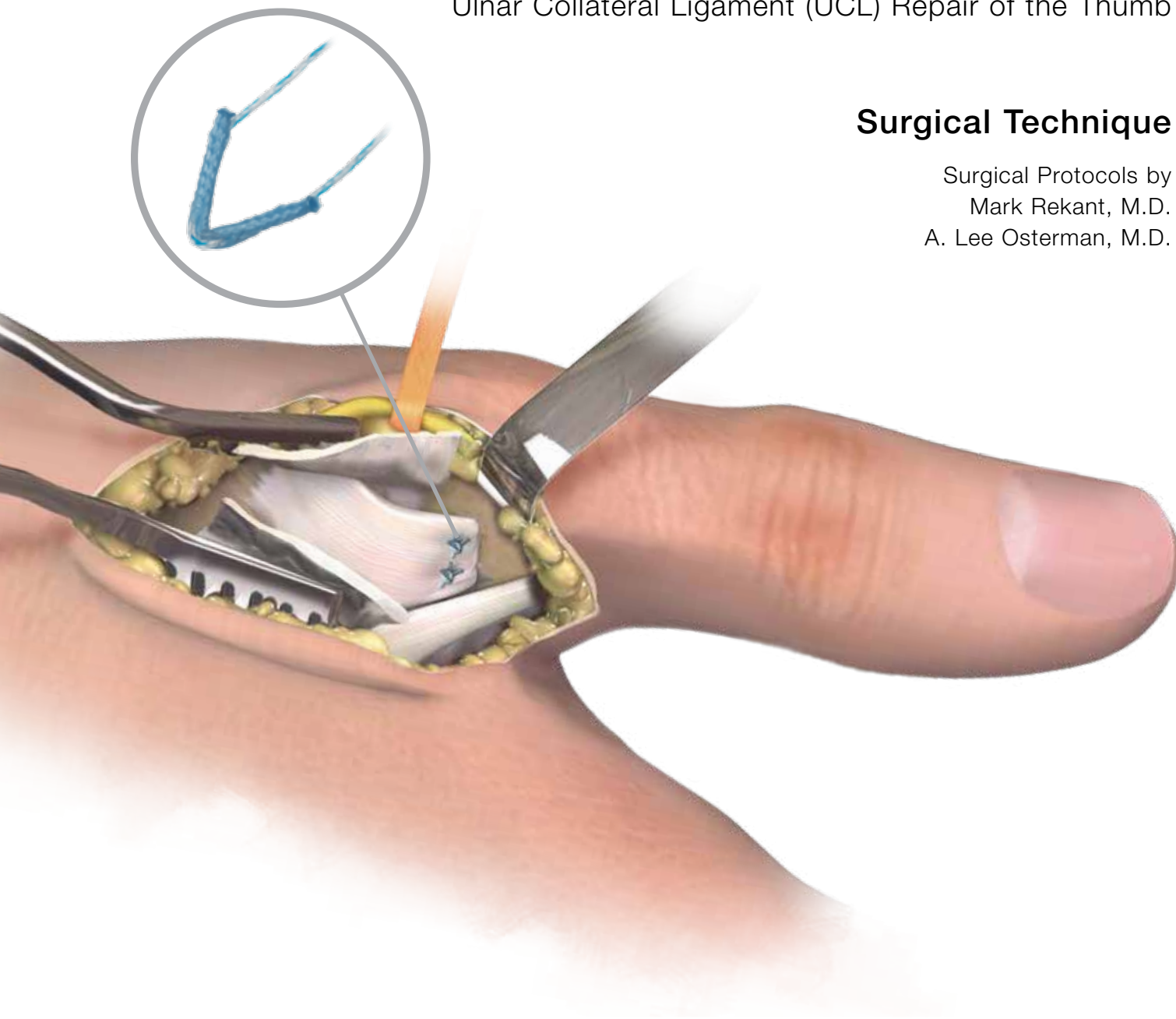


JuggerKnot Soft Anchor–1.0 mm Mini

Ulnar Collateral Ligament (UCL) Repair of the Thumb

Surgical Technique

Surgical Protocols by
Mark Rekant, M.D.
A. Lee Osterman, M.D.



