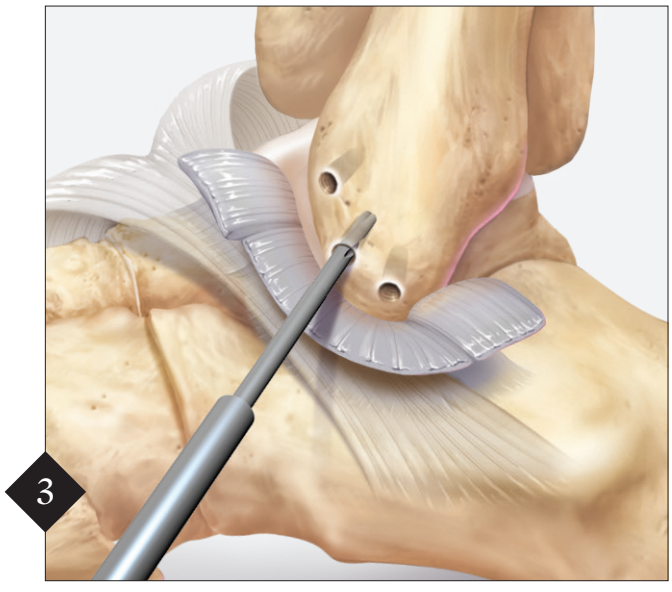
Modified Brostrom-Gould Technique for Lateral Ankle Ligament Reconstruction



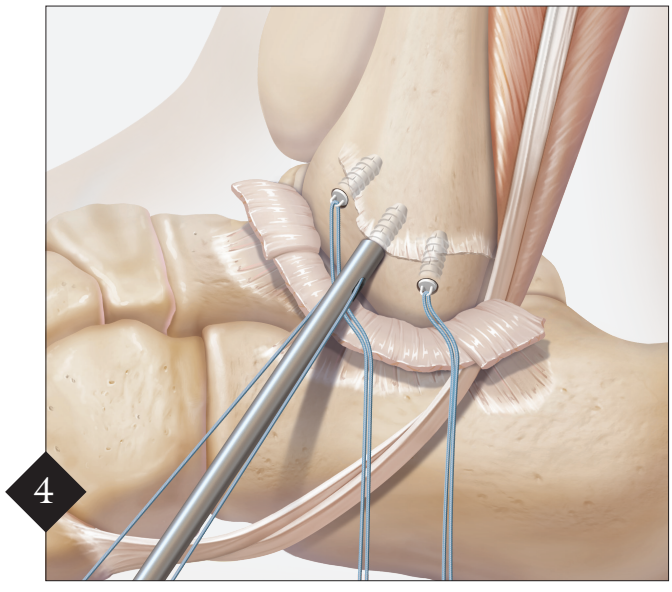
The patient is placed in a supine position with a hip bump to internally rotate the leg. *(Consider lateral decubitus position for very large or obese patients.)* An incision is made over the distal fibula parallel and 3 mm – 5 mm proximal to the distal edge. The branches of the superficial peroneal nerve and sural nerve are protected with retractors. Alternatively, the skin incision can be made over the peroneal tendons, especially in cases where a concomitant tendon debridement or repair is required or a portion of the peroneus brevis is harvested to augment the repair.



The superficial peroneal retinaculum is dissected from the underlying capsule and ligaments. The capsule and lateral ligaments (anterior talofibular ligament (ATFL) and calcaneofibular ligament (CFL)) are detached from the fibula by sharp dissection. Care is taken to leave a cuff of capsule and ligaments by making the incision a few millimeters proximal to the fibular edge. Any osteophytes or loose bone fragments are removed. The distal fibular edge is roughened with a rongeur to improve soft-tissue adherence. The visible portion of the peroneal tendons is inspected for tears.



The bone is prepared for anchor insertion. Three anchors are normally used. The bone is predrilled with a 1.8 mm drill bit from the 2.4 mm mini biocomposite SutureTak® disposable kit (AR-1322DSC). A 2 mm drill bit can be used for harder bone. The bone closest to the posterior fibular edge, near the CFL insertion, is usually softer and requires the 1.8 mm drill bit to avoid the anchor pulling out.



