

All-Dorsal Scapholunate Reconstruction With *Internal/Brace*[™] Ligament Augmentation

Surgical Technique



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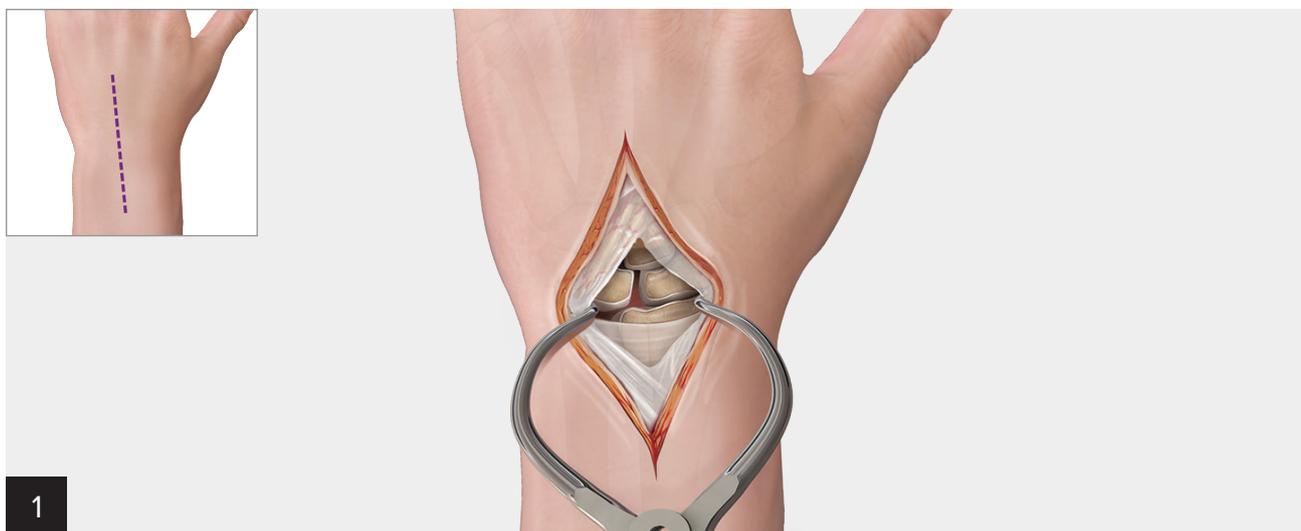
The all-dorsal scapholunate reconstruction technique with the *Internal/Brace* ligament augmentation procedure and the 3.5 mm DX SwiveLock[®] SL anchor is recommended for dynamic and static scapholunate instability where the carpus remains reducible and arthrosis is not present. The goal of the reconstruction is to repair the torn dorsal portion of the scapholunate ligament and to address scaphoid flexion and lunate extension.

The SwiveLock SL technique should not be considered when the following conditions are present: inflammatory arthritis, previous and/or current infection, carpal arthrosis (SLAC wrist), irreducible carpus, pediatric patients, preexisting hardware in the carpal bones, large cystic changes in the carpal bones, and patients with unusually small anatomy.

Introduction

The treatment of scapholunate ligament tears remains difficult and controversial. The pathology represents a spectrum of injury that ranges from a sprain of the ligament to a partial tear to the volar, central, or, more commonly, the dorsal component of the scapholunate ligament. Progression leads to complete tears of all three components, disruption of secondary stabilizers, and subsequent DISI deformity. Ultimately, arthritic changes ensue. Direct repair of this ligament is often unreliable.