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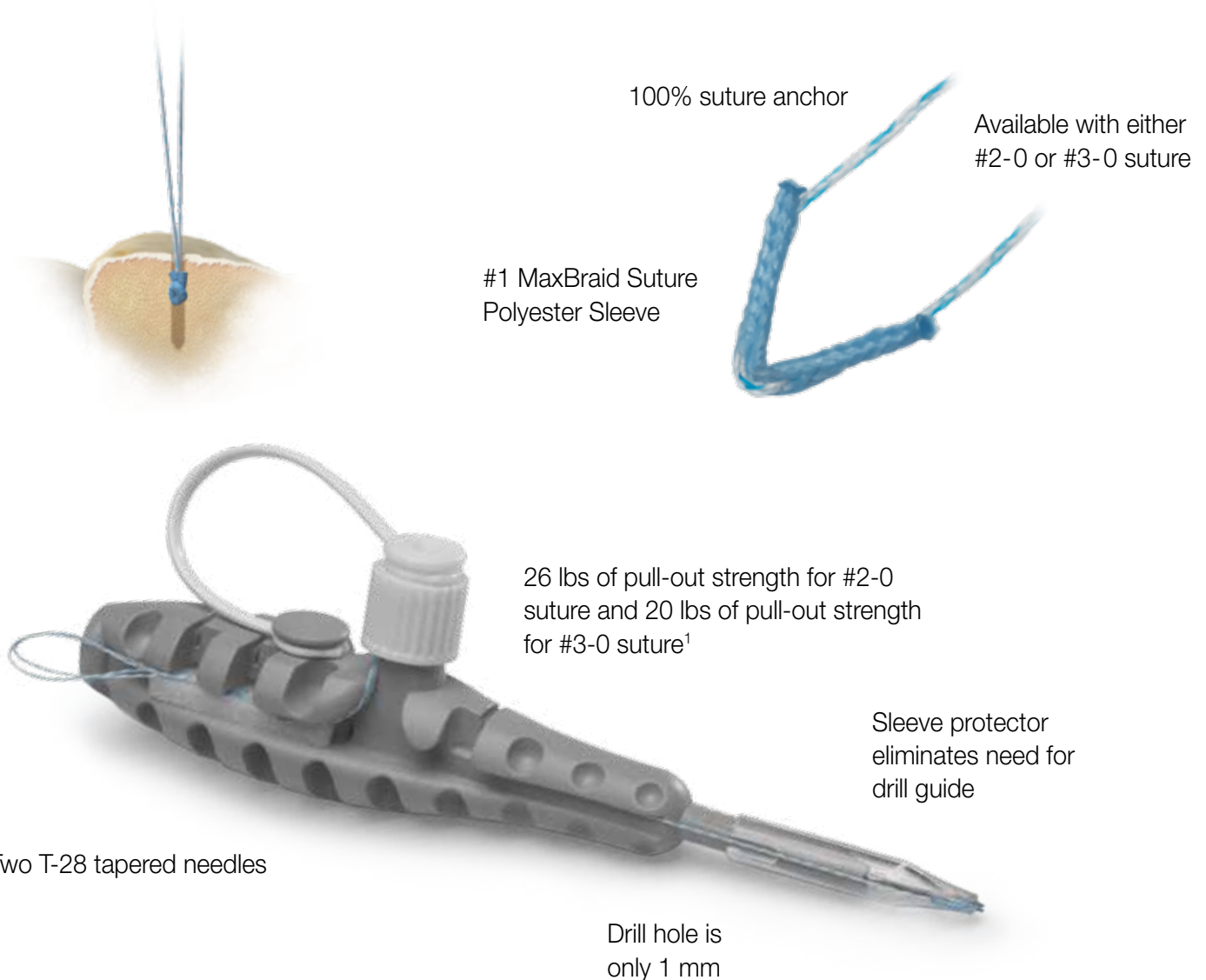
JuggerKnot

SOFT ANCHOR

The **JuggerKnot Soft Anchor—1.0 mm Mini** represents the next generation of suture anchor technology. The 1.0 mm deployable anchor is completely suture-based and the first of its kind. With over 75,000 anchors sold, the award-winning JuggerKnot Soft Anchor is now designed specifically for hand and wrist procedures. The new configuration includes two T-28 tapered needles to aid in soft tissue reattachment.

