

+ Arthroscopic Latarjet

Using the Double ENDOBUTTON[®] Fixation

A European shoulder technique
guide as described by

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DOUBLE
ENDOBUTTON[®]
Fixation Device

The following technique guide was prepared under the guidance of Roberto Castricini, MD and Professor Ettore Taverna, MD. Created under close collaboration with the surgeon, it contains a summary of medical techniques and opinions based upon his training and expertise in the field, along with his knowledge of Smith+Nephew's products.

S+N does not provide medical advice and recommends that surgeons exercise their own professional judgement when determining a patient's course of treatment. This guide is presented for educational purposes only. **Prior to performing this technique, or utilizing any product referenced herein, please conduct a thorough review of each product's indications, contraindications, warnings, precautions and instructions as detailed in the Instructions for Use provided with the individual components.**

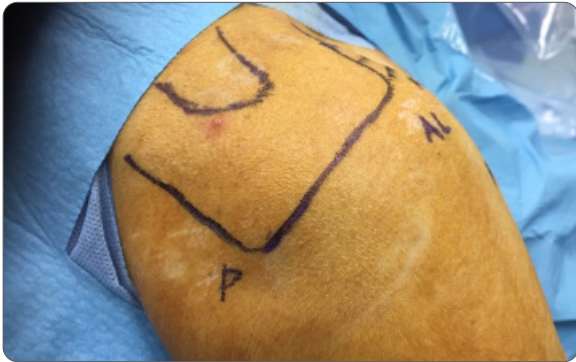


Figure 1a



Figure 1b

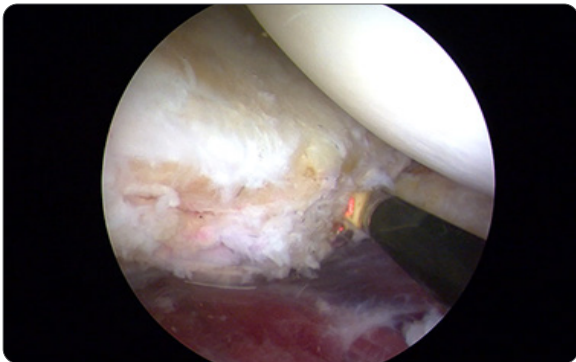


Figure 1c

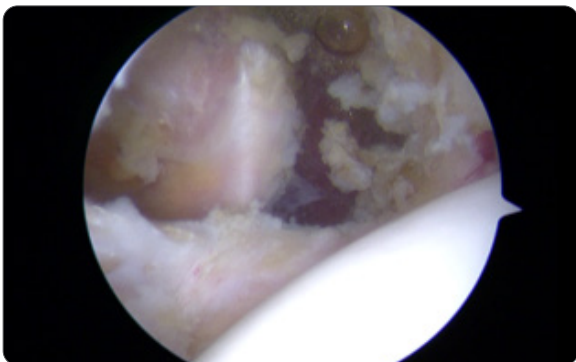


Figure 1d

Step 1: Patient positioning, joint inspection and preparation

The procedure is performed with the patient in beach chair position with or without traction. Six portals are used Posterior (P); Antero-Superior (AS); Antero-Lateral (AL); Antero-Inferior (AI); Axillary (AX) and superior of the Coracoid (C). (**Figure 1a and 1b**)

Introduce the arthroscope through the P portal, from the AS portal introduce the FLOW[®] 90 and remove the labrum and the anterior capsulectomy is performed until the fibers of the subscapularis are exposed. Anterior glenoid rim is decorticated with an arthroscopic burr to create a flat and bleeding bony surface to accommodate the graft. (**Figure 1c**)

Open the anterior interval and release the coraco-acromial ligament to expose the coracoid process. (**Figure 1d**)

Prepare the AL portal with a needle out-in parallel to the superior border of the Subscapularis in direction of the coracoid base. (**Figure 1e**)

