

CMC APL Suspensionplasty With *Internal/Brace*[™] Ligament Augmentation

Surgical Technique



Arthrex[®] 

Introduction

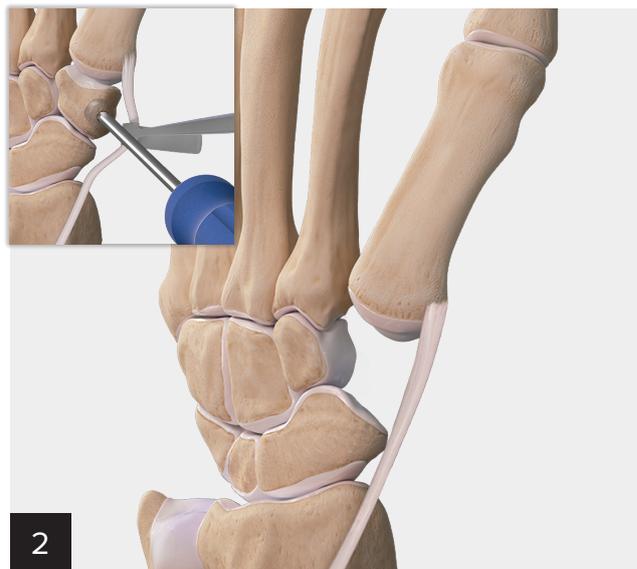
Thumb CMC arthritis treated with an APL suspensionplasty in conjunction with *InternalBrace*™ ligament augmentation procedure supports and maintains the thumb and index metacarpals in the proper relationship, while allowing for capsular healing and hematoma and scar tissue formation in the trapezial space. The APL graft is combined with the *InternalBrace* procedure to provide additional points of soft-tissue approximation during the healing phase. The technique is completed through one incision. If a hematoma distraction arthroplasty is performed, the SwiveLock® anchors can be used with LabralTape® suture only for a nonbiologic suspensionplasty.



The *InternalBrace* 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 *InternalBrace* technique is for use during soft tissue-to-bone fixation procedures and is not cleared for bone-to-bone fixation.



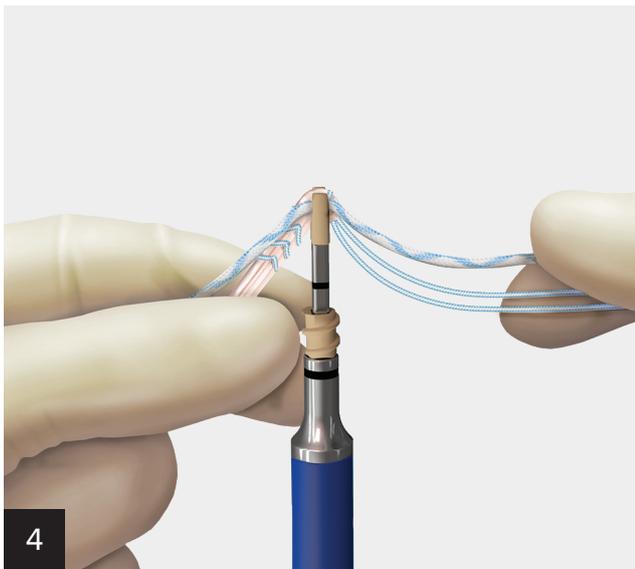
1 Make an incision approximately 3 cm to 4 cm over the dorsal aspect of the CMC joint between the EPL and EPB tendons. Protect the radial artery and radial sensory nerve branches.



2 Subperiosteally dissect around the trapezium sharply while protecting the radial artery and maintaining the capsule for later closure. Remove the trapezium in its entirety. Use the trapeziectomy removal tool or a McGlamry elevator to help facilitate removal. Inspect the space for any remaining loose bone fragments and check the scaphotrapezoid joint. Resect if necessary and continue dissection until the radial corner of the 1st metacarpal and the base of the 2nd metacarpal are visible.



3 Harvest a 2 mm wide by 4 cm long slip of APL tendon. Use 2-0 FiberLoop® suture to whipstitch 1 cm of both ends of the APL tendon, and confirm proper width with the tendon sizer. **Note:** Harvesting a graft wider than 2 mm to 2.5 mm is not advised and can compromise proper fixation in the blind tunnel.



