

Hip Acetabular Labral Repair

with the JuggerKnot® Long Soft Anchor

Surgical Technique
by Dean Matsuda, M.D. and Jason Hurst, M.D.

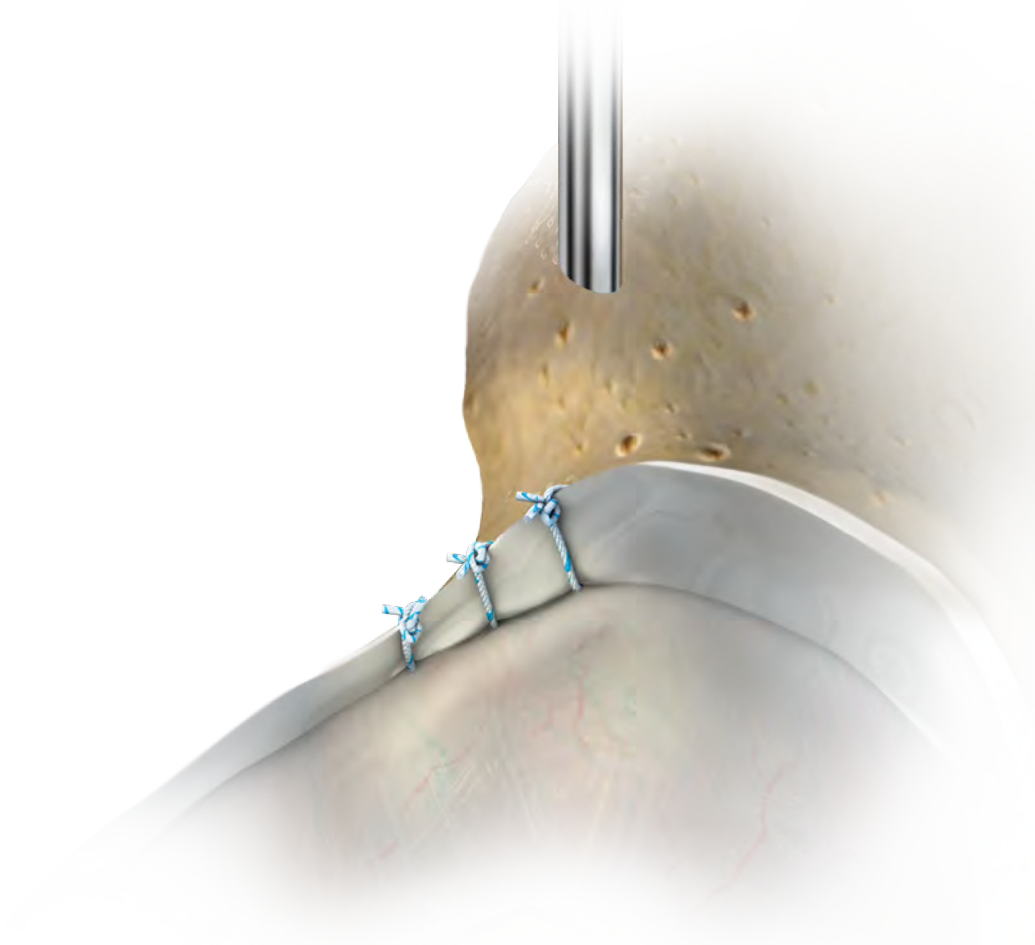
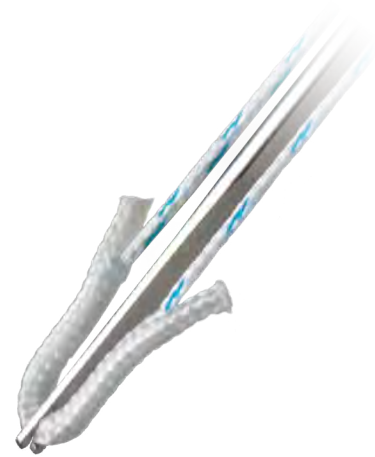


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JuggerKnot Long Soft Anchor

The JuggerKnot Long Soft Anchor represents the next generation of suture anchor technology. This deployable anchor is completely suture-based and the first of its kind. The award winning JuggerKnot Soft Anchor is designed for multiple indications including hip acetabular labral procedures. The new inserter configuration is 2.3 inches longer than the original 1.4 mm inserter to provide a sufficient amount of reach in all areas of the hip labrum.