The **JuggerKnot Soft Anchor—1.0 mm Mini** is indicated for:

- Repair/Reconstruction of collateral ligaments
- Scapholunate ligament reconstruction
- Ulnar or lateral collateral ligament reconstruction
- Flexor and extensor tendon at the PIP, DIP, and MCP joints for all digits.



1. Data on file at Biomet, Inc. Bench testing results are not indicative of clinical performance.

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Figure 1

Patient Prep

Injured extremity is prepped and draped in the usual sterile fashion.

Esmarch bandage is utilized for extremity exsanguination.
Inflate tourniquet to 250 mm Hg.

Incision

Centered over the Metacarpal/Phalangeal joint make a curvilinear “S” shaped incision extending approximately 3–4 centimeters (Figure 1).

This brochure demonstrates the surgical technique and post operative care protocol utilized by Mark Rekant, M.D. and A. Lee Osterman, M.D. Biomet as the manufacturer of this device does not practice medicine and does not recommend this device or technique. Each surgeon is responsible for determining the appropriate device and technique to utilize on each individual patient.

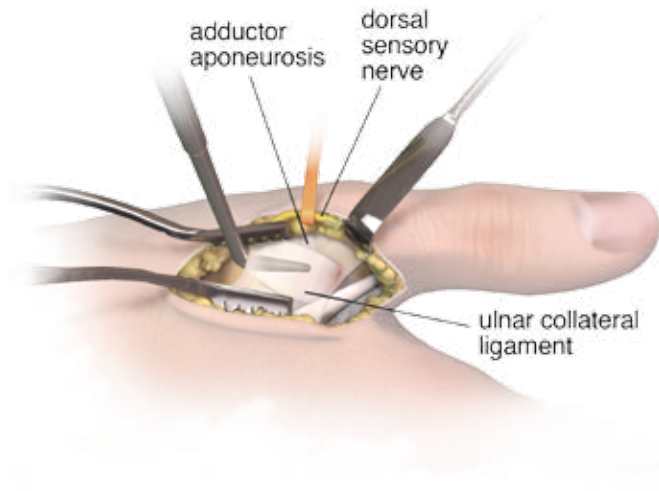


Figure 2

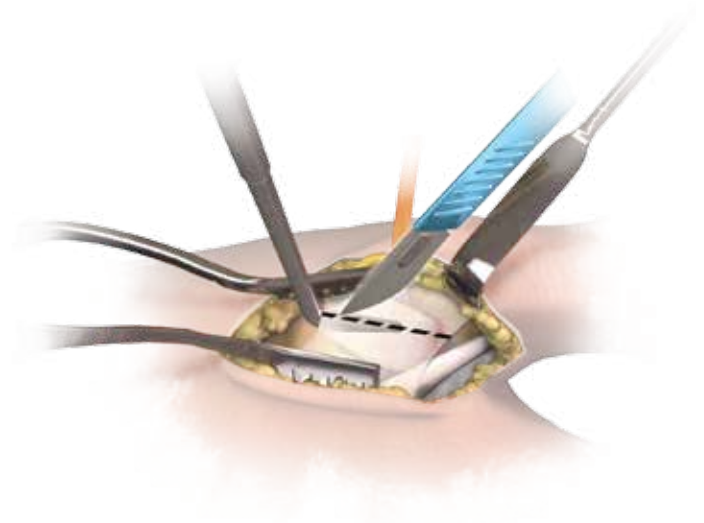


Figure 3

Elevate the thick skin flaps. Identify the dorsal ulnar sensory branch to thumb and mobilize and retract volarly or dorsally. Be sure to protect the nerve. Expose and identify the adductor aponeurosis (Figure 2).

