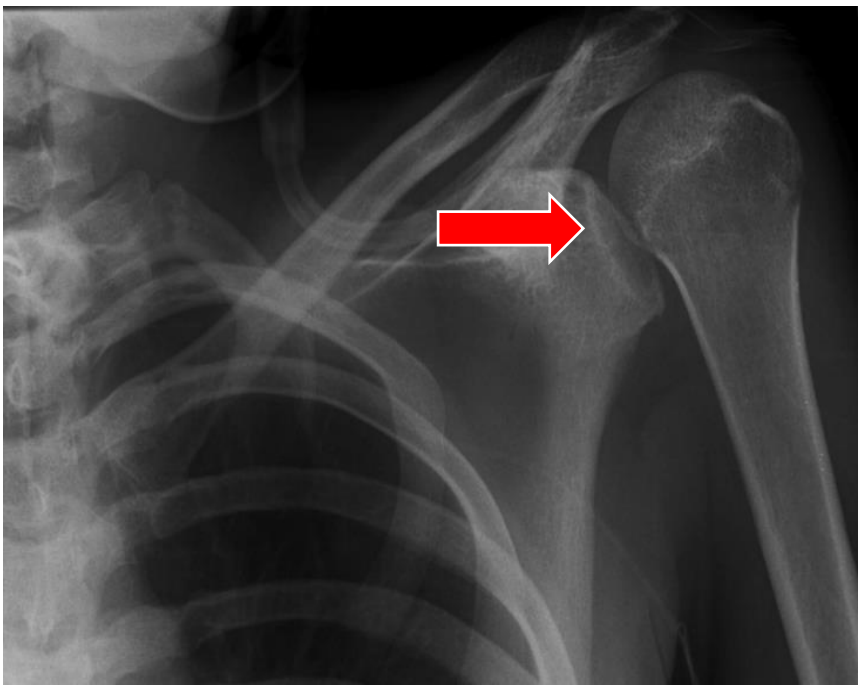
Posterior Shoulder Dislocations and Instability

Posterior shoulder instability typically results from a dislocation injury to the shoulder joint when the humeral head (ball) of the humerus (upper arm bone) is forced from its normal position in the center of the glenoid (socket) and out the back. Posterior shoulder dislocations most commonly occur with falls on an outstretched hand in front of the body.

