Modified Brostrom-Gould Technique
for Lateral Ankle Ligament Reconstruction

Surgical Technique
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 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.

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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.
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 InternalBrace™ ligament augmentation 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.
**Technique Variations**

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

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**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.

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**Peak Torque (Nm) Comparison**

(Traditional vs SutureBridge Technique)

<table>
<thead>
<tr>
<th>Peak Torque (Nm)</th>
<th>Standard Brostrom-Gould (3 Anchors)</th>
<th>Modified Brostrom-Gould SutureBridge Technique</th>
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<tr>
<td></td>
<td>17.633</td>
<td>24.181</td>
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*Data on File*
Ordering Information

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 FiberWire® suture, 3 mm x 14 mm AR-8934BCNF
- Small Joint Biocomposite SutureTak Anchor w/two FiberWire suture, 3 mm x 14 mm AR-8934BCNF-00
- Biocomposite PushLock Anchor, 2.9 mm x 12.5 mm AR-8928BC
- 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 or perform a complete allograft/autograft ligament reconstruction along with the repair utilizing the Lateral Ankle Reconstruction Implant System.

- InternalBrace Ligament Augmentation Repair Kit AR-1678-CP
- Lateral Ankle Reconstruction Implant System AR-1675BC-CP
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


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