

SHOULDER CASE STUDY

Acute injury 17 year old skier



Introduction:

- Lachlan is a 17 year old student.
- He suffered an injury skiing on the weekend.
- Whilst skiing, he fell onto his right arm, heard a “clunk” and suffered acute pain.
- It has remained painful since, however he can move it in all directions with discomfort.

What are the possible causes of Lachlan’s pain?

Possible causes include fracture, dislocation, ligament/capsule strain, AC joint injury and rotator cuff tear.

Are there any specific questions you would ask in the history?

It is important to know the exact mechanism of injury, and to know if there was known dislocation or any visible shoulder deformity. Were there any associated neurological symptoms in the arm? A history of instability would also be useful to know.

What specific physical examination findings would you look for?

With shoulder injuries it is important to assess range of movement, strength and degree of swelling. Neurological function is important in the setting of dislocation as there can be traumatic injury to the axillary nerve.

What investigations would you consider?

There may be a role for x-ray and MRI.

What are the advantages and disadvantages of the different imaging modalities in suspected dislocation?

X-ray shows bony detail well and is useful to check gleno-humeral alignment, the AC joint and look for a Hill-Sachs deformity or bony glenoid injury. X-ray however does not assess the intra-articular soft tissue structures. MRI allows an excellent assessment of all shoulder structures including the bones and soft tissues. It can be used to confirm a fracture/Hill-Sachs lesion, and to assess the antero-inferior labrum which is commonly torn (Bankart lesion) in anterior dislocation. Other injuries that maybe present include an effusion, chondral injury, loose body, bony Bankart injury, and others.

What does the x-ray show? See Figure 1

The shoulder and AC joints are enlocated. There is indentation of the cortex at the posterior aspect of the humeral head, consistent with a Hill-Sachs deformity, commonly seen in anterior dislocation. The bony glenoid appears intact.

What does the MRI show? See Figure 2

As well as a Hill-Sachs defect there is a tear though the antero-inferior labrum. This is known as a Bankart lesion and needs to be diagnosed in cases of anterior dislocation, because if untreated it will lead to recurrent instability.

What are the options and principles of management for shoulder dislocation?

Conservative management includes initial immobilisation before gently restoring range of motion and strength.

Surgical management depends on the severity of injury, likelihood of recurrent instability, age and long-term outcome expectations. Surgery includes options such as labral repair and capsular strengthening. Timing of surgery can be important to long-term outcome, and both open and arthroscopic procedures can be performed. Surgery is followed by intensive physiotherapy to restore range of motion and strength.

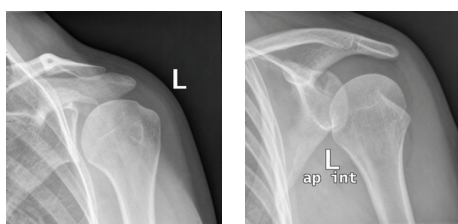


Figure 1: X-ray scans

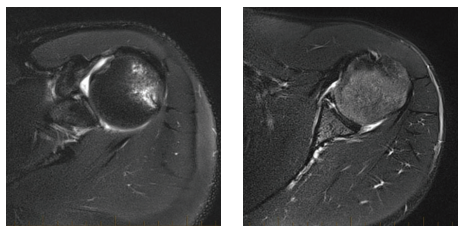


Figure 2: MRI scans