- 100% suture anchor
- Available with either #1 white/blue or #2 blue MaxBraid™ Suture



- Rigid instrumentation
- Larger handle for increased stability

Surgical Technique

Introduction

The indications for hip arthroscopy are growing, but many, such as femoroacetabular impingement, involve a torn labrum. The integrity of the acetabular labrum is important for symptomatic relief and hip preservation. As such, resection of this vital structure is ill-advised.

Labral refixation is performed following acetabular rim trimming in cases of pincer femoroacetabular impingement with attachment of the labrum to a new site. In cases of severe labral insufficiency, labral reconstruction (typically with gracilis tendon or iliotibial band) may restore labral function.

Patient Preparation

Hip arthroscopy can be performed in either the supine or lateral position. In both positions, distraction of the femoral head is performed to visualize the articular surfaces. Ten millimeters of distraction is desired to avoid inadvertent damage to the femoral head chondral surface or labrum during initial entry needle or arthroscope instrument insertion.

This brochure is presented to demonstrate the surgical technique and postoperative protocol utilized by Dean Matsuda, MD and Jason Hurst, MD. Zimmer Biomet Sports Medicine, as the manufacturer of this device, does not practice medicine and does not recommend this or any other surgical technique for use on a specific patient.

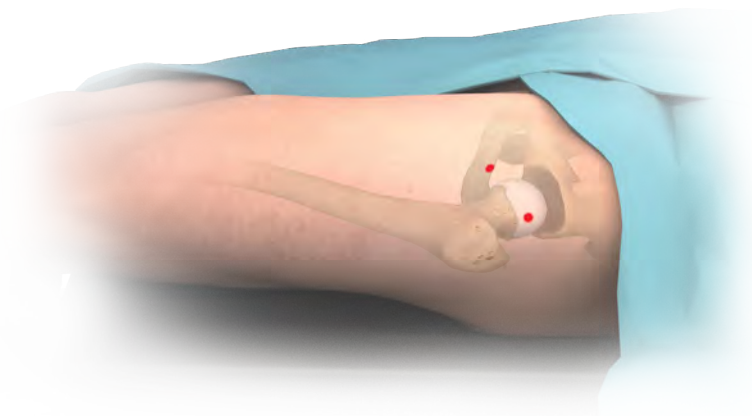


Figure 1

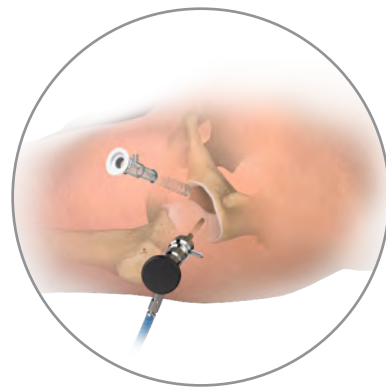


Figure 1a

Portal Placement

A two or three portal technique may be utilized for hip arthroscopy. A three portal technique often uses an anterolateral, anterior, and distal lateral accessory portal. The two-portal technique commonly uses the anterolateral and midanterior or modified midanterior portal. The key is the more distal portal which facilitates labral reparative or reconstructive procedures while encouraging a chondroprotective path for drilling (Figure 1 and 1a).

The anterolateral portal is typically established first under fluoroscopic guidance followed by subsequent portal(s) made with arthroscopic visualization typically with a 70 degree arthroscope. A capsulotomy facilitates instrument navigation.

