



Technical note

Arthroscopic shoulder posterior stabilisation – How I do it

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ABSTRACT

An arthroscopic shoulder posterior stabilisation is indicated in symptomatic patients with an isolated posterior labral tear. We present our surgical technique and perioperative management.

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1. Background

Whilst the majority of glenohumeral instability is anterior, posterior shoulder instability is present in 2–5% of unstable shoulders.

It can present with instability or posterior pain symptoms. Patients with instability are often able to demonstrate voluntary subluxation/dislocation with forward flexion, pronation and internal rotation; relocation occurs when the arm is brought into abduction and extension (circumduction sign). Posterior pain occurs along the posterior joint line with activities causing a posterior translational load.

Traumatic and atraumatic aetiology is recognised. Traumatic instability follows a distinct history of dislocation or subluxation, often following a significant injury. Atraumatic instability typically follows a history of minor injury or repetitive microtrauma, and is associated with capsular laxity and/or muscle patterning abnormalities.

Treatment includes physiotherapy – particularly in adolescents with atraumatic instability. However, in adults with traumatic instability surgery may be indicated.

AP and axial radiographs, and MRI arthrogram are required to delineate presence of an anatomical cause for instability. In posterior instability posterior labral tears, posterior glenoid fracture or reverse Hill-Sachs lesions may be seen [Fig. 1].

We advocate an arthroscopic shoulder posterior stabilisation in those with an isolated posterior labral tear.

2. Arthroscopic shoulder posterior stabilisation

Our unit utilises awake anaesthesia where possible. This involves ultrasound-guided interscalene brachial plexus blockade with up to 10–15 ml of Ropivacaine 10 mg/ml, followed by selective blockade of the supraclavicular branches of the superficial cervical plexus using 3–5 ml Ropivacaine 10 mg/ml. Ropivacaine 7.5 mg/ml can also be used but higher volumes may be required. A low interscalene approach provides better cover of the glenoid: the root of C7 is targeted as well as the roots of C5 and C6. Infiltration of the posterior port entry site using up to 5 ml of lidocaine 10 mg/ml is always recommended as the dermatomal supply to this area is variable.

Intraoperatively patients either remain awake or receive conscious sedation using Midazolam or Propofol target controlled infusion. If discomfort is felt by the patient intermittent boluses of 200–300 mcg of Alfentanil can be given. This technique provides excellent analgesia and allows intraoperative patient interaction permitting the surgeon to demonstrate to the patient their anatomical cause for instability and how this has been addressed surgically. However, it is not possible to perform an examination under anaesthesia of the contralateral shoulder if this technique has been utilised.

Patients are positioned in a 70° reclining deckchair position with the arm free. Though a lateral position with traction is useful for opening the glenohumeral joint we find it alters soft tissue tension and therefore prefer to avoid traction.

Surface landmarks are drawn. The arm, axilla and shoulder are prepared with alcoholic Chlorhexidine and a shoulder drape is applied. The arm remains free [Fig. 2]. A surgical assistant is required.

Our technique utilises DePuy Synthes LUPINE loop anchors. A long cannula is frequently required. An extended arthroscope may be required in muscular athletes.

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Fig. 1. MRI arthrogram T2 axial demonstrating a posterior labral tear.



Fig. 3. Arthroscope inserted via posterolateral portal.



Fig. 2. Shoulder arthroscopy surface landmarks demonstrating location of standard posterior and posterolateral portals.

The procedure begins with a diagnostic arthroscopy performed via a posterolateral portal. This port should be positioned 2 cm inferior to the acromion and far-lateral (beyond acromion edge) [Fig. 3]. It should be able to accommodate a cannula and is mostly used as the working portal. A switching stick can be a very helpful

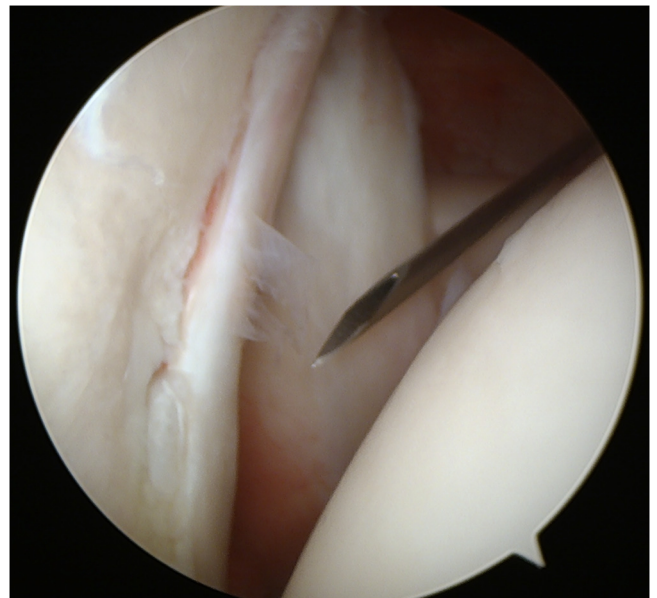


Fig. 4. Anterior portal location identified with a needle under direct vision.

tool to change the arthroscope in the posterolateral portal to a long cannula. A 45° angle of approach toward the posterior inferior glenoid rim is required to allow an adequate angle of approach to the posterior glenoid.

The anatomical cause for posterior instability should be identified including the presence of labral tear. The posterolateral

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