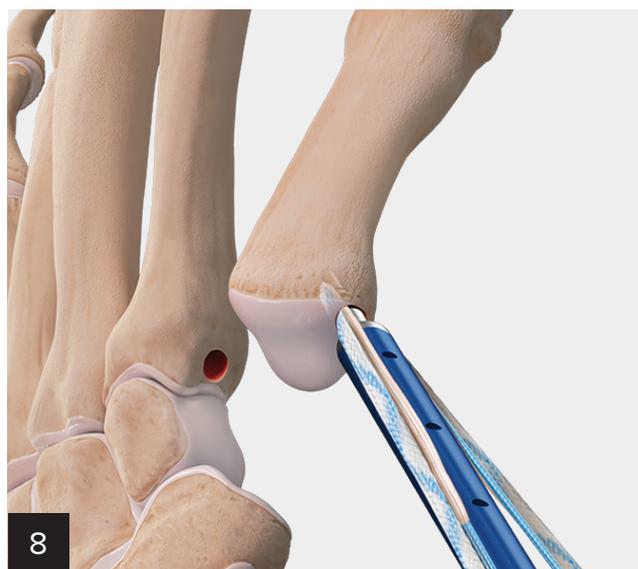
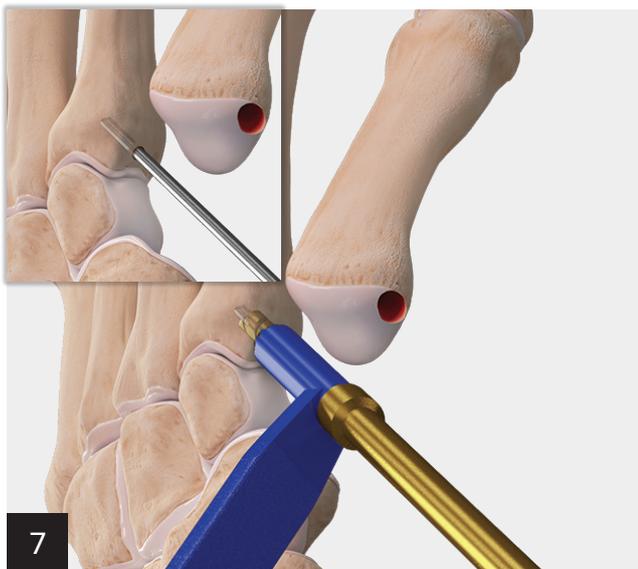
Place the last 3 mm of the APL tendon graft onto the forked eyelet of the 3.5 DX SwiveLock® SL anchor. Secure both ends of the FiberLoop® suture onto the square tab of the SwiveLock anchor. Place a 1.3 mm SutureTape over the graft on the forked eyelet and secure both limbs of SutureTape onto the square tab of the SwiveLock anchor.



Drill a 1.35 mm (0.054 in) guidewire into the radial corner of the 1st metacarpal, midline between the volar and dorsal edges. Aim the guidewire approximately 45° away from the joint surface. Proper guidewire depth is achieved when the black laser line is flush to the bone.



Overdrill the guidewire with the gold, 3.5 mm cannulated drill coupled with the drill guide. The drill guide has a depth stop at 1 cm. Irrigate to remove any bony debris.

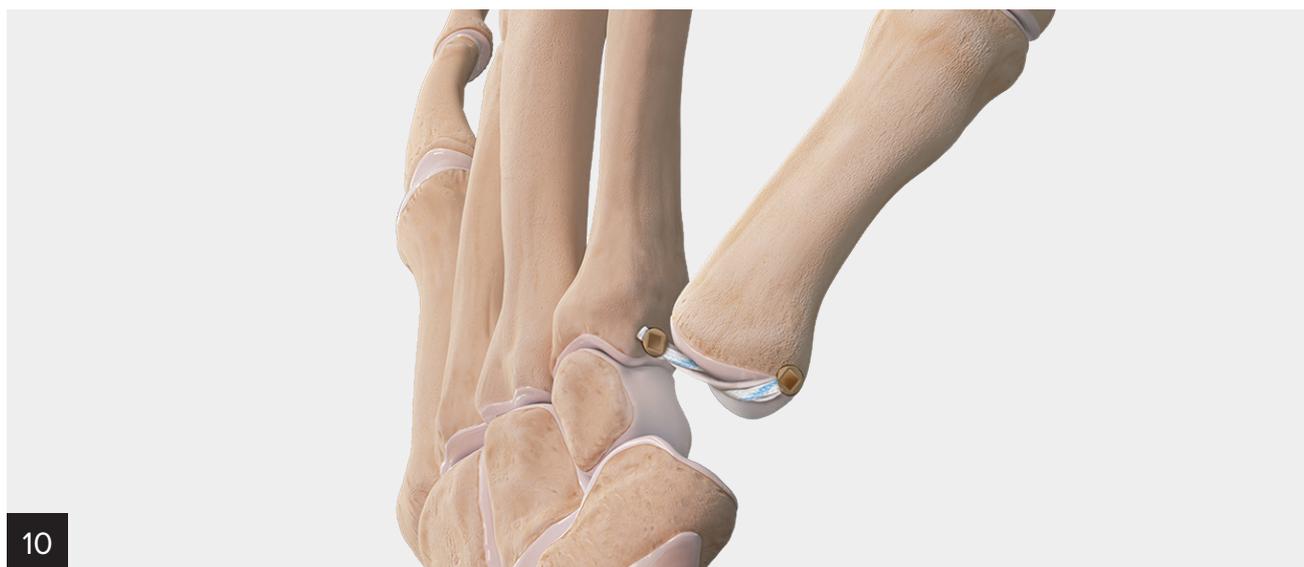


Identify the 2nd CMC joint with a Freer elevator. Insert the guidewire into the base of the 2nd metacarpal approximately 5 mm from the joint, leaving enough room for a bone bridge once overdrilled. The guidewire should be midway between the dorsal and volar cortex of the metacarpal and aimed parallel or just slightly away from the joint. Use the gold, cannulated drill as in the previous step. Irrigate and remove any bony debris.

