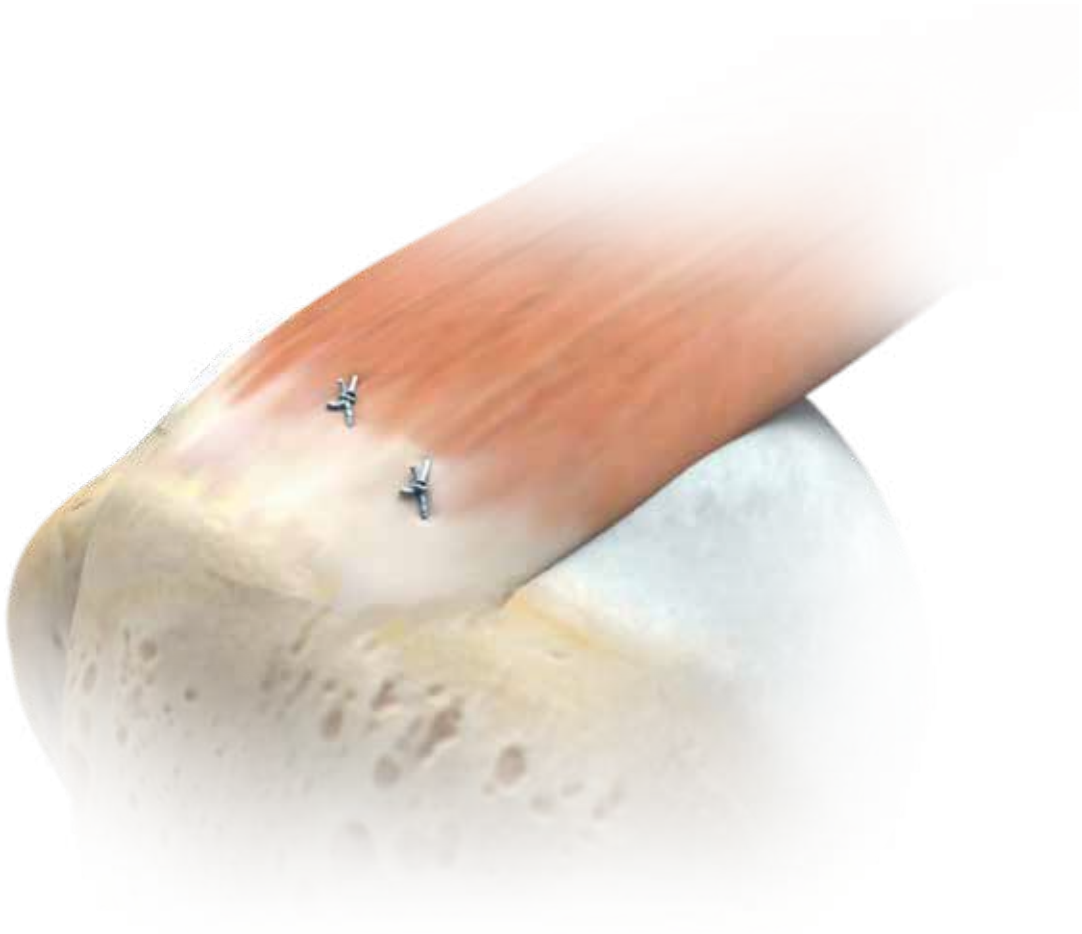
Low-Profile/Trans-Cuff PASTA Repair

with JuggerKnot® Soft Anchor-1.5 mm
(with Percutaneous Instrumentation)

Surgical Technique
by Shabi Kahn, M.D.