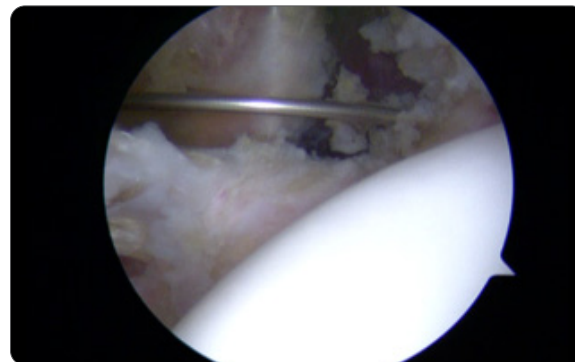


Figure 1e

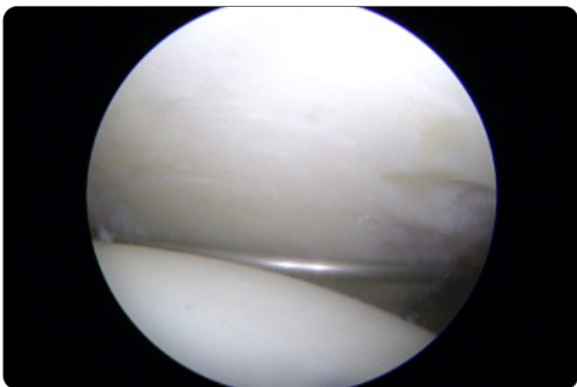


Figure 2a

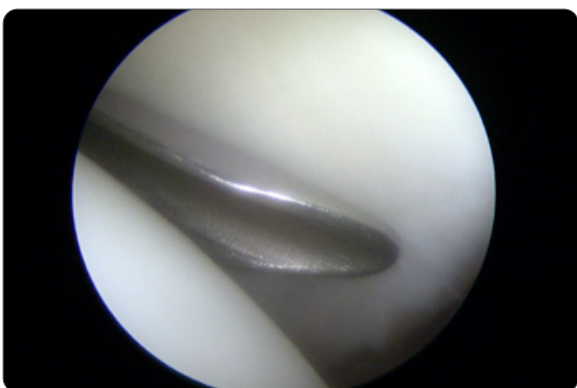


Figure 2b



Figure 2c

Step 2: Glenoid guide placement and drilling

This Double Posterior Glenoid Drill Guide is used to ensure the correct position of two drilled tunnels, which should be parallel and perpendicular to the glenoid neck.

Place the arthroscope in the AL portal, in order to find the correct position of the Double Posterior Glenoid Drill Guide insert a needle from posterior to anterior parallel to the glenoid surface and in the middle of the anterior glenoid bone defect below the mid-line. If the needle was not parallel to the glenoid, a second posterior portal was created. (**Figure 2a**)

Insert the hook of the Double Posterior Glenoid Drill Guide through the P portal and introduce it parallel to the glenoid surface to minimize damage to the articular cartilage. An optional Half Pipe Cannula (**Figure 2b**) may be used to introduce the hook end into and across the glenoid face to help reduce damage on the articular surface. (**Figure 2c**)

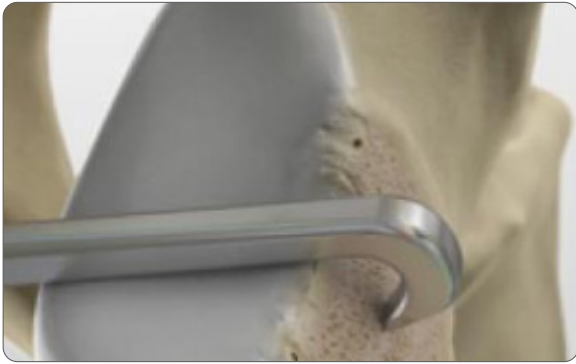


Figure 2d

Once sufficiently advanced, rotate the guide to engage the anterior edge of the glenoid with the hook. The hook should be centered on the glenoid defect with the tip of the hook on the glenoid rim, usually between the 3 and 4 o'clock position (**Figure 2d**). The arm of the Glenoid Guide should be parallel and flush to the glenoid surface (**Figure 2e**).

The guide is secured with two bullets introduced percutaneously (Glenoid Drill Guide long Bullet and Glenoid Drill Guide Short Bullet). A skin incision is created and a bullet is advanced until it is firmly in contact with the posterior aspect of the glenoid neck. The step is repeated for the second bullet. Once in position, the two bullets remain against the posterior glenoid neck (**Figures 2f and 2g**).