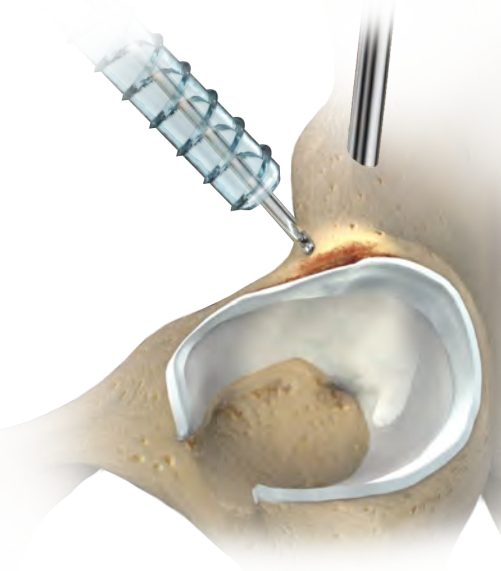


Figure 2

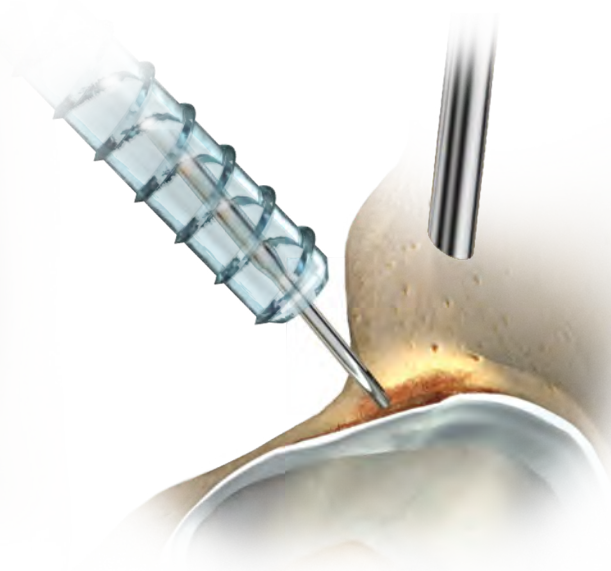


Figure 3

Labral Repair Preparation

Using a shaver, debride the torn labrum leaving as much healthy tissue as possible. Identify the labral tear and prepare the acetabular rim for placement of the suture anchor(s) typically by freshening the adjacent acetabular rim for a bleeding bed with an arthroscopic burr (Figure 2). Take care to minimize any rim resection in cases of borderline dysplasia.

Drill Guide and Hole Placement

Insert the JuggerKnot Long Guide through an arthroscopic working cannula (Figure 3).

A curved or a straight guide can be utilized based on acetabular geometry at the repair site. Choose the guide that best fits against the prepared acetabular rim. Drill the anchor site close to, but not in violation of, the acetabular articular cartilage with approximately 6-8 mm spacing between anchor sites.

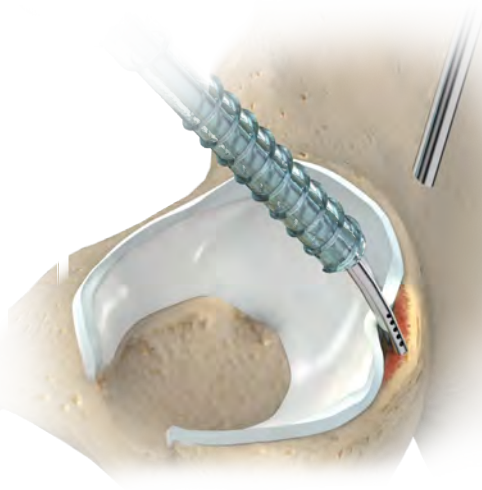


Figure 4

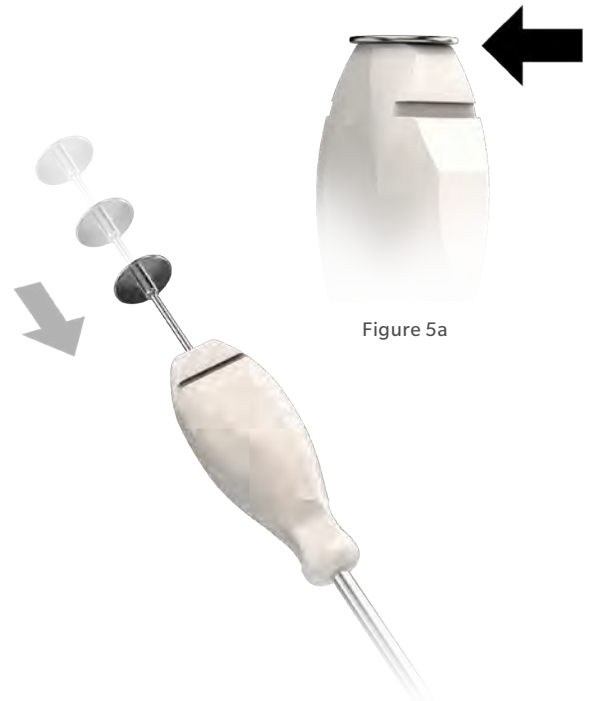


Figure 5a

Figure 5

Curved Guide with Optional Centering Sleeve

The curved guide is useful when extra divergence from the acetabular cartilage is required or to help avoid acetabular wall blowout in very posterior labral repairs. The curved guide with optional centering sleeve is recommended to improve the insertion trajectory of the implant into the drill hole.

