

# Open Latarjet-Patte Procedure for Anterior Shoulder Stabilization: Critical Steps and Pearls for the Walch Technique

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**Background:** Latarjet is a term used for different techniques and modifications to expose the glenoid and to transfer and fix the coracoid. The procedure is intricate and technically demanding. Outcomes and complications are heterogeneous in the literature. A master technique, the Walch technique, has been practiced for decades, with outstanding long-term results and patient satisfaction.

**Indications:** Documented anterior dislocations with evidence for emergency reduction, with or without hyperlaxity and confirmation of a traumatic capsuloligamentous lesion. Contraindications include voluntary dislocations and multidirectional instability without these criteria. The Instability Severity Index Score can guide decision making on whether Bankart surgery is sufficient. Large Hill-Sachs lesions may be an indication for additional remplissage.

**Technique Description:** Three key maneuvers and 6 surgical stages need to be mastered for consistent results. Key maneuvers include: (1) arm positioning for all stages, (2) retractor placement, and (3) safe conjoint tendon releases. Six key stages include: (1) coracoid exposure and initial release; (2) osteotomy and subsequent release; (3) bone preparation; (4) subscapularis split and arthrotomy; (5) 360° scapula neck exposure; and (6) cornerstone drill hole positioning, fixation, and simple capsuloplasty. Specific arm positioning facilitates coracoid exposure, releases, subscapularis split, arthrotomy, and retractor insertion, as well as capsular repair. A 360° anterior scapula neck exposure is crucial to drill the inferior cornerstone hole (2.5 for 4.0 partially threaded cancellous screw) 7 mm medial to the articular surface with mandatory direction parallel to the articular surface. The bone block can be dialed to the exact position, preventing lateral overhang. The capsule is closed to the coracoacromial ligament stump in 45° of external rotation.

**Results:** A series of >80 cases with minimum 1-year follow-up (range: 1-5 years) demonstrated excellent results. Outcomes were good to excellent (Subjective Shoulder Value >80% in 95% of cases; Constant score >90% and Rowe score > 90%) in keeping with the Walch results (>1000 cases). The complication rate was low: 1 early coracoid fracture (1.3%), no dislocation and neurological complications, no new arthritis or progression, and good coracoid position without lateral overhang.

**Conclusion:** The Walch technique, although technically demanding, provides excellent, consistently reproducible results once the 3 key surgical maneuvers and 6 stages of the procedure are mastered.

**Keywords:** Latarjet procedure; Walch technique; freehand technique; coracoid transfer; complications

## VIDEO TRANSCRIPT

The term “Latarjet” is used for different techniques. Therefore, we find inconsistent results and complication rates in the literature.

Walch standardized a master technique which is a breakthrough in shoulder instability surgery. Mastering key maneuvers and key stages is mandatory for consistent results.

We present a 39-year-old former American football player with recurrent traumatic instability.

In beach chair position, a folded drape is placed under the medial scapula. The skin incision varies from 6 to 8 cm in length and begins from below the tip of the coracoid process, allowing for best cosmesis.

The dissection should begin in the Morenheim fossa superiorly and medially at the border of pectoralis major, taking care to retract the deltoid and the cephalic vein laterally.

The arm is brought into abduction and external rotation. A Hohmann or Link retractor is placed over the coracoid behind the coracoacromial ligament. In abduction and external rotation, the lateral border of the conjoint tendon and the anterior border of the coracoacromial ligament are released. The forceps are advanced underneath the coracoacromial ligament which is cut 1 cm from its origin.



The coracohumeral ligament that lies immediately below the coracoacromial ligament is difficult to identify and is also partially transected. The posteroinferiorly located coracohumeral ligament is difficult to release. The arm is brought into adduction and internal rotation with the arm close to the body. The pectoralis minor is released from its attachment on the coracoid process with electrocautery and the tip is identified. This release must not be extended distal and medial to the tip of the coracoid process.