ZIMMER BIOMET
Your progress. Our promise.™

Table of Contents

Surgical Technique

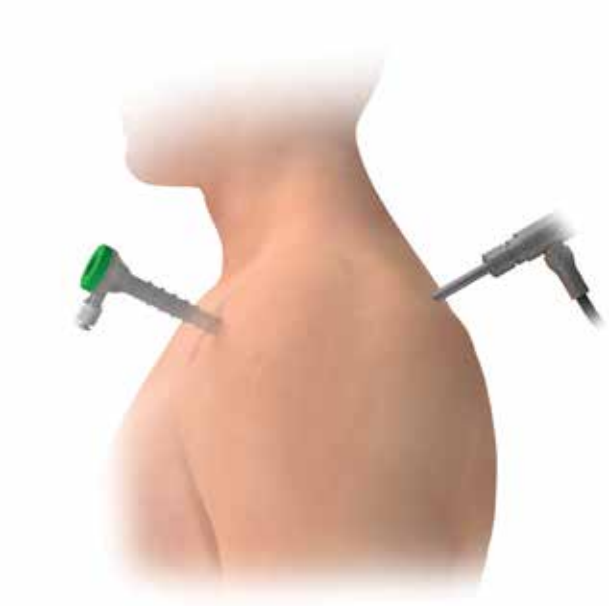


Figure 1

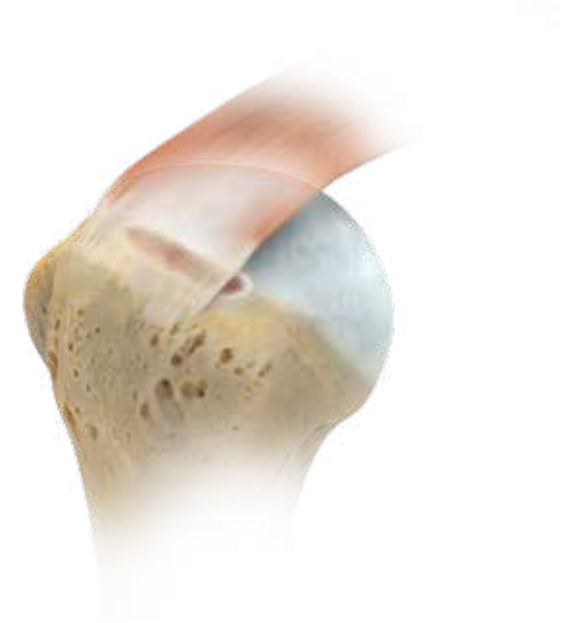


Figure 2

Patient Positioning and Portal Placement

Place the patient in either the beach chair or lateral decubitous position depending upon surgeon preference (Figure 1). Insert a 30˚ arthroscope through the posterior portal. Carefully assess all anatomy including any associated chondral, rotator cuff, biceps and labral abnormalities. Place a 7 mm AquaLoc® cannula anteriorly through the rotator interval either from an outside in or inside out technique. At this point identify the under-sided rotator cuff tear, likely in the supraspinatus. There is usually an articular side, slightly retracted, draped over a portion of the tendon visualized. Some torn and frayed intermediate fibers are usually seen.

Prepare the Rotator Cuff Surface

Utilize a curved shaver through the anterior portal to prepare the cuff surface. Two aspects of the preparation are required. First, debride the torn edge of the articular portion of the supraspinatus tendon. Second, create a channel of bleeding cortical bone just medial to the insertional fibers of the intermediate or bursal side of the tendon to create a small trough (Figure 2). Abduct and slightly externally rotate the arm to help with appropriate position and contact of the shaver with the bone bed.

This material represents the surgical technique utilized by Shabi Kahn, MD. Zimmer Biomet does not practice medicine. The treating surgeon is responsible for determining the appropriate treatment, technique(s), and product(s) for each individual patient.