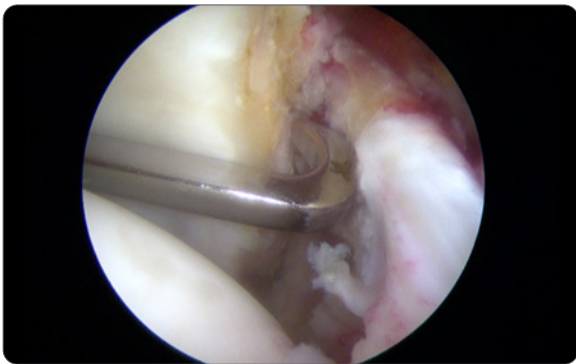


Figure 2e



Figure 2f



Figure 2g

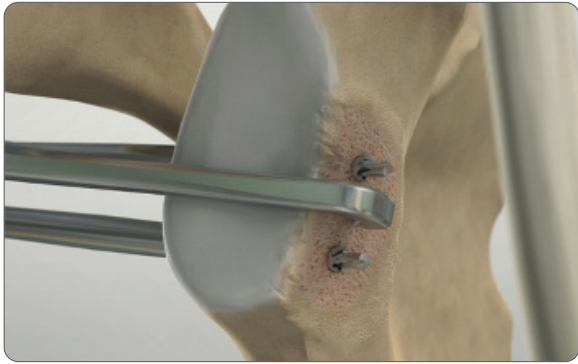


Figure 2h

A 2.8mm sleeved drill is introduced through each bullet and advanced under power until they exit from the anterior aspect of the glenoid. It is not necessary for the sleeve portion of the drill to exit the tunnel. Each drill will be 6mm below the cortical edge of the glenoid surface, parallel to each other and 10mm apart (**Figure 2h**). The inner drill is removed, leaving the cannulated outer sleeve in place (**Figure 2i**). The drill sleeves are used to create an accessible pilot hole through the glenoid and they are used to complete the remaining procedural steps.

Each bullet is removed and the guide is removed afterwards. The guide can be removed at this stage but keeping the drill sleeves in place (**Figure 2j and 2k**).