Applying slow but firm pressure, insert the 3.5 DX SwiveLock® SL anchor into the 1st metacarpal until the anchor body is against the bone. Hold the square tab steady and turn the pear-shaped knob until the laser line on the driver is flush to the bone.



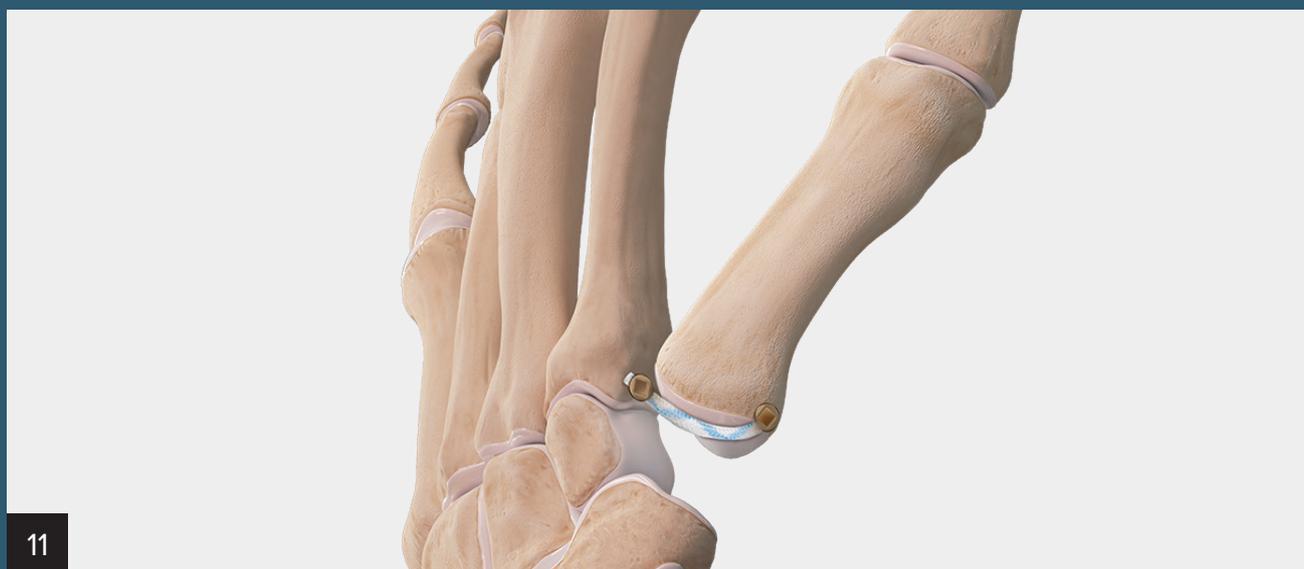
Have an assistant hold the 1st metacarpal fully adducted against the 2nd metacarpal with just enough traction to visualize the drill hole in the 2nd metacarpal. This ensures optimal length and full range of motion. Twirl the APL graft and 1 limb of SutureTape together and place into the fork of a second SwiveLock anchor near the drill hole. Apply slow, firm pressure to the SwiveLock anchor until the anchor body is seated against the bone and then advance the anchor until fixated. There is no need to hold onto the remaining sutures or SutureTape for tensioning purposes as this method will self-tension itself.



Cut off any remaining SutureTape/FiberLoop® suture. Perform a secure capsular closure and address any pathology to the MCP joint if needed.

Postoperatively, place the patient into a plaster splint. At the first postoperative visit, remove and replace the plaster splint with a hand-based thermoplastic splint that can be removed for bathing. Active ROM is started at this time and activity is allowed as tolerated in the splint. Discontinue using the splint at around 6 weeks. Postoperative protocol is patient- and surgeon-dependent.

Alternate Technique



Following the tenets of hematoma distraction arthroplasty, this modified technique can be performed with suture only. Use the smaller silver cannulated drill for both drill holes. **Note: the gold drill is for graft, and the silver drill is for suture!** LabralTape™ or SutureTape suture can be used, according to bone quality and surgeon preference. After inserting the suture into the 1st metacarpal, capture the suture in the forked eyelet and advance into the 2nd metacarpal.

Ordering Information

Hand and Wrist *InternalBrace*™ Ligament Augmentation Repair Convenience Kit

Product Description	Item Number
Hand and Wrist <i>InternalBrace</i> Ligament Augmentation Repair Convenience Kit	AR-8978-CP
DX SwiveLock® SL Anchor, 3.5 mm x 8.5 mm, with forked eyelet, qty. 2 Drill Bit, cannulated, 3.0 mm (for all-suture constructs) Drill Bit, cannulated, 3.5 mm (for constructs with graft incorporation) Guidewires, 1.35 mm with laser marking, qty. 3 Tendon Sizer, 2.0 mm/2.5 mm 2-0 FiberLoop® suture SutureTape	

Optional Instrumentation

Product Description	Item Number
McGlamry Elevator	AR-8930M
Trapeziectomy Tool	AR-8919-01S

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 Arthrex 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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