Insert the curved guide into the cannula (Figure 4).

Once the appropriate guide placement is achieved on the labrum, insert the centering sleeve through the curved guide until it bottoms out on the top side of the guide (Figures 5 & 5a).

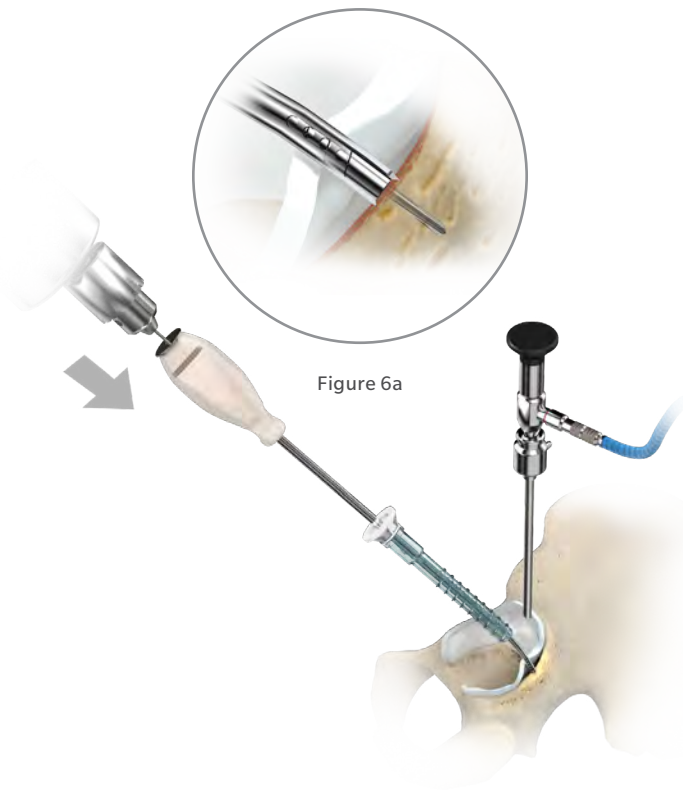


Figure 6a

Figure 6

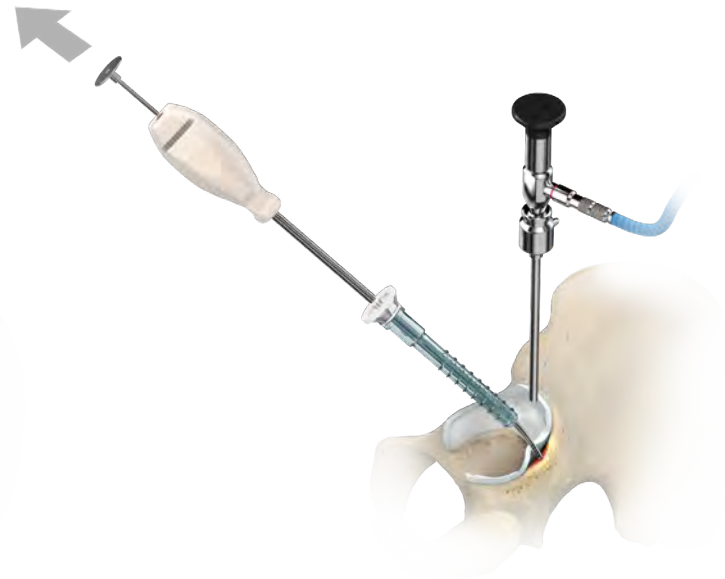


Figure 7

Curved Guide with Optional Centering Sleeve (cont.)

Next insert the drill bit through the centering sleeve and advance the drill until contact is made with the centering sleeve on the top side of the guide (Figure 6 & 6a).

Remove drill bit and centering sleeve from the curved guide (Figure 7).

ⓘ **Note:** The centering sleeve **MUST** be removed from the curved guide before inserting the anchor into the guide.