Insert the 2.4 mm mini biocomposite SutureTak anchor into the holes. A 3.0 mm biocomposite SutureTak anchor (AR-8934BCNF) may be substituted for softer bone. The anchors are fully seated when inserted to the laser line on the driver shaft. Slide the window open on the driver handle to release the FiberWire® sutures and needles.

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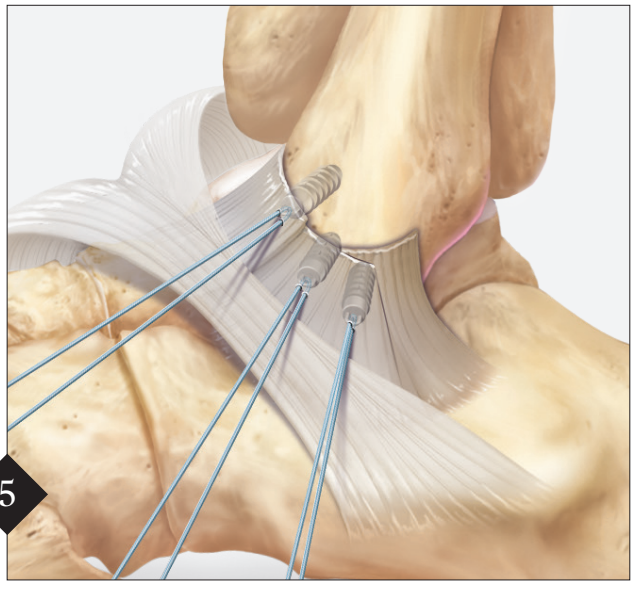
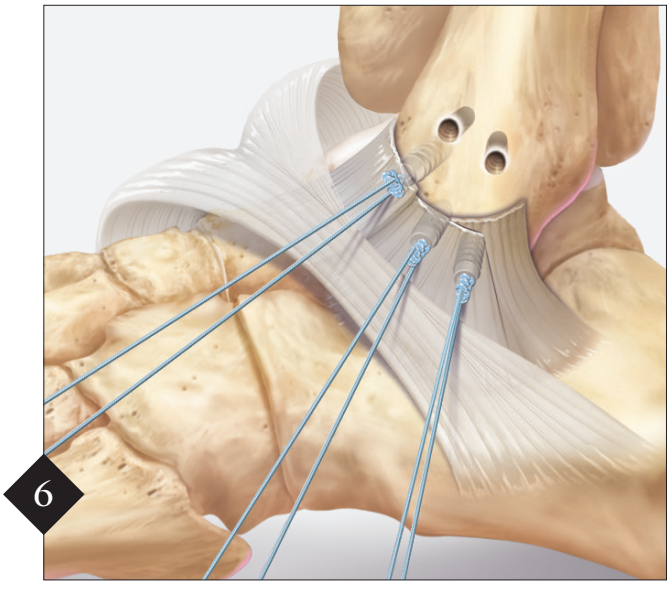
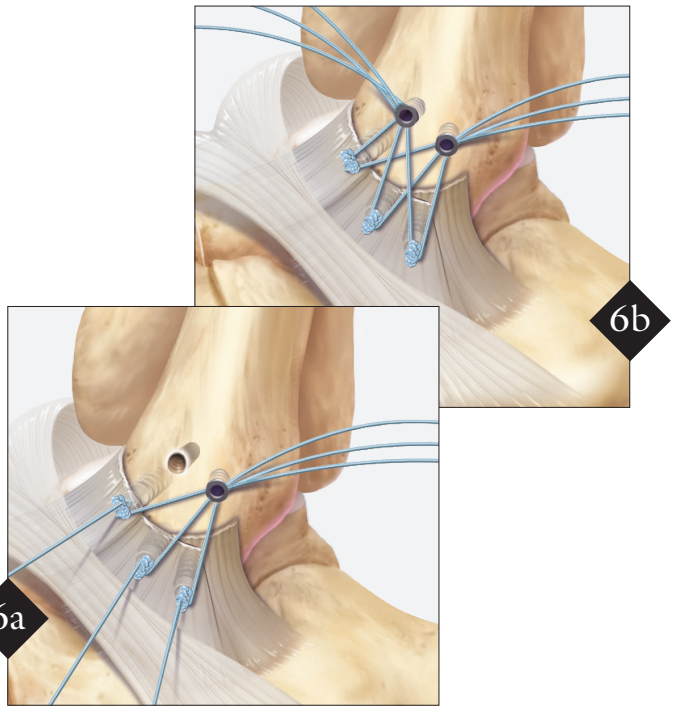


