

# Shoulder Injury

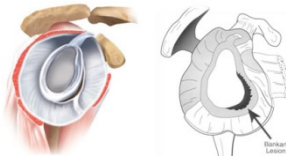
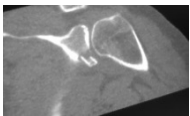
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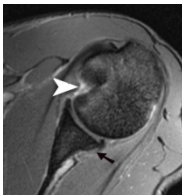
## Anterior Shoulder Dislocation

The vast majority of shoulder dislocations are anterior (or antero-inferior). The mechanism of injury is usually excessive abduction combined with external rotation. The injury results in tearing of the inferior glenohumeral ligament complex. Likely accompanying injuries include:

- Bankart lesion: this is an avulsion of the anterior-inferior glenoid labrum. If this includes a fracture of the anterior glenoid rim it is known as a bony Bankart lesion.



- Hills-Sachs lesion. As the head of humerus dislocates, strong muscular action drives it forcefully back into the anterior glenoid rim. This often causes a compression fracture of the posterior-superior humeral head.



Less common injuries are:

- Rotator cuff tear. In older patients (over 40) there will be a high risk of tearing of rotator cuff tendons - subscapularis, supraspinatus &/or infraspinatus.
- Axillary nerve traction injury, resulting in deltoid weakness & impaired lateral shoulder sensation.

### Acute management:

While an X-ray prior to relocation is desirable, it is also advisable to have the shoulder reduced as soon as possible. If it is possible to lay the patient prone on a plinth with the arm hanging over the side, gentle sustained traction can lead to spontaneous

relocation with minimal discomfort. This is known as Stimson's method, and is easier & less traumatic than some of the other methods described.



The patient is then placed in a sling in internal rotation, and this should be worn for a minimum of two weeks. Exercises can be commenced during this time including:

- Scapular stabilisation exercises. The patient can be taught a range of dynamic & isometric scapular stabilisation exercises to maintain strength & neuromuscular control.
- Elbow range of motion exercises and stretching.
- Wrist and hand stretching & strengthening including maintaining grip strength.

### Longer-term management

This is controversial. In the young patient, there is a high risk for recurrent instability & re-dislocation. Under 20 years of age, the recurrence rate is 72-95%, but only 20-30% for those aged 25-40 years, & 10-15% in those over 40. For this reason, many specialists advise stabilisation for the young first-time dislocator, particularly those in high risk sports. The risk of re-dislocation after surgical stabilisation drops to 3-15% in young athletes.

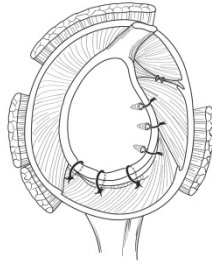
### Surgical procedures:

The Putty-Platt procedure, which involved transference of the subscapularis tendon to reinforce the ligament complex, has been out of favor for 2-3 decades. It was associated with significant loss of external rotation and a high rate of subsequent osteoarthritis. Common procedures used today are:

1. Arthroscopic glenohumeral ligament & Bankart repair. This is the most common

procedure used, and allows the patient to return to sport in as little as 3-4 months.

2. The open Bankart repair is considered the gold-standard in anatomic repair procedures, and is reported to provide better results in higher-risk patients. Return to sport is 6-8 months.



3. Latarjet (or Bristow-Latarjet) procedure. This involves attaching a bone graft (the coracoid with its attached muscles) to the anterior glenoid. This is advantageous after a bony Bankart lesion, chronic erosion of the anterior glenoid, or for high risk (contact) sportspeople. The reported re-dislocation rate is as low as 1%-10%. It is popular in France, and favored in Melbourne at some AFL clubs. It was traditionally an open procedure but can now be performed arthroscopically. Disadvantages include it being non-anatomic, requiring longer rehab (8-9 months), and resulting in a tighter shoulder. This increases the risk of developing glenohumeral osteoarthritis.

In the older low-risk patient with a rotator cuff tear, the specialist may advise cuff repair without shoulder stabilization.

**Related article: also see ‘Conservative management of anterior shoulder dislocation’.**

#### References:

1. Brukner, P & Khan, K (2012). Clinical Sports Medicine (4<sup>th</sup> ed). McGraw Hill, Syd., 362-364.
2. Orchard, J (2010). The trade-off between stability & mobility in reconstructive surgery. Sport Health, 28, 3, 13-18.
3. Wang, R et al (2009). Management of the first-time shoulder dislocation in the athlete. In Wilk, K et al (eds) The Athletes Shoulder, 2<sup>nd</sup> ed, Churchill Livingstone, Phil. 239-256.

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Concord Sport & Spine Physiotherapy  
202 Concord Road  
Concord West, NSW 2138  
Sydney, Australia.

**Ph (02) 9736 1092**

**Email: [info@cssphysio.com.au](mailto:info@cssphysio.com.au)**

**Web: [www.cssphysio.com.au](http://www.cssphysio.com.au)**

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