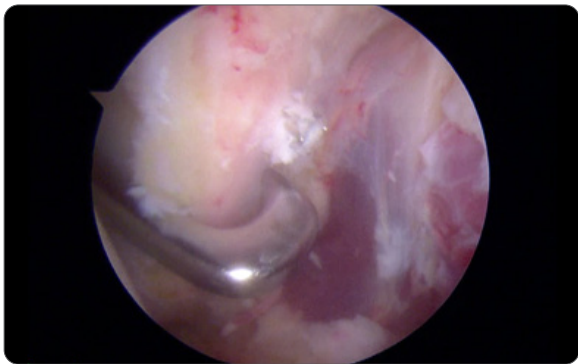


Figure 2i

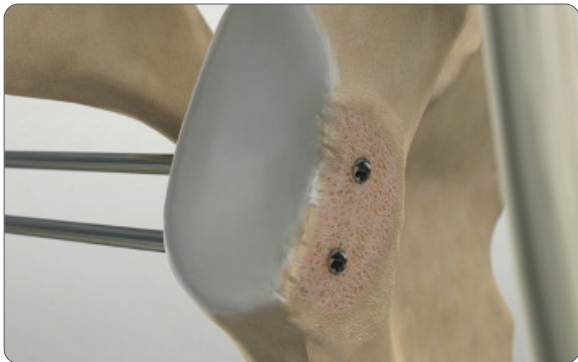


Figure 2j

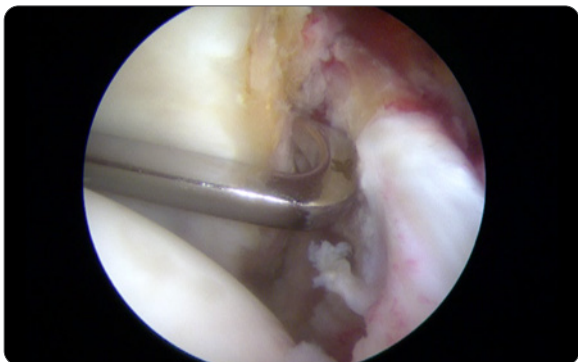


Figure 2k

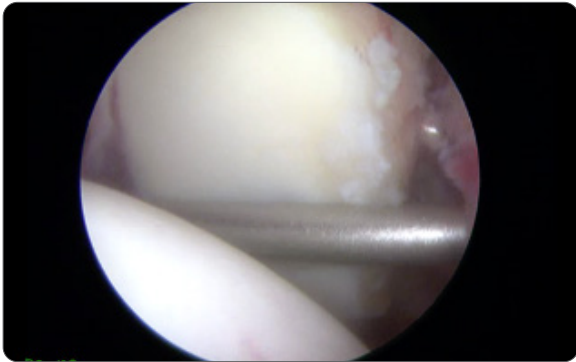


Figure 3a

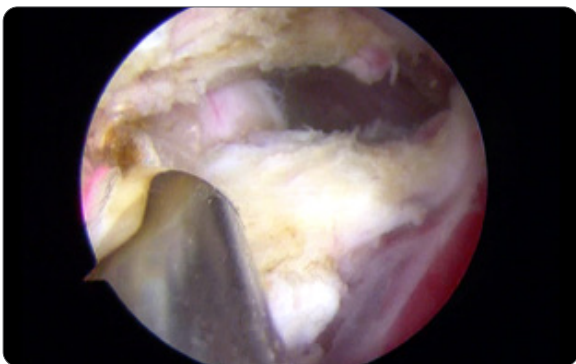


Figure 3b

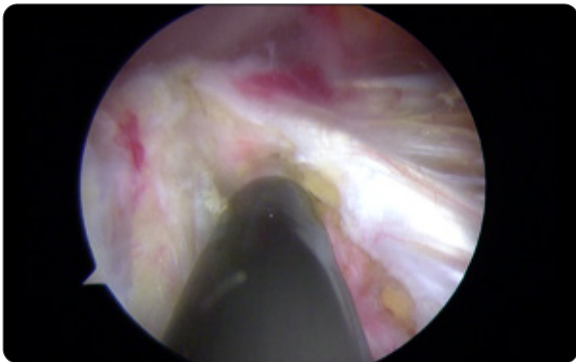


Figure 4a

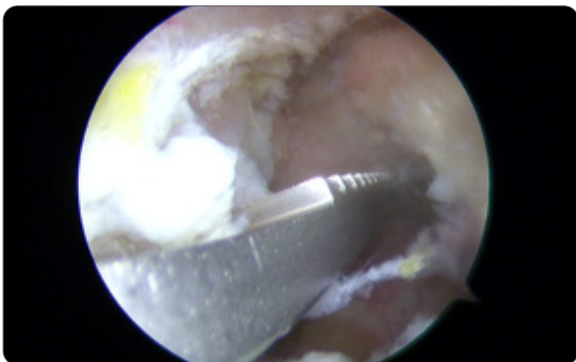


Figure 4b

Step 3: Subscapularis split

The arthroscope is introduced from the AI portal. With a switching stick passed through the P portal (**Figure 3a**), the area where the subscapularis split should be performed is identified. The split is prepared and performed with WEREWOLF[®] FLOW[®] 90 Wand through the AX portal (**Figure 3b**).

Step 4: Coracoid preparation

With the arthroscope in the AI portal and the WEREWOLF FLOW 90 in the AX portal the pectoralis minor is detached (**Figure 4a**). The undersurface of the coracoid process is abraded with the Reciprocating Rasp through the AL portal (**Figure 4b**).