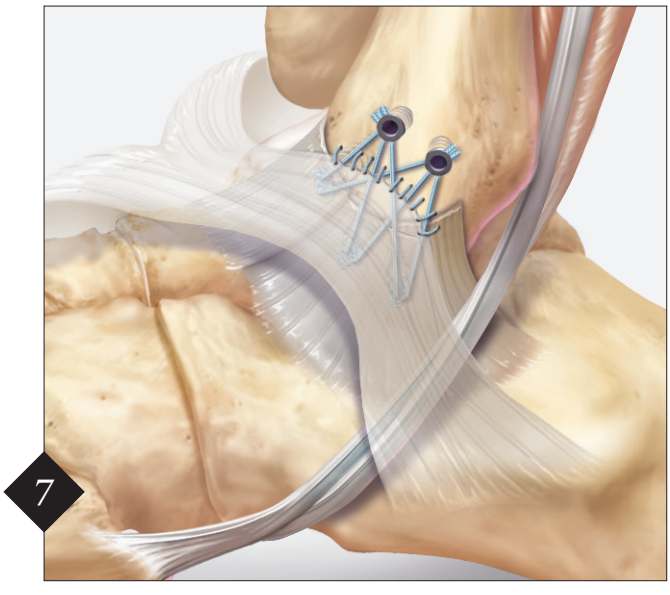
Pass the FiberWire® suture with needles through the ATFL, CFL, and the capsule and advance onto the distal fibula. Tie the sutures. If the ligaments/capsule appear to be excessively thin or stretched out, consider making several passes through the tissue with 1 suture strand prior to tying the knot. Do not cut off the preloaded needles at this time – keeping them will facilitate pulling the sutures through the eyelet of the 2.5 mm Bio-PushLock™ anchor. In cases of severe tissue attenuation, consider the *Internal*Brace™ ligament augmentation procedure or adding a tendon graft (allograft or a strip of peroneus brevis).

See Technique Variations 1 and 2.



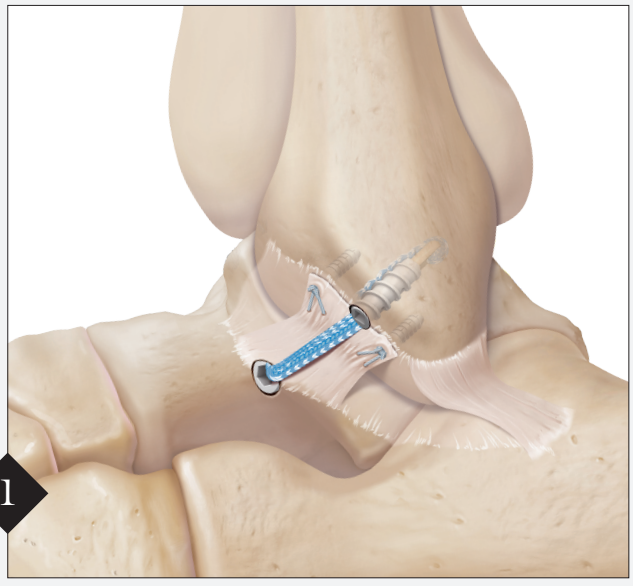
The fibular shaft is drilled approximately 2 cm proximal to the distal fibula edge using a 2 mm drill bit. The 2 drill holes should be placed 1 cm apart, parallel to the distal anterior edge of the fibula. One (1) suture from each of the anchors is threaded into the eyelet of the 2.5 mm PEEK PushLock® anchor or the 2.9 mm biocomposite PushLock anchor. The sutures are tensioned and the anchor is inserted to the laser line. While tension is maintained on the sutures, drive the anchor into the fibula with a mallet. Remove the handle by turning the construct counterclockwise until it releases from the eyelet tip.