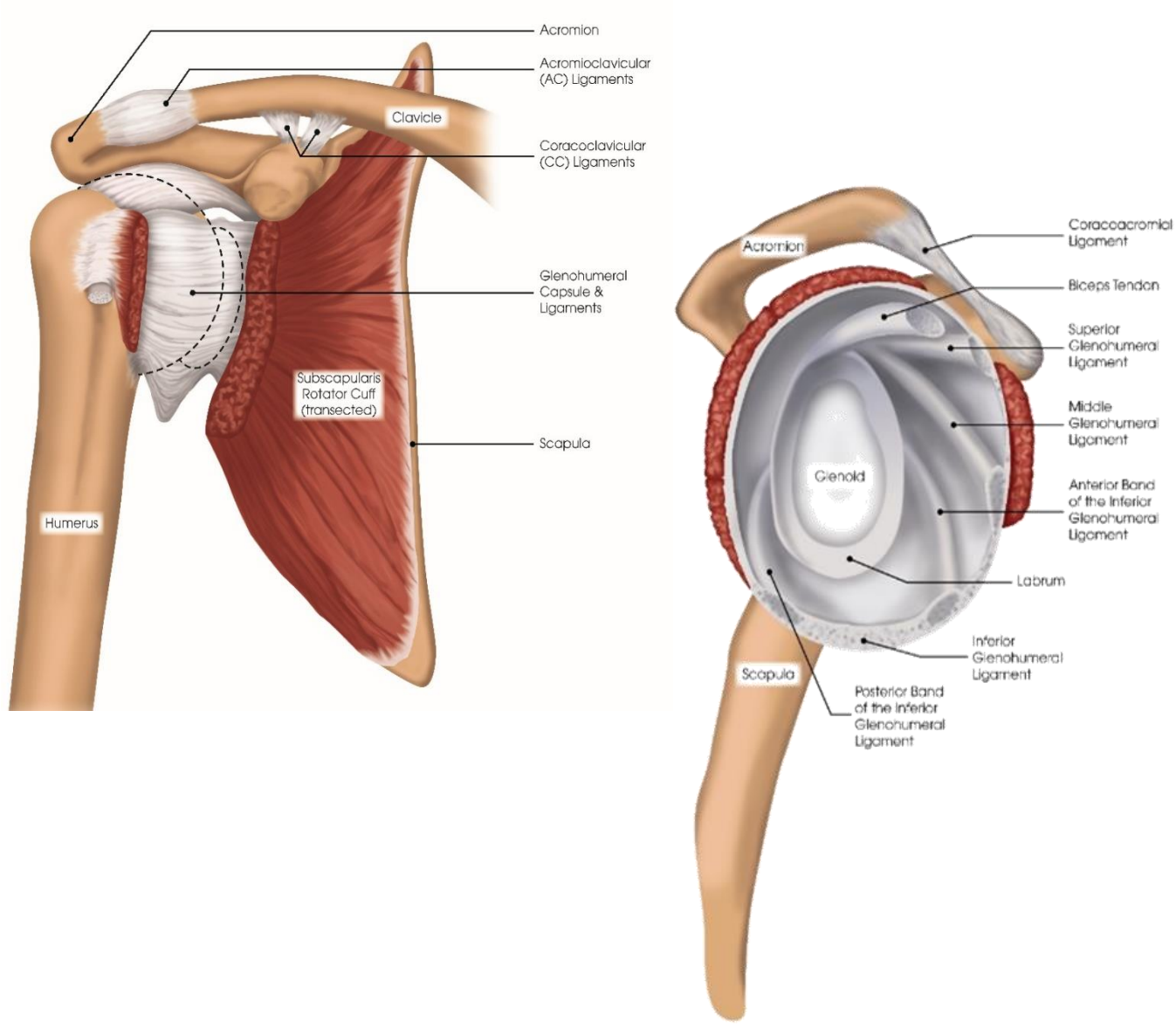


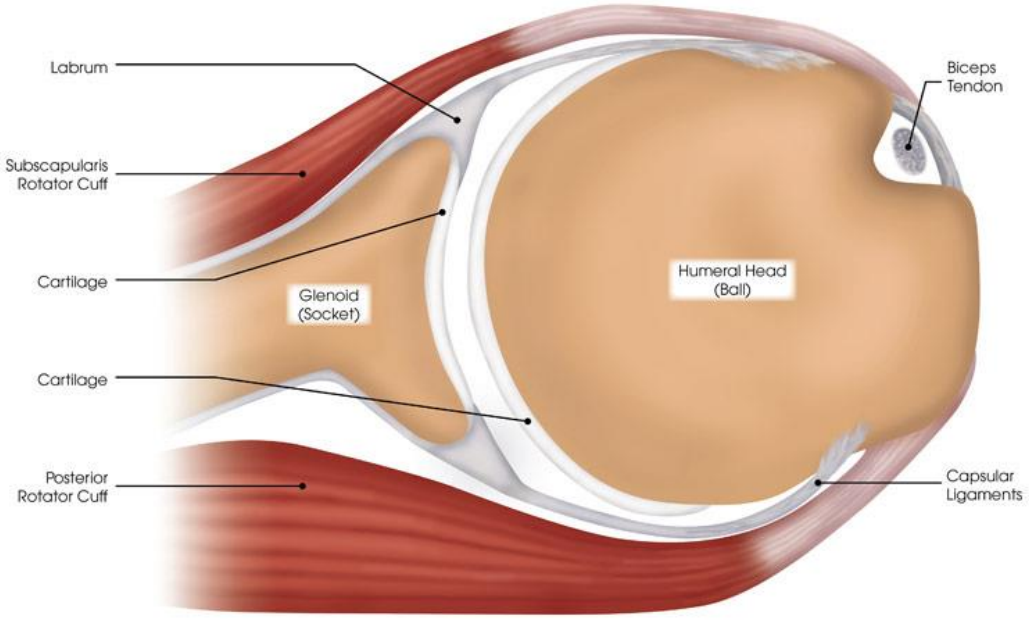
X-ray of a posterior shoulder dislocation.