Prepare the UCL for Reattachment

Incise the adductor aponeurosis leaving a 2–3 mm cuff of tissue dorsally (Figure 3). Care should be taken to preserve the dorsal capsule layer. Mobilize soft tissues to allow for retraction of the extensor tendon dorsally and the adductor aponeurosis volarly. This will allow exposure and full mobilization of the torn Ulnar Collateral Ligament (UCL). This ligament typically avulses distally from base of the proximal phalanx in a proximal direction. The UCL should now be fully prepared for reattachment.

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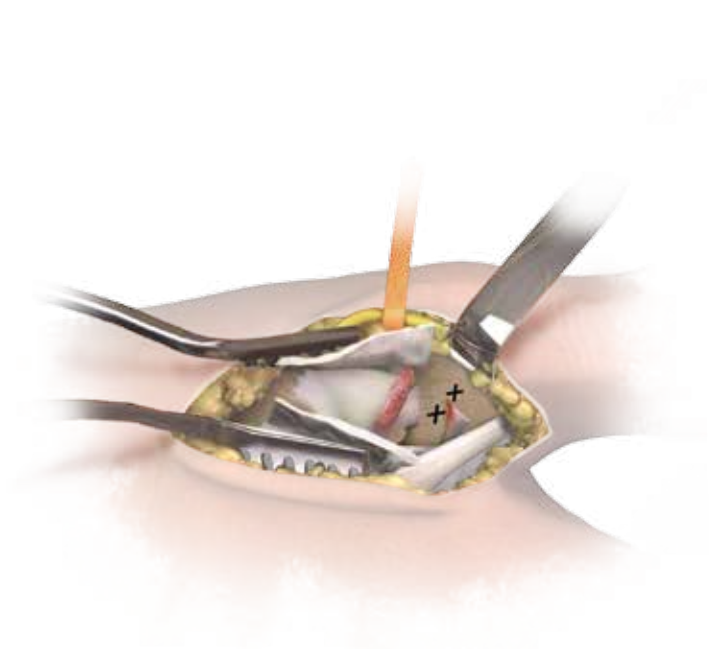