The inferior aspect of the coracoid process is exposed with an elevator and a pedicled gauze to expose the arch of the coracoid. This junction between the horizontal and vertical coracoid is the side of the osteotomy. The osteotomy should always be undertaken from medial to lateral and is performed with an angled saw just anterior to the coracoclavicular ligaments. It is completed and opened up with a curved osteotome, again from medial to lateral.

The arm is brought into abduction and external rotation, and the bone graft is grasped with a Museux forceps to complete transection of the coracohumeral ligament. Tension on the Museux forceps facilitates this release. On the right, you see the attachment of the coracohumeral ligament as a final restraint to coracoid eversion. The coracoid is everted and further released only on the posterolateral conjoint tendon. The bone is held with a Museux forceps and the coracoacromial ligament is identified. The surface is cleaned with a scalpel, taking care to preserve the ligament stump. The bone block is typically between 20 and 25 mm long. A flat cancellous surface is prepared with the saw.

An osteotome surface supports the bone block while two 2.5 mm drill holes are drilled perpendicular to the bone. These 2 holes are drilled 1 cm apart, which leaves a bony bridge of at least 7 mm between the holes. The arm is adducted and brought into external rotation with the elbow close to the body. The coracoid is tucked under pectoralis major. Adduction takes the tension off the axillary nerve descending in close proximity to the split.

The superior and inferior margins of the muscle are identified. Large Mayo scissors (Medline) are used to split and spread open the muscle at the junction of its upper two-thirds to its lower one-third. A pedicled gauze is inserted underneath the muscle, followed first by a Hohmann retractor and later by a Link retractor keeping contact to bone. This retractor is important to protect the passage of the axillary nerve and is one reason why open surgery is safer than arthroscopic Latarjet surgery.

The course and proximity of the axillary and musculocutaneous nerves are shown.

A blunt Gelpi and an inferior Hohmann retractor are used to expose the white capsule. The joint line is identified in external rotation and the vertical capsulotomy is performed with a No. 15 blade. The capsulotomy must be large enough to insert a Fukuda or Trillat retractor in external rotation, followed by internal rotation. The Gelpi retractor is removed.

A severe labral injury is shown. The capsule and labrum over the scapula are horizontally split with electrocautery. The anterior scapula is superficially decorticated with care using a large curved osteotome until spots of bleeding bone are seen. A Rocher pin is inserted to retract the superior subscapularis, and the Hohmann retractor is repositioned intracapsular under the scapular neck. Now an excellent 360° exposure for precise drilling, bone positioning, and fixation has been achieved.

A long 2.5-mm drill bit is used for drilling of the inferior cornerstone hole at 5 o'clock in right and 7 o'clock in left glenoids, 7 mm medial and parallel to the joint, preventing overhang and screw head impingement. A 4-mm partially threaded titanium screw, typically 30 or 35 mm in length, provides excellent audible compression with a higher load to failure than cannulated screws. The block can be rotated around the cornerstone screw.

Now, double check the position. Avoid lateral overhang. Dial the bone to the ideal position. After superior screw tightening, the inferior hole can be redrilled if needed; 2-3 mm medial offset is acceptable. The second hole drill should be drilled from 4 o'clock in right and 8 o'clock in left shoulders, parallel to the articular surface.

The coracoacromial ligament stump is repaired to the vertical capsular opening with 2 sutures. The intra-articular retractor is removed in internal rotation, followed by external rotation.

The vertical capsular curtain is best accessible for suture passing in abduction and external rotation.

The knots are tied with the arm in 45° of external rotation to avoid overconstraint. The superior part of the subscapularis covers the bone block, and the muscular split does not need to be repaired. A drain is recommended for 6-24 hours. The vertical incision is parallel to Langer lines and heals cosmetically very well.

Meticulous standardization of the technique avoids complications. Strategies are shown on this slide.

Rehabilitation is fast and reliant on bony consolidation. Therefore, return to contact sports is possible at 3 months.

Results are excellent in our series and in keeping with the long-term results of the Walch technique.

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