Figure 8

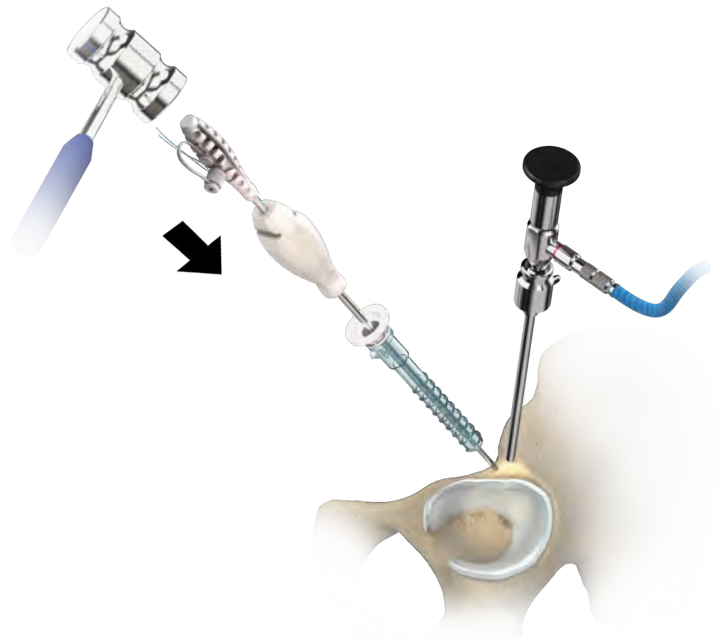


Figure 9

Curved Guide with Optional Centering Sleeve (cont.)

ⓘ **Note:** If the straight guide is preferred, follow the instructions and substitute the straight guide. The optional centering sleeve may be utilized with the straight guide if needed (Figure 8).

Insert the Anchor

Maintain precise guide position over the hole after the removal of the drill bit. While maintaining the guide position firmly against the bone, insert the JuggerKnot Long Soft Anchor through the guide and into the hole. It is helpful to push the anchor by hand partially into the drill hole before using a mallet to lightly seat the anchor into bone (Figure 9).

ⓘ **Note:** Do not mallet the guide directly.

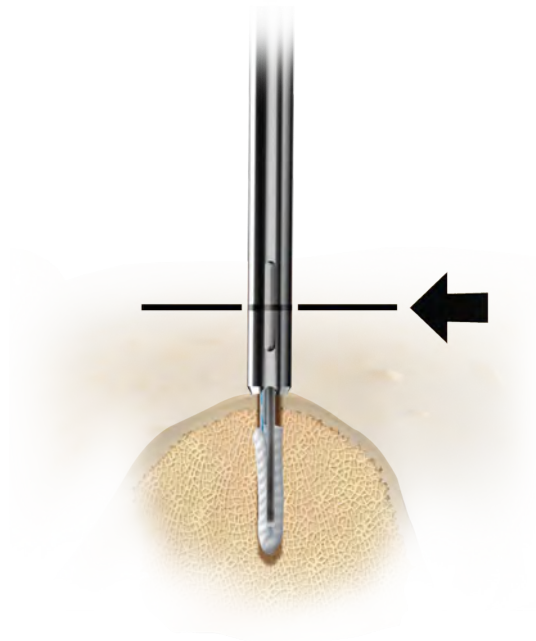


Figure 10

Insert the Anchor (cont.)

Align the laser etch marks to ensure anchor is inserted to the appropriate depth (Figure 10).



Figure 11

Deploy the Anchor

Once the anchor has been fully seated into acetabular rim, pull back on the inserter handle until the JuggerKnot Long anchor seats against bone (Figure 11). Next, release the suture from the handle by unscrewing the luer-lock cap. Pull the anchor inserter handle directly out of the guide. Next remove the guide. Verify that the sutures slide freely within the anchor.