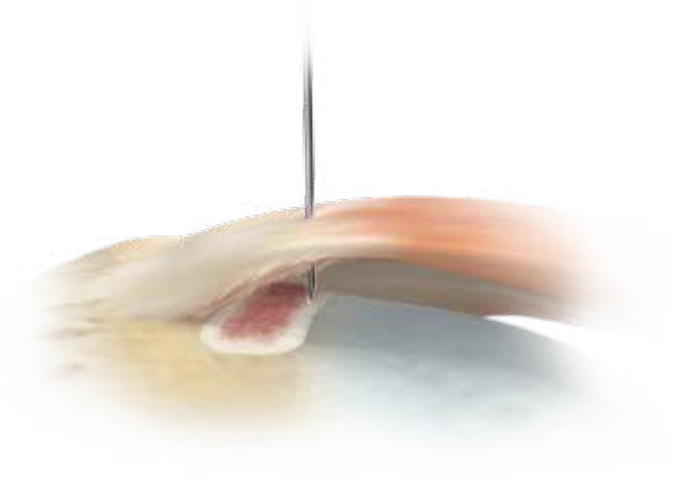


Figure 3

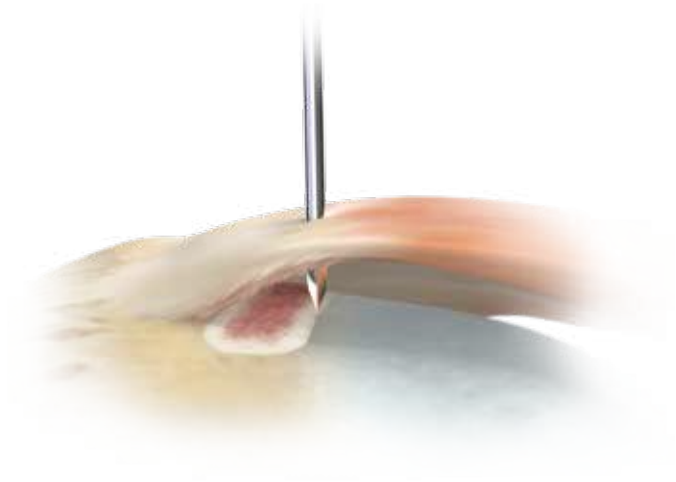


Figure 4

Placement of Percutaneous Guide

When repairing the rotator cuff using an all inside PASTA technique, utilize a third transcutaneous incision and portal. Use a spinal needle through an anterolateral percutaneous area, adjacent to the anterolateral acromion, to identify the appropriate angle. Visualize the spinal needle penetrating through the attached bursal side of the tendon and more lateral to the torn edge of the intra-articular portion of the tendon (Figure 3). Next place a small stab incision, smaller than a portal incision, through the skin.

Insert the rigid trocar for the percutaneous guide at the same angle as the previously identified spinal needle through the skin incision (Figure 4). Then insert the percutaneous guide over the trocar.