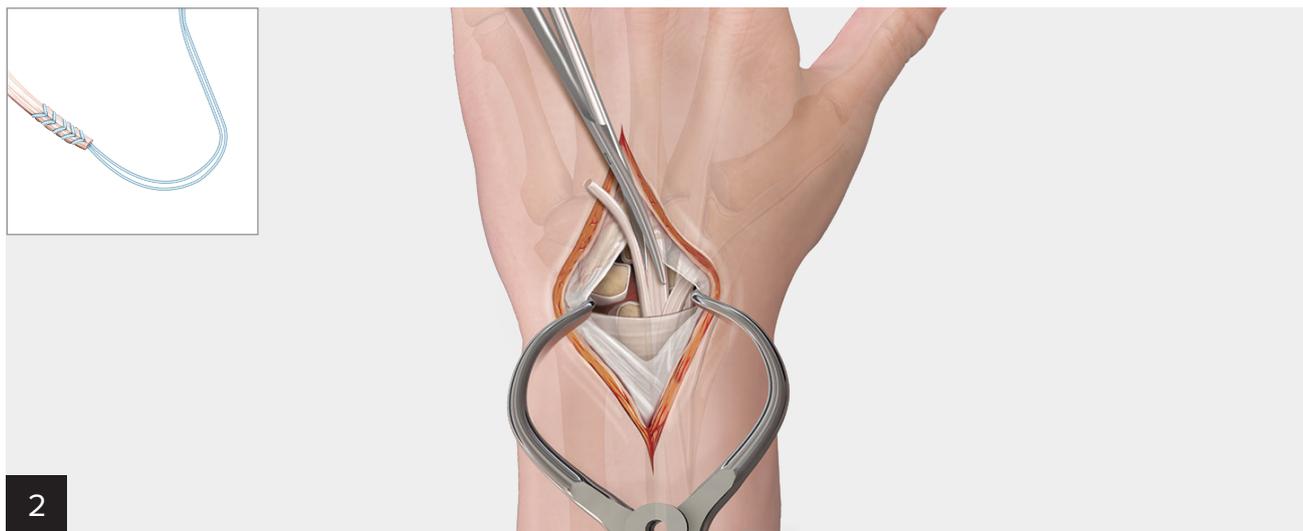
Reconstruction with the 3.5 mm SwiveLock SL technique is achieved by using a strong anchor construct that incorporates a combination of a biologic tendon graft reconstruction into bony tunnels with static suture *Internal/Brace* ligament augmentation repair reinforcement. Together, this construct supports the connection of and between the bones so that graft incorporation can take place. This reconstruction is best suited for dorsal tears of the interosseous scapholunate ligament.



Make a 4-inch longitudinal incision starting between the bases of the 2nd and 3rd metacarpals and extending proximally between the 3rd and 4th compartments. Posterior and/or anterior interosseous neurectomy is optional.

Expose the scapholunate interval via a dorsal approach with an inverted T capsulotomy. The transverse portion of the capsulotomy is taken down directly off the distal radius. Incise enough capsule to adequately visualize the entire dorsal surface of the lunate and scaphoid bones.

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.



Harvest a 2 mm to 3 mm slip of the extensor carpi radialis brevis (ECRB) tendon at its insertion on the base of the 3rd metacarpal. Alternatively, a slip of extensor carpi radialis longus (ECRL) can be used. Using a larger graft will complicate insertion into both the eyelet of the anchor and the drill hole.

A tendon stripper is often useful for retrieving the required 10 cm or longer graft, and can be used in an intratendinous fashion. Whipstitch the end of the graft with 2-0 FiberLoop® suture. This secures the tendon and acts as static reinforcement for the repair. It is important to stretch out the tendon to avoid tendon creep during the healing process.