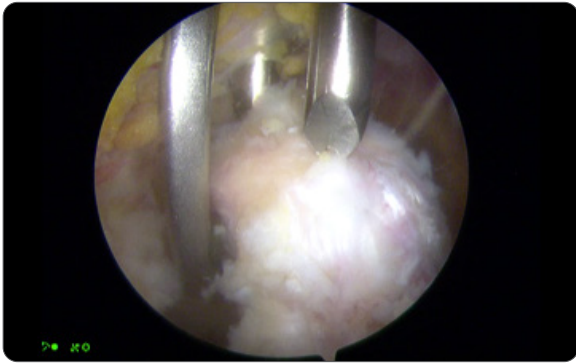


Figure 4d



Figure 4e. Outside coracoid guide

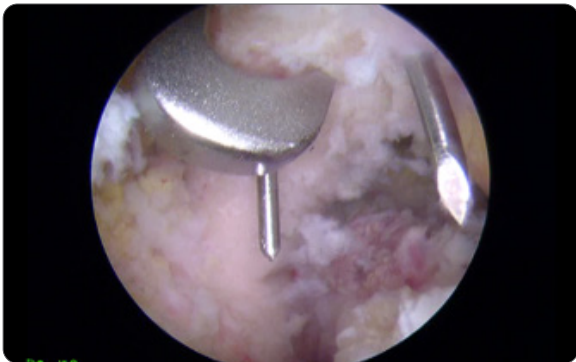


Figure 4f

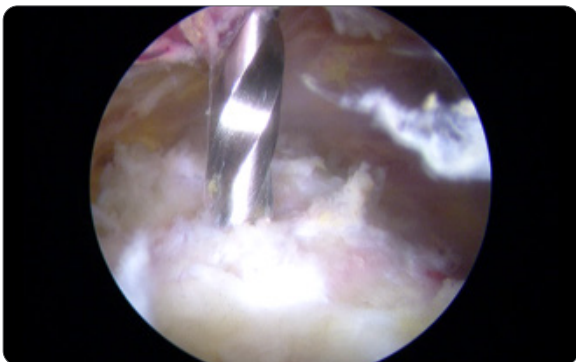


Figure 4g

A C portal is created to insert the Coracoid Drill Guide 6mm Offset (**Figure 4c**). A small skin incision is performed and a Long Bullet is advanced until it is firmly in contact with the superior aspect of the Coracoid Process. The step is repeated for the Short Bullet.

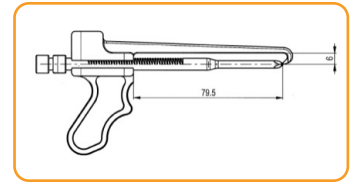


Figure 4c

Once in position the two Bullets remain against the superior part of the coracoid (**Figure 4d**).

A 1.14mm Kirschner wire is placed through each Drill Sleeve and advanced under power until exiting from the inferior aspect of coracoid (**Figure 4f**). Remove the guide and the bullet. With a 2.7mm cannulated drill, the two coracoid tunnels are prepared (**Figure 4g**).



Figure 4h. Outside coracoid guide wires

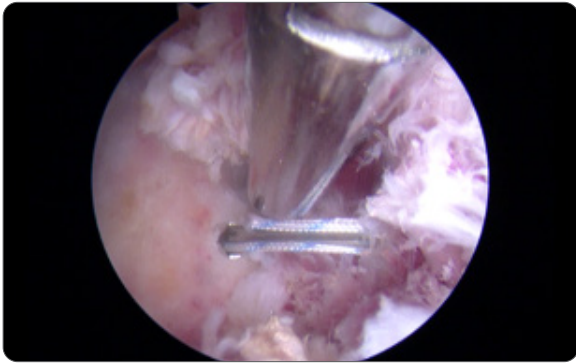


Figure 5a

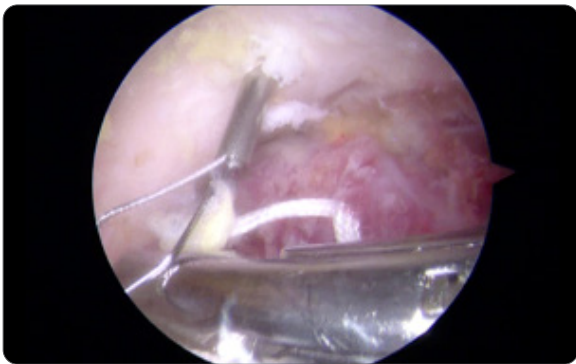


Figure 5b



Figure 5c



Figure 5d

Step 5: Shuttling ENDOBUTTON[®]

With the arthroscope in the AI portal introduce a Suture Retriever with high-strength suture ULTRABRAID[®] loaded in the inferior glenoid tunnel from posterior and retrieve it from anterior with a grasper from AX portal (**Figure 5a**). An additional Suture Retriever is inserted through the coracoid to retrieve the high-strength suture (**Figure 5b**). This step is performed for both the glenoid and coracoid holes, making sure not to tangle the sutures.