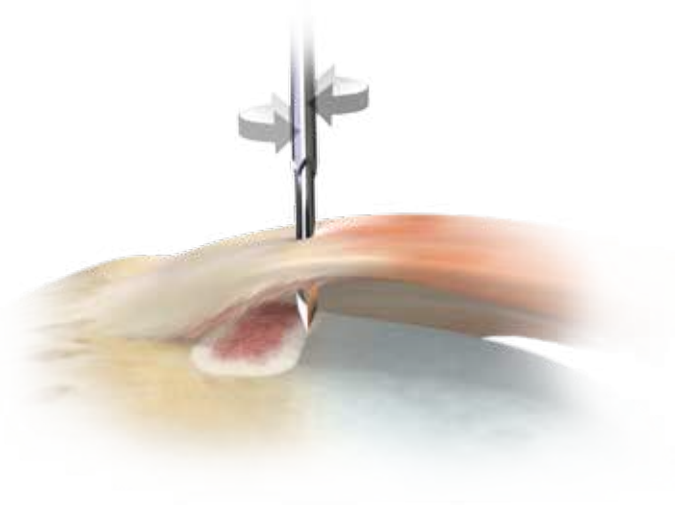


Figure 5

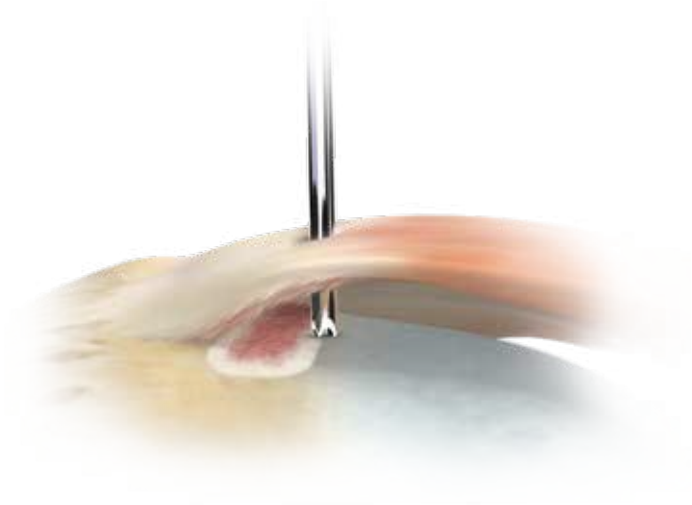


Figure 6

Placement of Percutaneous Guide (cont.)

Utilize a rotating motion back and forth to penetrate through both the subcutaneous tissue and rotator cuff tendon into the intra-articular space (Figure 5).

Remove the rigid trocar and appropriately place the guide on the pre-prepared medial edge of the greater tuberosity along the trough created (Figure 6). Keep the angle of the guide as vertical as possible, as not to penetrate the articular surface of the humeral head during drilling.

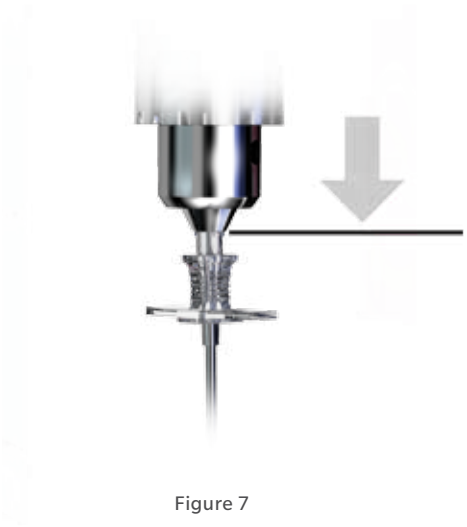


Figure 7

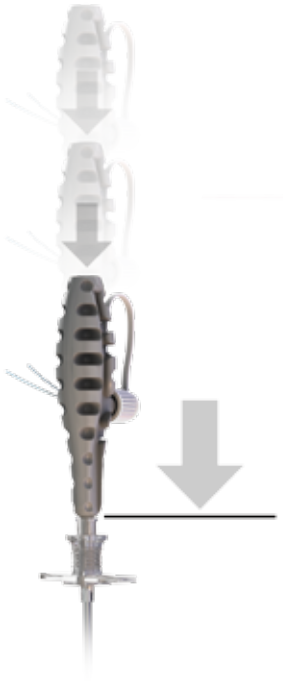


Figure 8

Pilot Hole and Anchor Placement

Chuck the drill bit to the proximal laser etch line. Advance the drill under power until the drill bottoms out on the top of the guide (Figure 7). Remove the drill. Next insert the JuggerKnot Soft Anchor–1.5 mm through the guide until it makes contact with the surface of the bone.

Note: Be sure to maintain the precise position of the guide, including the angle, over the drill hole.

Insert the JuggerKnot 1.5 mm anchor through the guide until seated at the entry of the pilot hole. Utilize a small mallet to insert the JuggerKnot anchor in the bone. Advance the inserter until it bottoms out on the top of the guide handle (Figure 8).