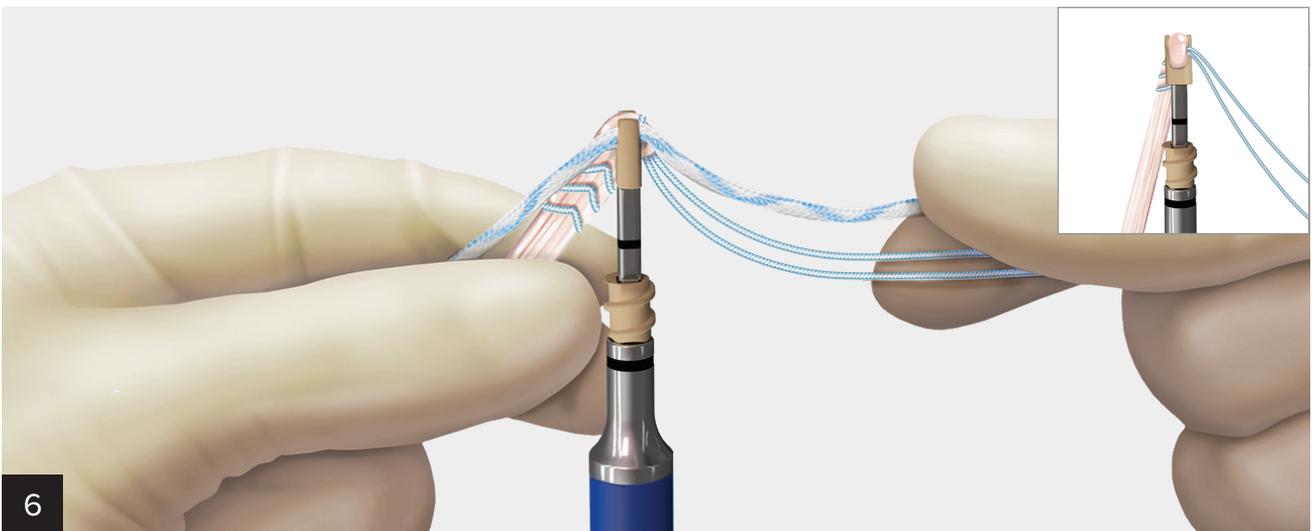
Place a K-wire into the waist of the scaphoid and another into the ulnar side of the lunate to act as joysticks. Bring the bones out of DISI and restore the anatomic position of the scapholunate space. A third K-wire can be placed across the scaphocapitate joint at this point or once the reconstruction is complete. This will remain in place for 6 weeks to allow for healing.



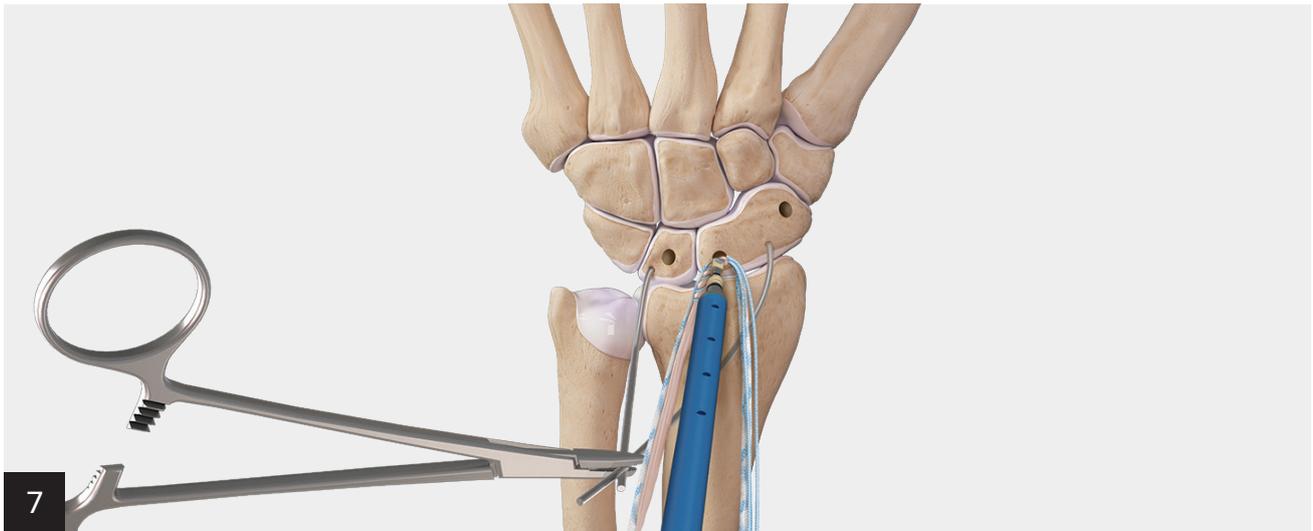
Place three 0.054-inch K-wires into the proximal pole of the scaphoid, central on the lunate, and into the distal pole of the scaphoid. Check the placement of the guidewires under fluoroscopy prior to overdrilling.