Figure 4

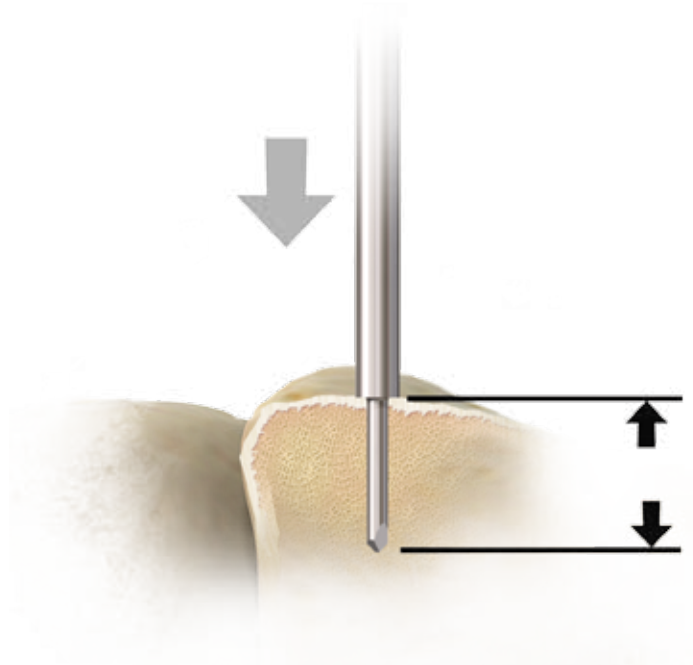
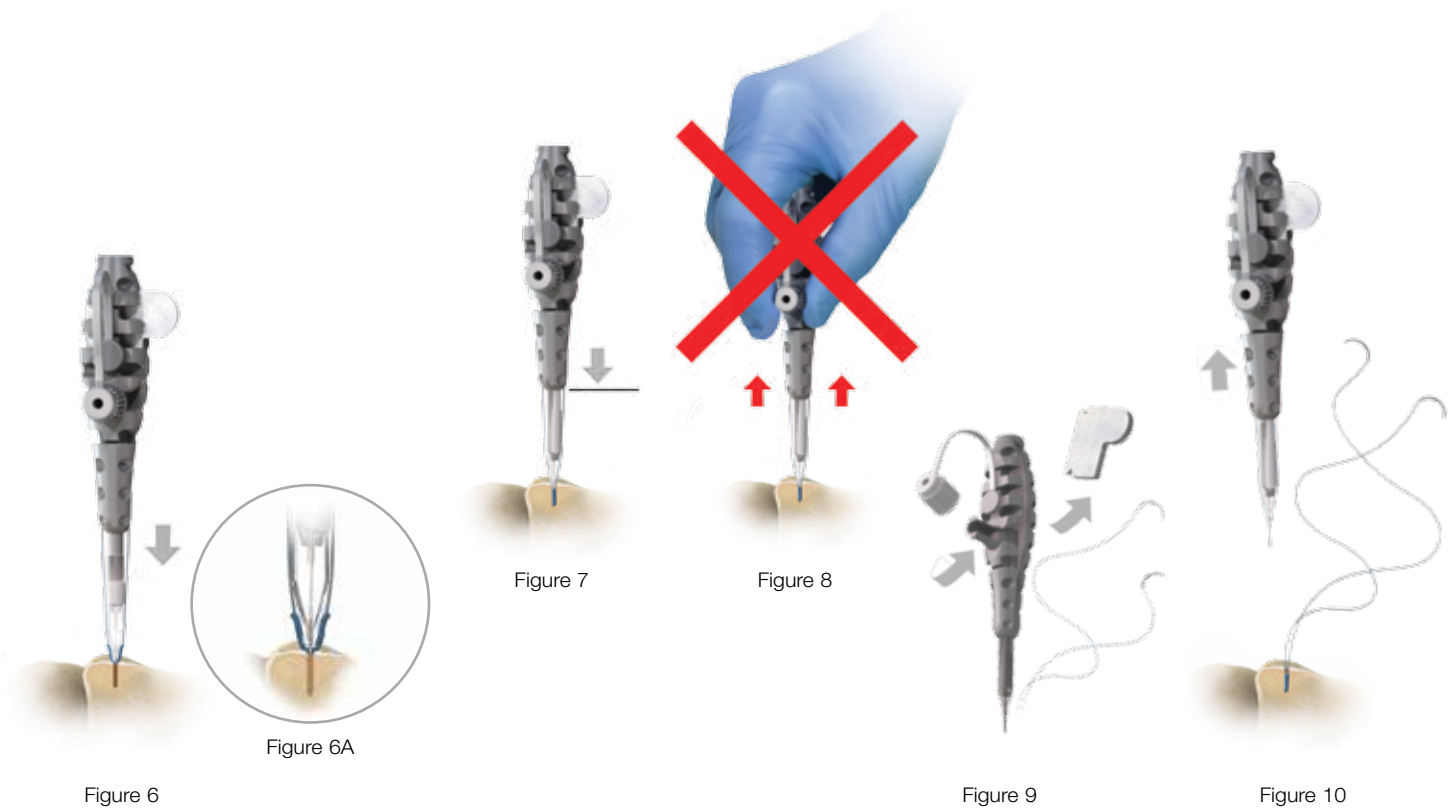


Figure 5

Anchor Placement

Determine placement of the first JuggerKnot anchor. The bone origin for reattachment should be at the base of the proximal phalanx (Figure 4). The isometric point should be roughed with bone rongeur to promote healing of the UCL to bone. A similar process can be performed for avulsions of the UCL from the metacarpal head using the ligament origin as the point of reference.