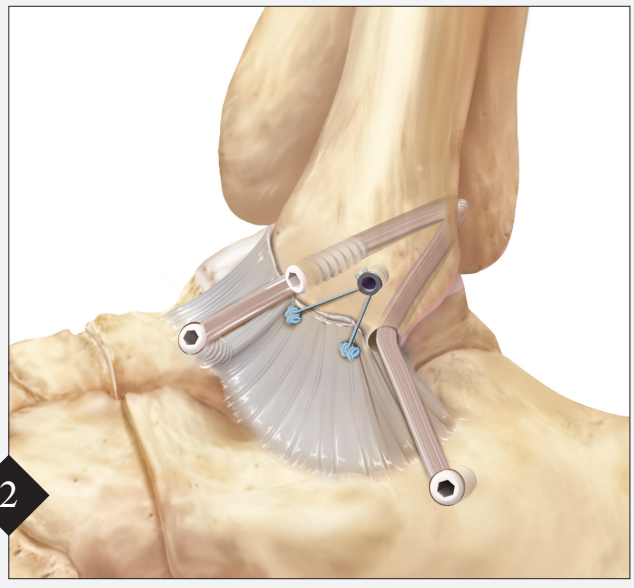


The excess sutures are trimmed off at the level of the cortex. The peroneal retinaculum is advanced over the ligaments and capsule and is sutured to the capsule and periosteum with absorbable sutures.

In cases where patients' ligaments are deemed to be too damaged to hold up in a repair, consider enhancing with the *Internal*Brace™ ligament augmentation procedure or with an allograft tendon such as a semitendinosus or gracilis.



Option 1 – *Internal*Brace Ligament Augmentation Procedure: Two (2) 3.0 mm biocomposite SutureTak® anchors are used in conjunction with the *Internal*Brace ligament augmentation procedure. The *Internal*Brace kit includes one (1) 4.75 mm SwiveLock® anchor to be placed in the talus and one (1) 3.5 mm SwiveLock anchor to be placed in the fibula. To achieve a bridging construct in the fibula, the sutures from the 3.0 mm biocomposite SutureTak anchors can be inserted with the FiberTape® suture into the 3.5 mm SwiveLock anchor.

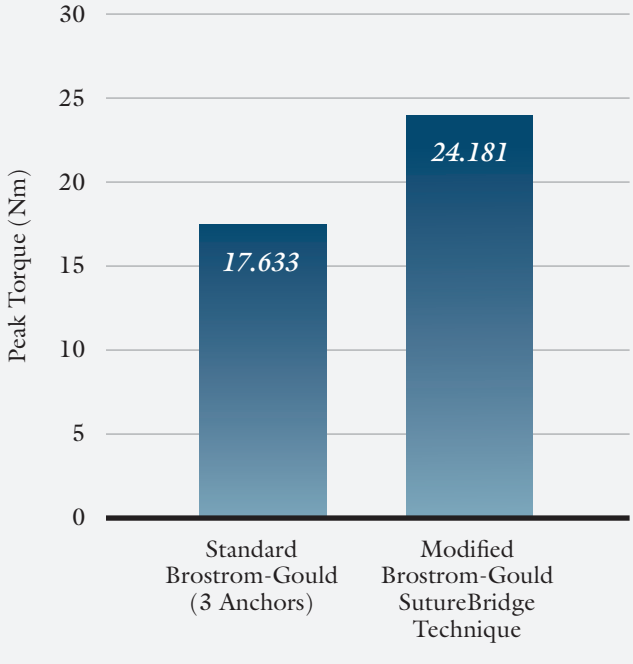


Option 2 – Brostrom-Gould and Tendon-Enhanced Modification: Two (2) 2.4 mm Bio-SutureTak® anchors are used in conjunction with 1 PushLock® anchor to tighten the redundant capsule and ligaments and add additional strength to the construct. The tendon graft is secured to the talus, then passed through the fibula. The SutureBridge™ repair is performed, followed by securing the tendon graft in the fibula and calcaneus with the tenodesis screw system.

