

## Dislocated Shoulder

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Traumatic shoulder dislocations are the most commonly occurring large joint dislocations. As a group, these occur most commonly in young males and is especially common in contact sports such as football, wrestling, hockey and lacrosse. The shoulder is a complex joint composed of the ball, humeral head, and the socket, glenoid. The glenoid has a very shallow concavity unlike other joints, such as the hip, which allows the shoulder to have a tremendous range of motion allowing the arm to be successfully positioned in space. The downside to this freedom of motion is an increased risk of instability.



The shoulder can dislocate in any direction, but the most common is an anterior dislocation. Anterior dislocations occur in 97% of cases. The second most commonly occurring direction is a posterior dislocation. Anterior dislocation usually occurs with a posterior directed force on the arm when the shoulder is in an abducted and externally rotated position, similar to the position of the arm when cocking back to throw a ball. For this reason, many overhead athletes may be prone to continued instability despite non-operative management. Posterior dislocations on the other hand, occur with a force directed on the arm when it is flexed and adducted as if trying to scratch your opposite shoulder.

### **There are two important reasons that x-rays need to be obtained:**

1. It is important to objectively determine whether the shoulder has been relocated and is in the correct position.
2. It is vitally important to determine whether a fracture has occurred to either the humeral head or glenoid. Fractures of either bone can significantly affect the treatment options and whether surgery will be necessary.



The shoulder has both static and dynamic restraints that combine to keep the shoulder in a reduced position. The static restraints when an injury occurs cannot be altered without surgery and include the labrum, glenoid, and ligaments. The dynamic stabilizers of the shoulder include the rotator cuff and the scapular stabilizer muscles. When there is an injury to the static restraints of the shoulder the dynamic stabilizers can be utilized to try and overcome the static restraint limitations to provide a stable shoulder. The use of physical therapy can help optimize

the dynamic stabilizers and is the foundation of non-operative management surrounding shoulder dislocations.

The acute management of a shoulder dislocation requires prompt recognition of the problem followed by appropriate treatment which results in reduction of the joint. Many times, this can occur on the playing field with the assistance of a trained professional. Many techniques have been described to achieve this and patients typically feel significant relief after the reduction has been successfully performed. Delayed reduction can lead to significant problems including nerve and vessel injury so prompt reduction of the shoulder is recommended as soon as a trained professional can be located.

After reduction has been obtained, it is important to obtain radiographs (x-rays) of the shoulder. There are two important reasons that x-rays need to be obtained: 1. It is important to objectively determine whether the shoulder has been relocated and is in the correct position. 2. It is vitally important to determine whether a fracture has occurred to either the humeral head or glenoid. Fractures of either bone can significantly affect the treatment options and whether surgery will be necessary.



Dislocations that occur during an athlete's season can often be temporized with the ability to return to the field in a relatively short period of time if no fracture or tendon injury is present. Depending on the athlete's sport a brace is sometimes recommended to prevent further instability events.

The difficulty of these braces is that they are typically bulky and do not allow abduction and external rotation. For an overhead athlete such as a quarterback these braces cannot be worn due to the position necessary to throw a ball. Nonoperative management of athletes that are in season typically involves a short period of immobilization for 7-10 days combined with physical therapy. Return to play can be instituted after obtaining pain-free range of motion with no objective or subjective feelings of instability.

The risk of recurrent dislocation is related to several factors including age, activity level, and contact sports. In patients under the age of 20 there is a >90% chance of recurrent instability. Recurrence rates in patient over the age of 30 falls significantly and is a little less than 30%.

Recurrent instability, i.e. multiple dislocations, of the shoulder is typically an indication for surgical intervention. The typical injury of the shoulder is a Bankart lesion, which occurs in over 95% of shoulder dislocations, and is a result of a tear of the anterior inferior labrum of the glenoid. Other types of injuries also commonly occur around the shoulder such as rotator cuff



tears but usually happen in patients over the age of 45 years. In the vast majority of the cases, surgery can be performed arthroscopically to address the pathology in the shoulder.

This is usually performed with three small incisions about 1 cm in length. Immobilization is required over the first month. Physical therapy is started after surgery and is usually continued for 4 months after surgery and return to play can typically be achieved in 6-9 months.