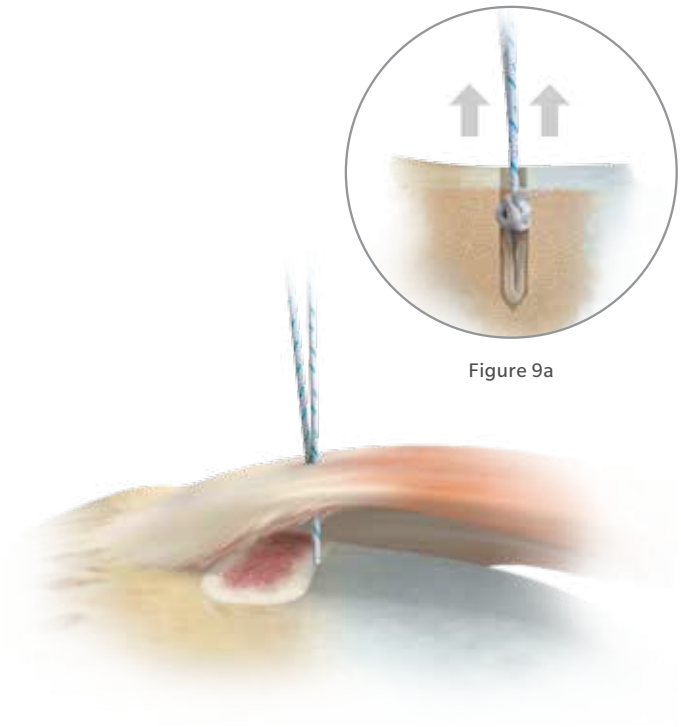


Figure 9a

Figure 9

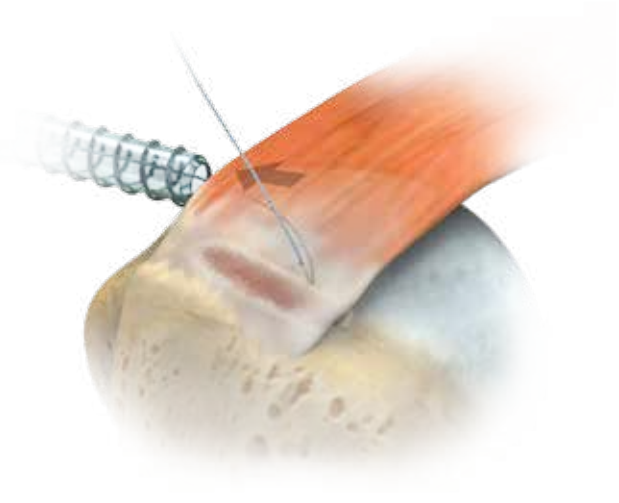


Figure 10

Anchor Deployment

Unscrew the white luer-lock cap to release the sutures from the inserter. Remove the anchor inserter handle and assembly. Remove the guide and seat the anchor by lightly pulling back on both sutures (Figure 9 & 9a). Check to verify the sutures slide within the anchor.

Suture Retrieval

Through the anterior portal utilize a suture retriever to grasp one limb of the suture, leaving the opposite limb still trans-cuff (Figure 10).

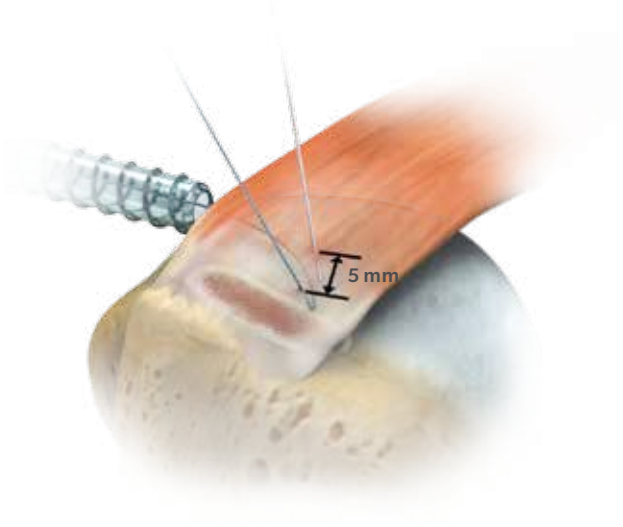


Figure 11

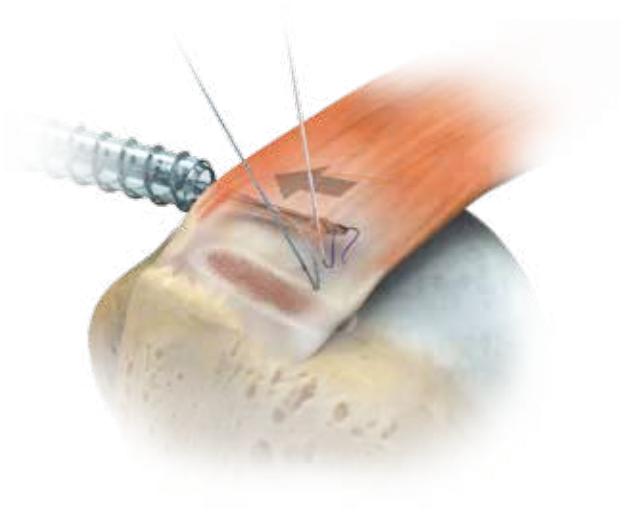


Figure 12

Suture Retrieval (cont.)