Post-op Protocol

- Postoperatively, patients may be treated with a short leg non-weightbearing splint or a bivalved cast, changed to a walking cast after 1 – 2 weeks at the time of suture removal.
- Weightbearing in a cast is allowed for 2 – 3 weeks, followed by a lace-up brace, or optionally, a walking boot.
- Patients should be protected with crutches for 2 – 3 weeks after surgery.
- Supervised physical therapy is begun after cast removal.
- The lace-up brace use is encouraged for 2 months after the cast is removed. Patients may resume all normal activities by 3 – 4 months postoperatively, but should be advised that full recovery may take up to 1 year.

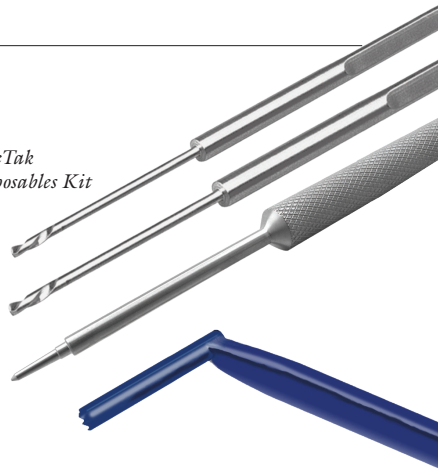
Peak Torque (Nm) Comparison (Traditional vs SutureBridge Technique*)



**Data on File*

The *Internal*Brace surgical technique is intended only to augment the primary repair/reconstruction by expanding the area of tissue approximation during the healing period and is not intended as a replacement for the native ligament. The *Internal*Brace technique is for use during soft tissue-to-bone fixation procedures and is not cleared for bone-to-bone fixation.

Ordering Information



Mini SutureTak Anchor Disposables Kit

To complete the Brostrom-Gould SutureBridge™ Surgical Technique, please refer to the list below for product options:

ANCHOR OPTIONS:

Mini Biocomposite SutureTak® Anchor w/needles, 2.4 mm x 8.5 mm	AR-1322BCNF
Mini Bio-Pushlock™ Anchor, 2.5 mm x 8 mm	AR-8825B
Mini PEEK PushLock® Anchor, 2.5 mm x 8 mm	AR-8825P
Small Joint Biocomposite SutureTak Anchor w/one #1 FiberWire® suture, 3 mm x 14 mm	AR-8934BCNF
Small Joint Biocomposite SutureTak Anchor w/two #0 FiberWire suture, 3 mm x 14 mm	AR-8934BCNF-00
Biocomposite PushLock Anchor, 2.9 mm x 12.5 mm	AR-8923BC
DX SwiveLock® Anchor, PEEK, 3.5 mm x 13.5 mm	AR-8979P

DISPOSABLE KITS:

Mini SutureTak Disposables Kit (AR-1322DSC) includes:

Drill Bit, 1.8 mm (soft bone)
Drill Bit, 2.0 mm (hard bone)
Punch
Drill Guide

Small Joint SutureTak Disposables Kit (AR-8934DSC) includes:

Drill Guide
Step Drill Bit

2.9-mm Biocomposite PushLock Disposables Kit (AR-8923DSC) includes:

Drill Guide
Drill Bit, 2.8 mm (soft bone)
Drill Bit, 2.9 mm (hard bone)