Drill the proximal pole of the scaphoid, the central portion of the lunate, and the distal pole of the scaphoid with the gold, cannulated drill bit. Placement of these holes is crucial, especially in the proximal pole of the scaphoid, as breaking out of the cortex will lead to an unsecured graft. Clear any surrounding soft tissue and inside the drill holes to facilitate insertion of the graft.

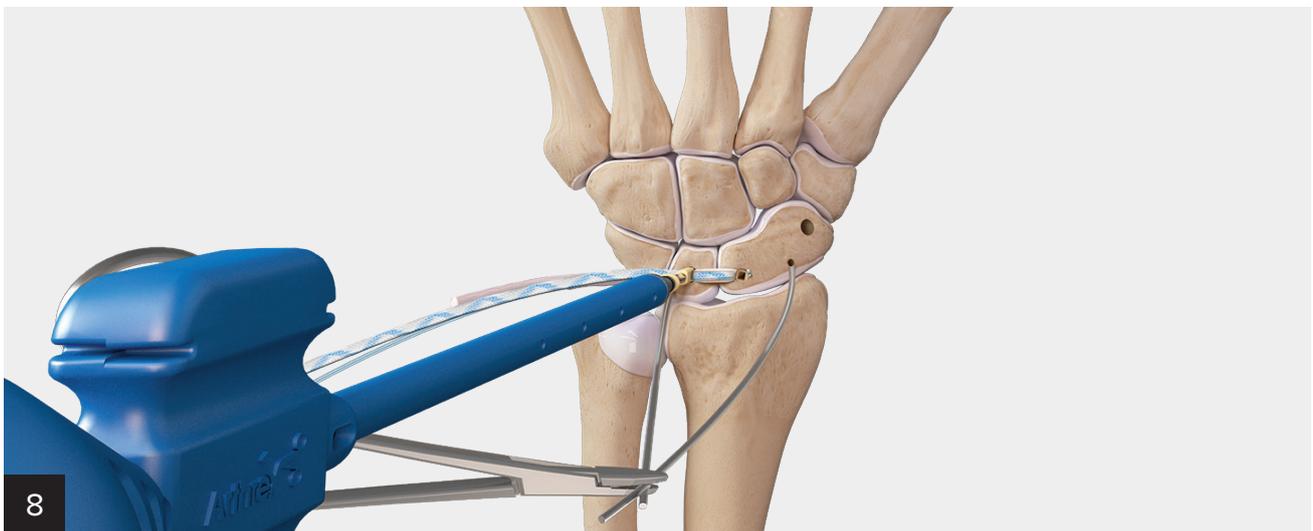


Place the forked eyelet of the SwiveLock® SL anchor onto the tendon graft about 3 mm from the end of the graft and secure both limbs of the FiberLoop® suture into the notch on the SwiveLock anchor tab. Place SutureTape over the graft and secure it.