Open a sterile packed JuggerKnot implant and using the enclosed step drill, prepare the pilot hole by inserting the step drill to the stop or full depth (Figure 5). To reach full depth it is preferred to drill at an angle as perpendicular to the bone surface as possible. This is important for full deployment of the anchor.



Anchor Placement (Cont.)

Locate pilot hole with tip of JuggerKnot inserter (Figure 6A). The angle of insertion must be the same trajectory as the pilot hole. Failure to do this could prevent insertion and deployment of the anchor.

Apply gentle pressure to the JuggerKnot inserter to start advancement of anchor (Figure 6, 6A).

Advance the inserter until the clear JuggerKnot guide sleeve has retracted to the handle completely (Figure 7).

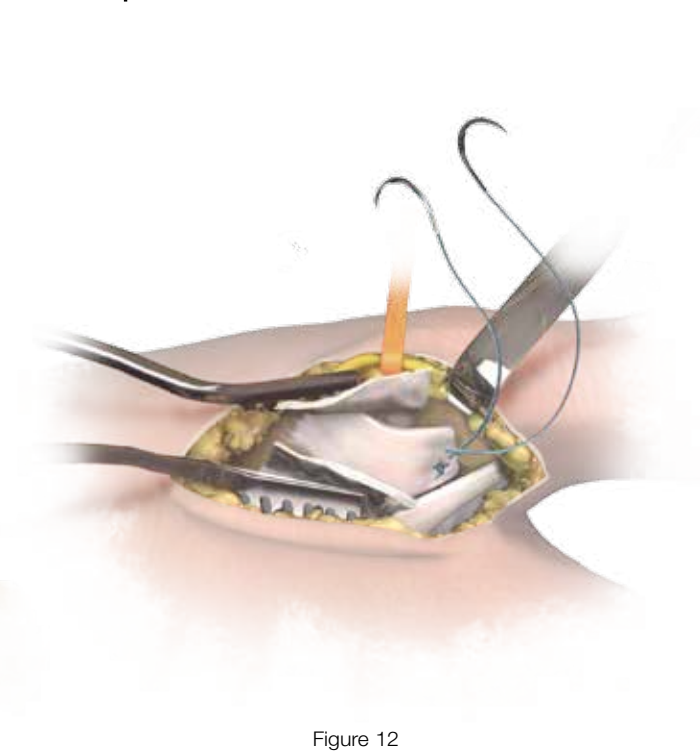
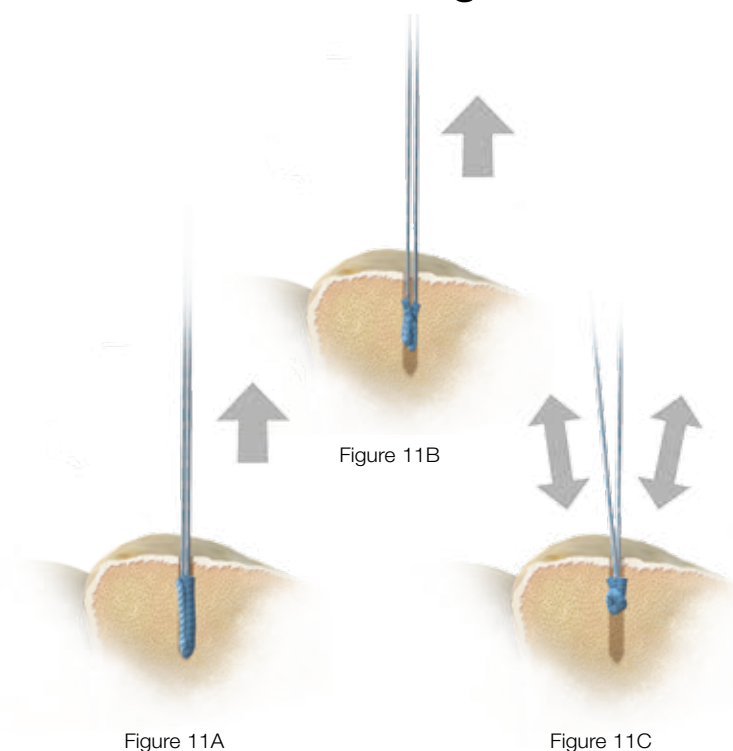
Note: At this point, **do not** pull up on the handle to set anchor (Figure 8).