The sleeves are removed and the shuttle sutures are tied to the two Round ENDOBUTTON S2 3/4 Suture Loops, then they are pulled with the shuttle suture from posterior (**Figure 5c**). Round Endobuttons were advanced until they were lying flat on the coracoid (**Figure 5d**).

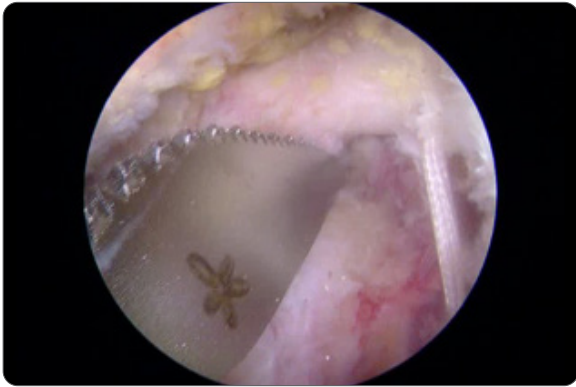


Figure 6

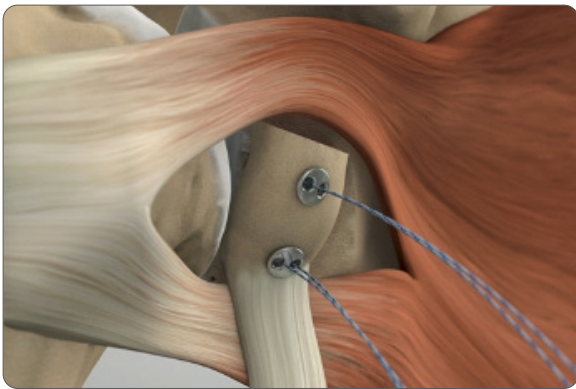


Figure 7a

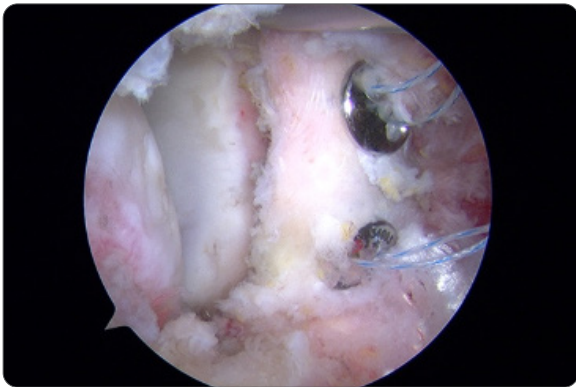


Figure 7b

Step 6: Coracoid osteotomy

With the Scope in AI portal, through the AL portal the Reciprocating Saw is used to perform the osteotomy of the coracoid process (**Figure 6**).

Step 7: Coracoid graft transfer

With the Scope in AI portal, the graft is passed through the subscapularis by pulling sutures posteriorly (**Figure 7a**). Two switching sticks are passed through the P and AX portals to open the split of the subscapularis and simplify the transfer of the graft. Pass the coracoid and conjoined tendon through the subscapularis split by pulling on the sutures posteriorly. Manipulate the coracoid with a bone grasper until the surface of the graft is flush with the anterior surface of the glenoid neck (**Figure 7b**). Check that the posterior sutures are sliding into the glenoid and the coracoid.