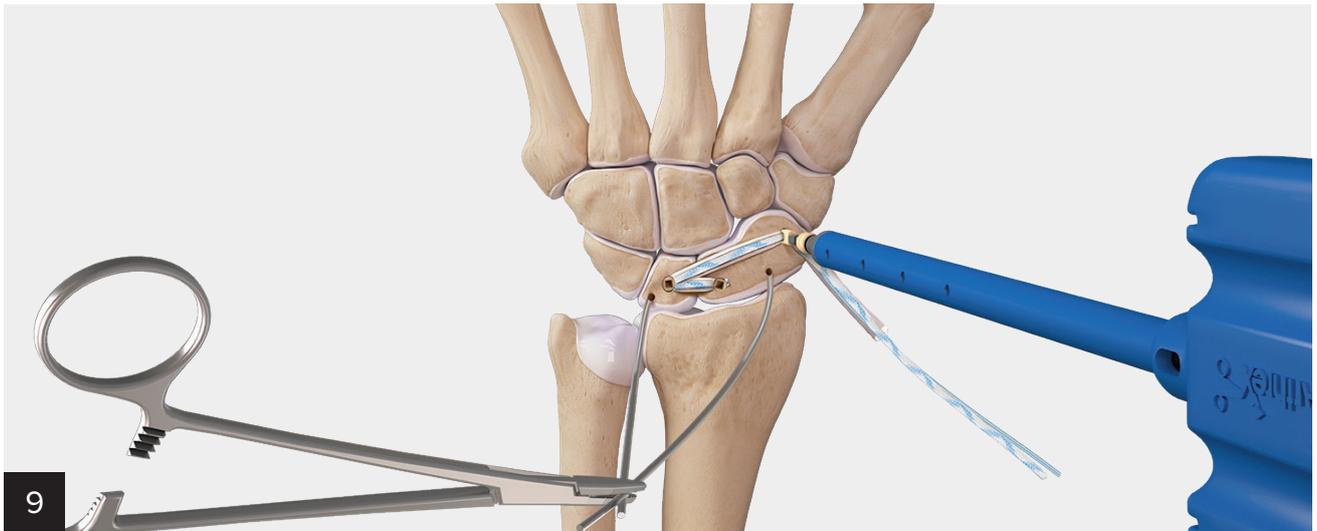
Insert the SwiveLock® SL anchor into the proximal pole of the scaphoid until the leading end of the threaded anchor body is flush to the bone. Apply minimal tension on the graft in the direction of the lunate to keep the graft from spinning while screwing in the SwiveLock anchor.

Hold the square tab steady while turning the knob clockwise until the laser line is just below the level of the bone. Remove the handle. If it does not disengage easily, turning the square tab counterclockwise will facilitate removal.



Use the second SwiveLock SL anchor to capture the tendon graft and one limb of SutureTape near the lunate drill hole. Twisting the graft and SutureTape together can facilitate placement of the graft/SutureTape into the forked eyelet. Insert into the lunate. Typically, resistance is met when placing the anchor into the lunate as the tendon graft slides around the forked eyelet.

If so, apply slow and constant pressure downward to allow the SwiveLock SL anchor to insert and to auto-tension the construct. Again, do not screw in the SwiveLock anchor until the threaded anchor body is flush to the bone.



Follow the same procedure as in step 8 for the distal pole of the scaphoid. Cut off any excess tendon graft and SutureTape. If you have not previously placed a scaphocapitate K-wire, do so now, prior to removing the joystick K-wires. Close the capsule and dorsal incision.



Final construct.

Post-op: A forearm-based thumb spica splint is worn for 6 to 8 weeks. Any supplemental K-wires can be removed and hand therapy is started at this time. The splint is worn for an additional 6 weeks.

Ordering Information

Hand and Wrist *InternalBrace*™ Ligament Augmentation Repair System

Product Description	Item Number
DX SwiveLock SL Anchor, w/ forked eyelet, 3.5 mm × 8.5 mm, qty. 2 Drill Bit, cannulated, 3.0 mm (for all-suture constructs) Drill Bit, cannulated, 3.5 mm (for all constructs with graft incorporation) Guidewires w/ Laser Marking, 1.35 mm, qty. 3 Tendon Sizer, 2.0 mm and 2.5 mm 2-0 FiberLoop® Suture With Tapered Needle, qty. 2 SutureTape	AR-8978-CP

Single-Packed DX SwiveLock® SL Anchor

Product Description	Item Number
DX SwiveLock SL Anchor, w/ forked eyelet, 3.5 mm × 8.5 mm, qty. 2	AR-8978P



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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