Unscrew lure lock to release sutures and pull foam tab to release needles (Figure 9).

Remove JuggerKnot inserter by gently pulling straight up on the handle. This will separate the anchor from the inserter, leaving the anchor in the pilot hole (Figure 10).

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Anchor Placement (Cont.)

Set the anchor by lightly pulling back on both strands of suture (Figures 11A/11B). The 2-0 or 3-0 suture should move back and forth freely within the all-suture anchor (Figure 11C).

Reattach the UCL

Using the attached needles, re-attach the UCL utilizing a horizontal mattress stitch technique (Figure 12). This will allow for tensioning of the ulnar collateral ligament (UCL) to the cortical bone surface.

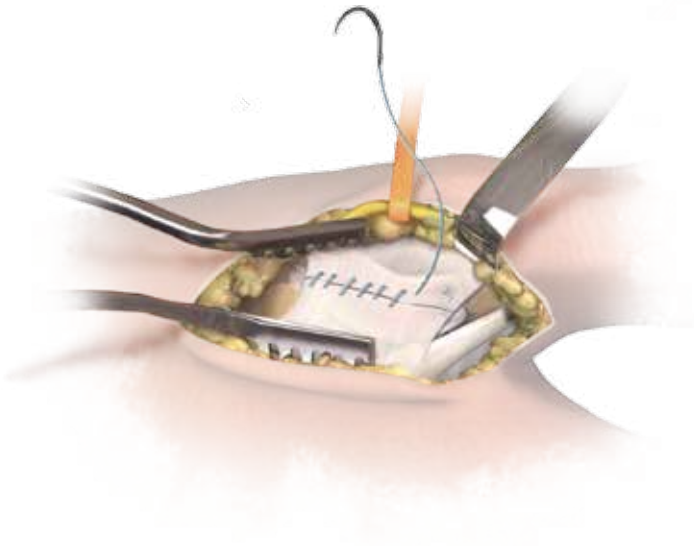


Figure 13



Figure 14

Closure

Repair the adductor aponeurosis with 4-0 resorbable suture (Figure 13).

Deflate the tourniquet and irrigate the wound. Hemostasis is assured with electrocautery bipolar.

Repair the skin incision (Figure 14) and apply a short arm splint.

Post Operative Care

For rehabilitation, immobilize the thumb MP joint for six weeks with a hand based removable thermoplastic splint or short arm thumb spica cast.

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Implants

JuggerKnot Soft Anchor–1.0 mm Mini with 2-0 Suture

Part Number	Description	Size
912076	JuggerKnot Soft Anchor–1.0 mm Mini 2-0 Needles with Drill-Single	2-0 Suture
912080	JuggerKnot Soft Anchor–1.0 mm Mini 2-0 with Needles 10pk	2-0 Suture

JuggerKnot Soft Anchor–1.0 mm Mini with 3-0 Suture

Part Number	Description	Size
912082	JuggerKnot Soft Anchor–1.0 mm Mini 3-0 Needles with Drill-Single	3-0 Suture
912084	JuggerKnot Soft Anchor–1.0 mm Mini 3-0 with Needles 10pk	3-0 Suture

Instruments

JuggerKnot Soft Anchor–1.0 mm Mini 2-0

Part Number	Description	Size
912077*	JuggerKnot Soft Anchor–1.0 mm Mini Step Drill (Sterile)	1.0 mm

*Provided as a backup since each JuggerKnot Soft Anchor–1.0 mm Mini is packaged with a sterile step drill.

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