The shoulder has more range of motion than any other large joint in the body and it also is the most commonly dislocated large joint. The shoulder is like a golf ball on a golf tee. Many structures contribute to shoulder stability and include bony contours of the humeral head (ball) and glenoid (socket). The soft tissue bumper of the glenoid is called the labrum. The labrum surrounds the rim of the socket helping keep the head of the humerus in place. Ligaments that attach from the glenoid to the humeral head also assist in keeping the head of the humerus in place. Muscles of the rotator cuff that surround the shoulder also contribute to keeping the shoulder stable. When a shoulder is dislocated from its glenoid, any of these stabilizing structures may be injured including the humeral and glenoid bone, the labrum, the capsule and ligaments, and the rotator cuff. When a younger active patient dislocates his or her shoulder, he or she may injure all these structures, but typically tear the labrum off the glenoid (socket)

along with the attached stabilizing capsule and ligaments. When this occurs it is called a Bankart lesion. In this younger more active population, surgery is sometimes needed to repair the labrum with its ligaments and capsule to prevent instability and pain. Therefore, surgery is sometimes recommended to repair the torn labrum and capsular ligaments and best restore shoulder stability and alleviate symptoms.

Capsular and Ligamentous Anatomy of the Shoulder





Frequent Signs and Symptoms

- Severe pain in the shoulder at the time of dislocation injury
- Loss of shoulder function and severe pain when attempting to move the shoulder
- Apprehension, feeling like your shoulder wants to slip out of place with certain positions
- Tenderness, deformity, and swelling
- Pain with moving the shoulder, especially when reaching overhead; pain with heavy lifting; pain that awakens you at night
- Loss of strength
- Numbness or paralysis in the upper arm and deltoid muscle from pinching, stretching, or pressure on the blood vessels or nerves
- Crepitation (“crackling”) feeling and sound when the injured area is touched or with shoulder motion
- Decreased or absent pulse at the wrist because of blood vessel damage (rare)

Etiology (Causes)

- Direct blow to the shoulder
- Falling on an outstretched arm in front of body
- Repetitive throwing motion or swimming
- Result of a shoulder dislocation injury
- Congenital abnormality (you are born with it), such as a shallow or malformed joint surface
- Violent muscle contractions, associated with seizures

Risk Factors

- Contact sports (football, wrestling, and basketball)
- Sports that involve repetitive overhead activity, such as baseball, volleyball, swimming
- Sports that require forceful lifting, hitting, or twisting
- Previous shoulder dislocations or sprains
- Shoulder fracture
- Repeated shoulder injury
- Poor physical conditioning (strength and flexibility)
- Fixed dislocation

Prevention

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning:
  - Cardiovascular fitness
  - Shoulder strength
  - Flexibility and endurance
- For participation in contact sports, wear protective shoulder pads.

Outcomes

Following reduction of a posterior shoulder dislocation, functional outcomes can be excellent and re-dislocation rates are lower with proper treatment. For younger active patients that continue to experience instability or pain, arthroscopic repair of the injured stabilizing structures, mostly of the torn labrum, capsule and ligaments is beneficial. For posterior shoulder dislocations, there may be a risk for continued subtle asymptomatic

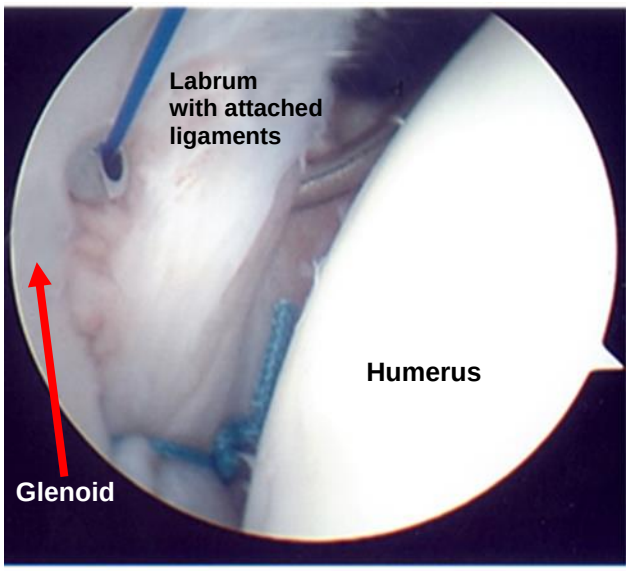
posterior instability that results in asymmetric wear of the glenoid cartilage and bone resulting in early post-traumatic arthritis. Posterior dislocations have been discovered late and not reduced. These chronic dislocations have a less desirable outcome and often require more complex surgery to reduce and maintain a stable shoulder.