At times, it is useful to use a probe, while abducting and externally rotating and/or internally rotating the arm, to guide the suture towards the probe. Then insert a spinal needle adjacent to the previous anterolateral stab incision and penetrate it through a 5 mm more medial portion of the articular side of the slightly retracted tendon (Figure 11).

Pass a PDS suture through the spinal needle and utilize a tissue grasper through the anterior portal to retrieve the PDS suture anteriorally (Figure 12). Tie the PDS to the existing limb of the MaxBraid™ suture exiting the portal. Pull the PDS and the single limb of the MaxBraid suture through the articular side of the tendon and out the skin.

Repeat the same procedure to provide two passes of the single loaded JuggerKnot anchor with the plan for a mattress type repair as opposed to a simple knot.

Figure 13

Assess Need for Second Anchor

At this point, carefully seesaw the limbs of the suture back and forth, confirming the torn edge of the tendon fully contacts and is nicely opposed to the previously prepared bone bed.

Note: The least amount of tension will be visualized if the arm is in the adducted position.

If a second anchor is to be used, the same procedure is followed with a recommendation for a mattress type of placement of both limbs of the MaxBraid suture.

Knot Tying

Insert the arthroscope into the subacromial position. As noted above, the subacromial decompression and bursectomy have been performed to maximize visualization in the subacromial space. The arm is kept in the adducted position to reduce the pull of the articular side of the tendon against the untied sutures. A cannula is inserted through the lateral portal and both sutures are retrieved.

To secure the tissue place standard single knots and/or a slip knot followed by half hitches in the usual fashion (Figure 13). The knots are cut flush with a small tail.

Follow the same procedure if a second anchor was placed. As an optional maneuver, insert the scope through the posterior portal to visualize a nicely opposed articular side repair of the tendon.

Fixation is complete.

Ordering Information

Implants

Part Number	Description
912030	1.4 mm JuggerKnot Single Loaded
912010	1.4 mm JuggerKnot Package of 10
912031	1.5 mm JuggerKnot Single Loaded
912015	1.5 mm JuggerKnot Package of 10

Instruments

Part Number	Description
912140C	1.4 mm JuggerKnot Curved Guide Disposable Kit with Centering Sleeve
912141C	1.5 mm JuggerKnot Curved Guide Disposable Kit with Centering Sleeve
912040P	1.4/1.5 mm JuggerKnot Percutaneous Kit

INDICATIONS FOR USE

The JuggerKnot Soft Anchors are intended to be used for soft tissue to bone fixation 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.

Notes

Notes

Check for country product clearances and reference product specific instructions for use. For complete product information, including indications, contraindications, warnings, precautions, and potential adverse effects, see the package insert and Zimmer Biomet's website.

This technique was prepared in conjunction with a licensed health care professional. Zimmer Biomet does not practice medicine and does not recommend any particular orthopedic implant or surgical technique for use on a specific patient. The surgeon is responsible for determining the appropriate device(s) and technique(s) for each individual patient.

Not for distribution in France.

EC REP **Authorized Representative**
Biomet UK Ltd.
Waterton Industrial Estate
Bridgend, South Wales
CF31 3XA
UK

Legal Manufacturer
Biomet Sports Medicine
P.O. Box 587
56 E. Bell Drive
Warsaw, Indiana 46581-0587
USA

www.zimmerbiomet.com

ZIMMER BIOMET
Your progress. Our promise.™

0396.1-GLBL-en-REV0416

CE 0086

CE mark on a surgical technique is not valid unless there is a CE mark on the product label.