

# Physical Examination during Shoulder Dislocation

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## Commentary

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### DESCRIPTION

When the humeral head separates from the shoulder joint, the shoulder is termed to be dislocated. Shoulder pain and instability are symptoms. A Bankart lesion, a Hill-Sachs lesion, a broken rotator cuff, or damage to the axillary nerves is examples of complications. A fall onto an extended arm or onto the shoulder might lead to a shoulder dislocation. Usually, symptoms are used to make a diagnosis, and X-rays are used to confirm it. They might be anterior, posterior, inferior, or superior, with anterior being the most common classification.

Treatment includes reducing the shoulder, which can be done using a variety of techniques. These include the Stimson technique, external rotation, scapular manipulation, and traction-counterattraction. X-rays are advised for verification after reduction. After that, the arm might be strapped to a support for a few weeks. If you have recurring dislocations, surgery can be advised.

Not all people who suffer from a dislocated shoulder need surgery. Physical therapy following an acute shoulder dislocation reduces the risk of subsequent dislocations, according to moderately compelling evidence. Patients who do not undergo surgery following a shoulder dislocation do not experience recurrent dislocations within two years of the first injury, according to research.

The history and physical examination of the patient frequently lead to a diagnosis of shoulder dislocation. In order to confirm the diagnosis, radiographs are taken. The majority of dislocations are visible on radiographs that demonstrate glenohumeral joint incongruence. On typical AP radiographs, posterior dislocations may be difficult to see, but are easier to see on alternative views. Following reduction, radiographs are typically taken again to assess the success of the reduction and to look for bone injury. An MRI scan can be utilized to evaluate soft tissue damage

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following a series of shoulder dislocations. The apprehension test (anterior instability) and sulcus sign (inferior instability) are helpful tests for identifying a person's propensity for recurrent dislocations.

The humerus is anteriorly displaced in over 95% of shoulder dislocations. Sub-coracoid dislocation is the term for when the head of the humerus rests beneath the coracoid process in the majority of those cases. Other dislocations that can happen include sub-glenoid, subclavicular, and, very rarely, intrathoracic or retroperitoneal.

### Anterior dislocation

An outstretched arm which receives pressure will frequently result to anterior dislocations. Usually, the participant maintains his or her arm slightly abducted and externally rotated. An impaction of the humeral head caused by the glenoid rim during dislocation is known as a Hill-Sachs lesion. 35%–40% of anterior dislocations have Hill-Sachs deformity. When the arm is in internal rotation, they are visible on a front-facing X-ray. Bankart lesions are glenoid labral discontinuities with or without bone fragment avulsion.

Axillary nerve (C5, C6) and axillary artery damage could happen. The most often affected structure with this sort of injury is the axillary nerve, which is injured in 37% of cases. Injuries to the radial nerve (22%) and suprascapular nerve (29%) are two more frequent, related nerve injuries. The deltoid muscle is weakened or paralysed as a result of axillary nerve injury, and as the deltoid atrophies unilaterally, the shoulder loses its usual rounded shape. A person who has had an axillary nerve injury will find it challenging to remove the arm from a position about 15° away from the torso. Abduction starts when the supraspinatus muscle is fully adducted.

### Posterior dislocation

The most prevalent cause of posterior dislocations is the muscle contraction brought on either an electric shock or a seizure. They could be brought on by an imbalance in the rotator cuff muscles' strength. People with dislocated shoulders frequently display flattening of the anterior shoulder with a large coracoid process and hold their arm internally rotated and adducted.

It's possible for posterior dislocations to go unnoticed, particularly in elderly people and those who are suffering from unconscious stress. In a group of 40 participants, an average of a year passed between the injury and diagnosis.

### Inferior dislocation

The least frequent dislocation, occurring in less than 1% of cases, is inferior. As a result of the arm appearing to be held continuously aloft or behind the head, this condition is also known as luxatio erecta. It results from excessive arm abduction, which pushes the humeral head up against the acromion. Such injuries have a high risk of complications since this mechanism of injury is likely to result in numerous vascular, neurological, tendon and ligament injuries.

### Surgery

Young individuals who engaged in physical activities should be conscious about shoulder surgery. Techniques for arthroscopic surgery may be utilized to tighten the shoulder capsule, repair the glenoidal labrum, capsular ligaments, biceps long head anchor, or SLAP lesion. The Bankart repair, a well-known surgical procedure for recurrent anterior shoulder instability, has given rise to arthroscopic stabilization surgery. However, it has been demonstrated that in patients who have suffered considerable glenoid bone loss, the failure rate after Bankart repair rises noticeably. In certain situations, glenoid bone augmentation techniques like the Latarjet procedure have reportedly produced better results.

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Although posterior dislocation is far less frequent, the resulting instability is no less difficult to manage, and again, some kind of bone augmentation may be necessary. A posterior dislocation can damage ligaments, including labral rips, which can be repaired arthroscopically.

There are still instances of multidirectional instability that have not improved with rehabilitation and fall under the previously mentioned AMBRI classification. The most common cause of this is a stretched-out, redundant capsule that no longer provides stability or support. This has historically reacted favourably to a "reefing" technique called an open inferior capsular shift. More recently, arthroscopic surgery has been used instead of open surgery to do the operation, again with comparable results. While the long-term effects of this development are currently unproven, recent studies show thermal capsular shrinkage have higher failure rates with the highest number of cases of instability recurrence and re-operation. This technique has most recently been used to shrink the redundant shoulder capsule using radio frequency technology.