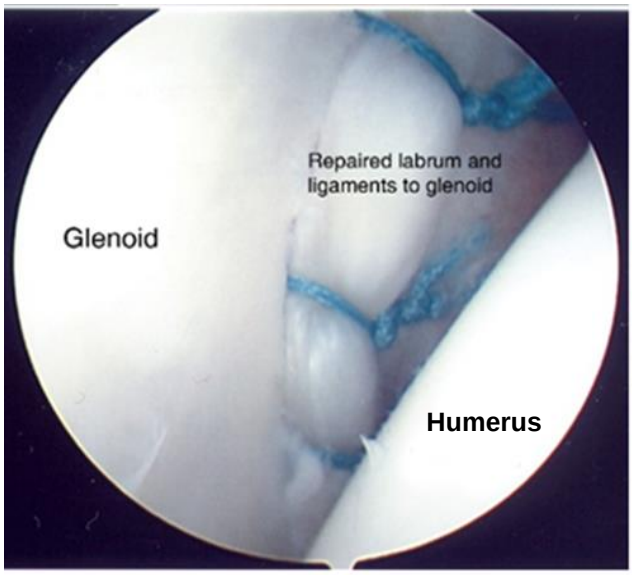
Potential Complications

- Damage to nearby nerves or major blood vessels, causing temporary or permanent weakness, paralysis, numbness, coldness, and paleness from dislocation
- Fracture or joint cartilage injury due to the dislocation or reduction of the dislocation
- Prolonged healing or recurrent dislocation if activity is resumed too soon

Arthroscopic picture, left, demonstrates a Bankart lesion or tear of the labrum and capsular ligaments away from the glenoid, socket of the shoulder joint.

Arthroscopic picture, below left, shows the repair in process and below right shows an arthroscopically repaired Bankart lesion.





- Rotator cuff tear
- Repeated shoulder dislocations, particularly if the previous dislocation is not healed completely or appropriately rehabilitated; most recurrent dislocations are caused by repeated injury, but with increasing number of dislocations, less force is required to cause subsequent dislocations
- Unstable or arthritic shoulder following repeat injuries

Treatment Considerations

Shoulder dislocations should be reduced (put back in place) as soon as possible for the comfort of the patient and relaxation of potentially damaging traction on nerves and blood vessels. It may also help to restore blood flow the humeral head bone which may be obstructed with the dislocation. Following the reduction, slings should be discontinued and early range of motion and gentle strengthening should begin to restore shoulder function. X-ray, MRI studies and sometimes CT scans are needed to determine the full extent of injury to the stabilizing structures of the shoulder joint.

Younger patients may require arthroscopic surgery to repair the torn labrum, capsule and ligamentous structures and even sometimes fractures of the bone and tears in the rotator cuff. Older patients often return to previous levels of function without surgery unless they sustain a fracture or tear of the rotator cuff that requires surgery. Undiagnosed chronic posterior dislocations are complex and may require different surgical approaches based on individual aspects of the case

Possible Medications

- General anesthesia or intravenous (IV) sedation may be used during the reduction of the dislocation
- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 10 days before surgery), or other minor pain relievers, such as acetaminophen are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur. Strong pain relievers may be prescribed, as necessary. Use only as directed and only as much as you need.

Modalities (Cold Therapy)

Cold is used to relieve pain and reduce inflammation. Cold should be applied for 15-20 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.

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