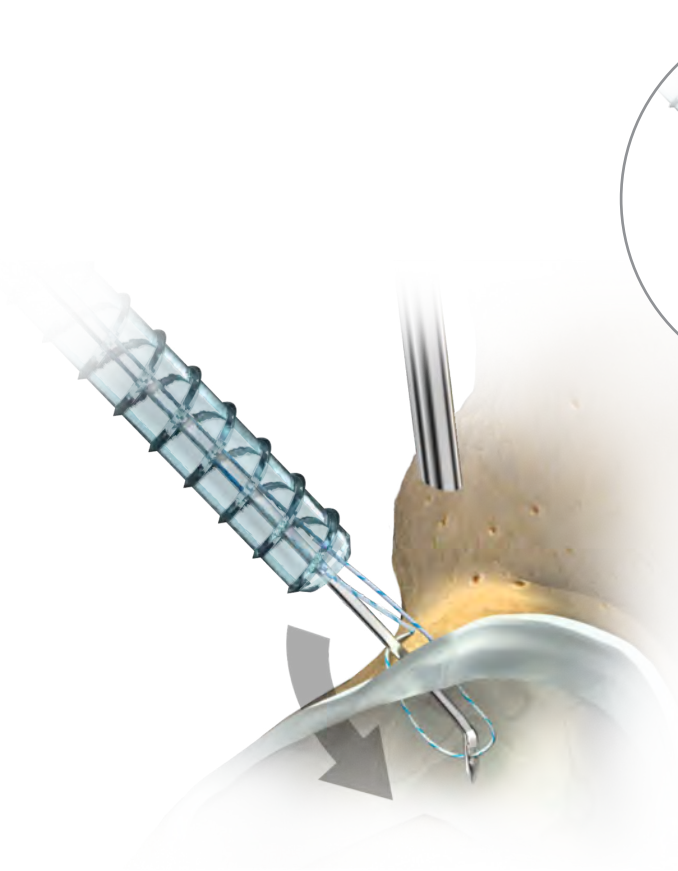


Figure 12

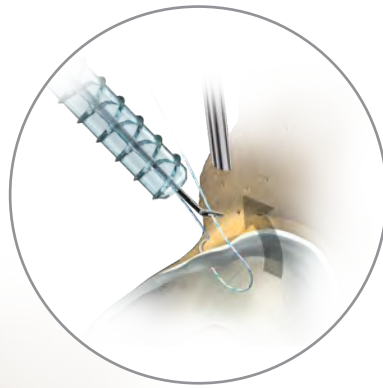


Figure 12a

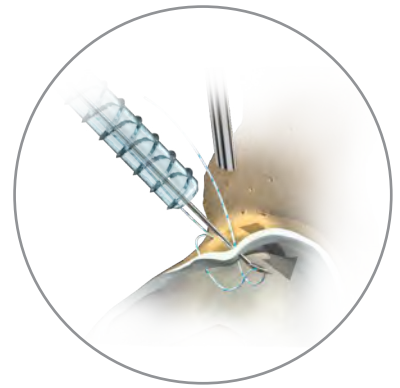


Figure 12b

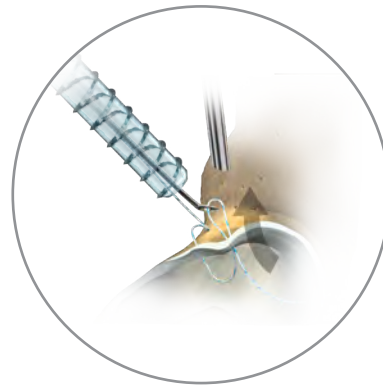


Figure 12c

Repair the Labrum

Reattach the labrum by passing one strand of the suture around or through the labrum using the surgeon's preferred technique. One may use either a circumferential suture construct or a mid-substance one (Figure 12, 12a, 12b and 12c).

Tension the sutures to approximate the labrum to the prepared acetabular surface while avoiding excessive tensioning that may medialize the labrum away from the femoral head and the desired labral fluid seal function.