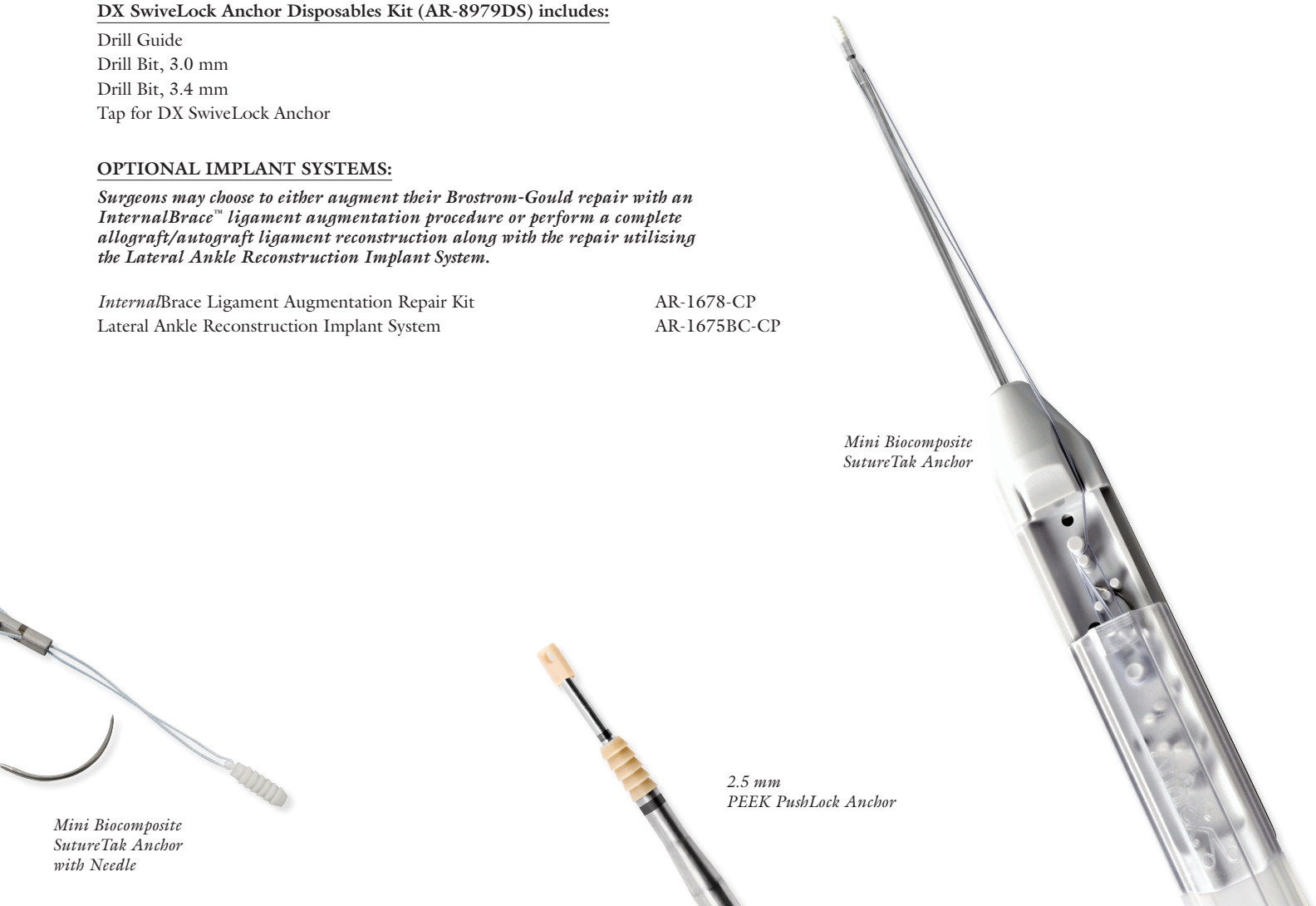
DX SwiveLock Anchor Disposables Kit (AR-8979DS) includes:

Drill Guide
Drill Bit, 3.0 mm
Drill Bit, 3.4 mm
Tap for DX SwiveLock Anchor

OPTIONAL IMPLANT SYSTEMS:

Surgeons may choose to either augment their Brostrom-Gould repair with an InternalBrace™ ligament augmentation procedure or perform a complete allograft/autograft ligament reconstruction along with the repair utilizing the Lateral Ankle Reconstruction Implant System.

*Internal*Brace Ligament Augmentation Repair Kit	AR-1678-CP
Lateral Ankle Reconstruction Implant System	AR-1675BC-CP



Mini Biocomposite SutureTak Anchor

Mini Biocomposite SutureTak Anchor with Needle

2.5 mm PEEK PushLock Anchor

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.

Developed in conjunction with Eugene Curry, MD, Dallas, TX

View U.S. Patent information at www.arthrex.com/corporate/virtual-patent-marking