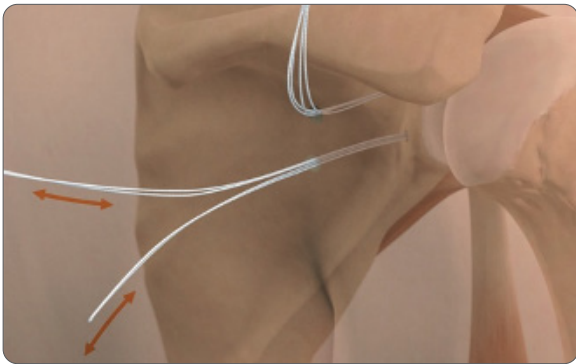


Figure 8a



Figure 8b



Figure 8c

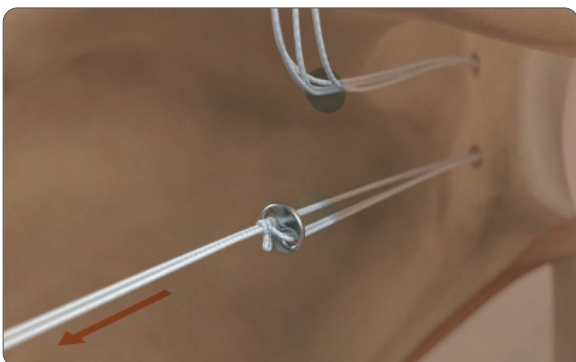


Figure 8d

Step 8: Posterior ENDOBUTTON[®] placement and graft fixation

Carefully cut the blue/white COBRAID loop to separate the white suture bundle into two parts (**Figure 8a**). Pull each bundle through a hole of the 2-Hole posterior ENDOBUTTON Fixation Device using a Suture Retriever from the previous step (**Figure 8b**).

Advance the 2-Hole ENDOBUTTON down the white suture bundle and then tie a Nice Knot (sliding locking knot) until it sits flush against the posterior face of the glenoid (**Figure 8c and 8d**).

Advance the Suture Tensioner through the P portal and apply tension of up to 100 Newton (**Figure 8e**). Simultaneously, an assistant should be checking the position of the coracoid under visualization and using a probe to check the stability and positioning of the coracoid graft. Once the graft has been tensioned, secure the posterior knots with half-hitches.

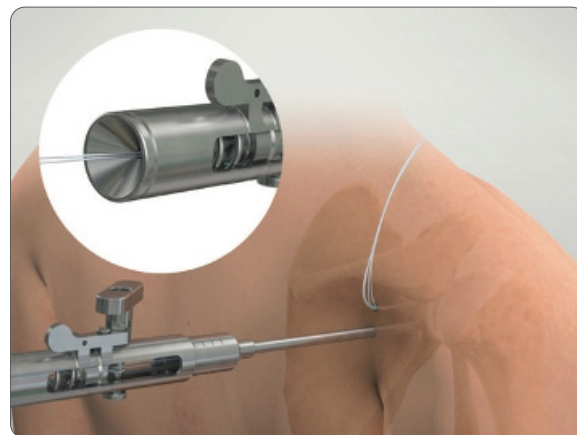


Figure 8e

Ordering information

Implants	
Reference #	Description
71935618	Arthroscopic Latarjet/Bone Block Tray
71935619	Arthroscopic Latarjet/Bone Block Lid
71935460	Double Posterior Glenoid Drill Guide
71935461	Glenoid Drill Guide, short bullet
71935462	Glenoid Drill Guide, long bullet
71935607	Suture Tensioner
EU000881	Coracoid Drill Guide
EU000882	Drill Sleeve Long for Coracoid Drill Guide
EU000883	Drill Sleeve Short for Coracoid Drill Guide
71935611	Tissue retractor – 45°
71935463	Half Cannula – short
71935464	Half Cannula Obturator – short
71928166	Pin Puller
71935459	Bone Grasper
3801	3 x Switching Stick, 4.3mm, not cannulated

Implant part list	
Reference #	Description
71934990	2-Hole Round ENDOBUTTON [®] Fixation Device
71934993	Round ENDOBUTTON S2 ¾ Suture Loop
Specific disposables for Implant part list	
Reference #	Description
013593	Suture Retriever
014771	2.8mm Drill and Sleeve
71935042	Reciprocating Saw Blade
71935043	Straight Cut Reciprocating Rasp
128032	1.14mm Guidewire
71173581	2.7mm Cannulated Drill

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