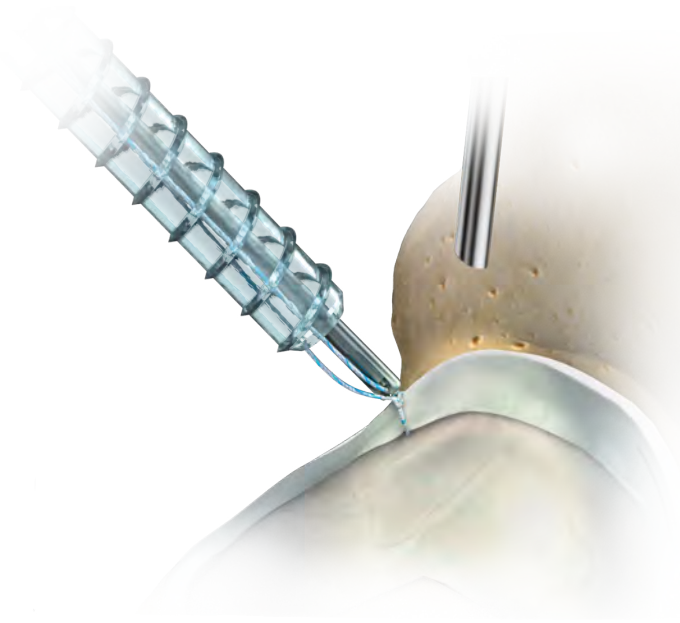


Figure 13

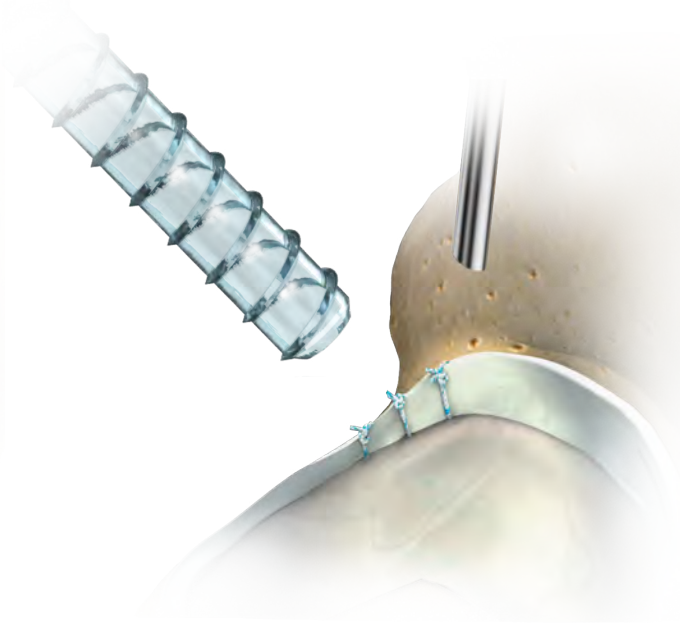


Figure 14

Repair the Labrum (cont.)

Knot tying, using the surgeon's preferred technique, is done through the arthroscopic cannula. Maneuver the knot on the capsular side of the repaired labrum away from the joint surface with a knot pusher. Then trim the suture limbs with an arthroscopic suture cutter (Figure 13).

Continue placing anchors as needed repeating the aforementioned steps with a spacing of 6-8 mm between anchor sites until the labral tear is securely repaired (Figure 14).

Ordering Information

Implants

Part Number	Description
916030	JuggerKnot Long #1 Single Loaded
010000334	JuggerKnot Long #1 (Package of 10)
010000324	JuggerKnot Long #2 Single Loaded
010000335	JuggerKnot Long #2 (Package of 10)

Instrumentation

Part Number	Description
916035	Reusable Straight Four Prong Guide
916034	Reusable Curved Guide
110002759	Reusable Fishmouth Guide
916038	Reusable Flex Trocar
916039	Reusable Flex Obturator
916036	Disposable Flex Drill
916037	Disposable Rigid Drill
916040	Disposable Straight Guide Kit (Guide and Rigid Drill)
110016992	Disposable Flex Drill with Centering Sleeve

INDICATIONS FOR USE

The JuggerKnot Soft Anchors are intended to be used for soft tissue to bone fixation, either separately or as an adjunct with trauma hardware, for the following indications:

Shoulder

Bankart lesion repair
 SLAP lesion repair
 Acromio-clavicular repair
 Capsular shift / capsulolabral reconstruction
 Deltoid repair
 Rotator cuff tear repair
 Biceps tenodesis

Foot and Ankle

Medial / lateral repair and reconstruction
 Mid- and forefoot repair
 Hallux valgus reconstruction
 Metatarsal ligament/tendon repair or reconstruction
 Achilles Tendon Repair

Elbow

Ulnar or radial collateral ligament reconstruction
 Lateral epicondylitis repair
 Biceps tendon reattachment

Knee

Extra-capsular repair: MCL, LCL,
 and posterior oblique ligament
 Iliotibial band tenodesis
 Patellar tendon repair
 VMO advancement
 Joint capsule closure

Hand and Wrist

Collateral ligament repair
 Scapholunate ligament reconstruction
 Tendon transfers in phalanx
 Volar plate reconstruction

Hip

Acetabular labral repair

CONTRAINDICATIONS

1. Infection.
2. Patient conditions including blood supply limitations and insufficient quantity or quality of bone or soft tissue.
3. Patients with mental or neurologic conditions who are unwilling or incapable of following postoperative care instructions or patients who are otherwise unwilling or incapable of doing so.
4. Foreign body sensitivity. Where material sensitivity is suspected, testing is to be completed prior to implantation of the device.

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Waterton Industrial Estate
Bridgend, South Wales
CF31 3XA
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Biomet Sports Medicine
P.O. Box 587
56 E. Bell Drive
Warsaw, Indiana 46581-0587
USA

www.zimmerbiomet.com

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