

The human shoulder is an amazing machine. The unique anatomy of the shoulder enables the greatest range of motion of any joint in the body. The shoulder allows overhead activities like screwing in a lightbulb and provides the strength to do a handstand or throw a 95-mile per hour fastball.

Under normal circumstances, we rarely stop to think about our shoulders. When an injury to the shoulder occurs, however, it often can be impossible to ignore. A shoulder dislocation is one of those injuries. This article covers the important aspects of shoulder dislocation: normal anatomy, anatomy of a dislocation, diagnosis, treatment, and future considerations after a dislocation.

## Normal Anatomy of the Shoulder

When most people think of the shoulder joint, the “ball and socket” comes to mind. The “shoulder,” however, is actually made up of three separate joints.

1. **Glenohumeral joint:** Where the “ball” of the humerus (arm bone) meets the “socket” of the glenoid (part of the shoulder blade).
2. **Acromioclavicular joint:** The “AC” joint where the clavicle, or “collar bone,” meets the scapula, or “shoulder blade.”
3. **Scapulothoracic joint:** Where the shoulder blade meets the rib cage.

The scapulothoracic and glenohumeral joints contribute to most of the range of motion of the shoulder, while the AC joint provides a stable connection between the arm and the rest of the skeleton.

For the purposes of this guide, when “shoulder joint” or “shoulder dislocation” are discussed, we’re referring to the glenohumeral joint, or the “ball and socket”.

The shoulder is unique because the stability does not come from the shape of the bones, like the hip joint, for example. Most of the stability of the shoulder comes from the soft tissues that surround the ball and socket. There are three layers that contribute to this stability:

1. **Outer layer:** Large powerful muscles including the deltoid, the trapezius and the pectoralis make up the outer layer and provide the bulk of the strength of the shoulder.
2. **Middle layer:** The middle layer is made up of the Rotator Cuff. This is a group of four small muscles that surround the glenohumeral joint and help keep the “ball” centered in the “socket”.
3. **Inner layer:** Strong ligaments between the humer-

us (ball) and the glenoid (socket) help prevent the joint from dislocating. The labrum, a firm tissue that surrounds the glenoid, is another important structure. When an injury happens, these ligaments and the labrum can be damaged, and a shoulder dislocation can result.

## Causes

The normal shoulder joint can be thought of as a golf ball balancing on a tee. If a large enough force in the right direction is applied to the arm, the ball will dislocate from the socket. This causes pain, and the shoulder will appear and feel abnormal. It will be difficult to move the shoulder and arm. Sometimes the shoulder will go back into place on its own. When the shoulder will not go back into place on its own, a reduction is required. This usually involves a trip to the emergency room or other health care professional.

## Diagnosis

The first step in treating a painful shoulder injury is reaching the correct diagnosis. The shoulder can dislocate out the front (anterior), out the back (posterior), or towards the armpit (inferior). X-rays help determine the direction of the dislocation and if there is an associated fracture present (see figures 1 and 2).

Figure 1: A normal shoulder with the “ball” and “socket” aligned.

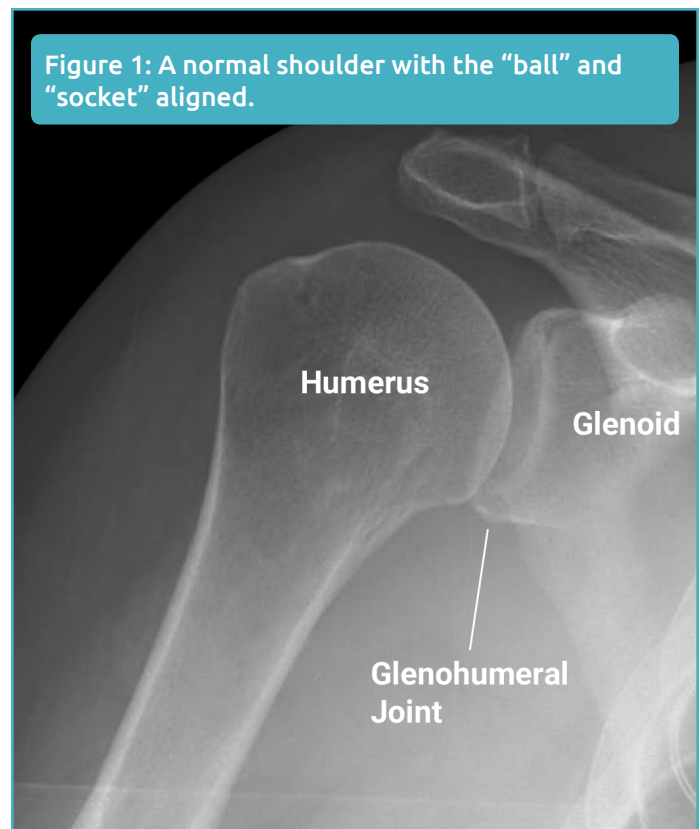


Figure 2: A dislocated shoulder in which the “ball” is not aligned with the “socket”.



## Non-Surgical Treatment

A dislocated joint is usually painful, and full relaxation of the muscles of the shoulder is often required to put the shoulder back in place. For this reason, when putting the shoulder back in place, sedation or an injection of an anesthetic medication is often given into the shoulder joint.

Putting the joint back in place, which is called a “reduction,” is performed by pulling the arm in a specific direction based on the type of dislocation. Once the joint is back in place, comfort improves. Often a sling is used for comfort.

## Recovery

Occasionally there will be numbness over the shoulder for several days to weeks. This is common and is usually temporary. However, this numbness should always be mentioned to a health care professional. Once the shoulder is in place, there remains the risk of re-dislocation. Precautions must be taken to help prevent this from happening. Shoulder dislocations can also be associated with additional injuries such as tendon tears or fractures. For these reasons, an appointment for follow up with an orthopaedic surgeon or other musculoskeletal specialist

should be arranged.

After a dislocated shoulder is put back in place, a sling may be used for 4-6 weeks. During this time, it is important to occasionally come out of the sling for elbow, wrist, and finger range of motion, as these joints are prone to stiffness. A physical therapy referral may be given by your doctor to help assist in regaining shoulder range of motion while protecting the torn ligaments as you heal. In most situations, the healing process has progressed enough that careful shoulder range of motion can start 4-6 weeks after the injury under the supervision of a physical therapist. People can expect to use their shoulder for most normal activities a few months following the injury. Contact sports, or activities that place the shoulder at a high risk of re-dislocation, are usually not resumed for 4-6 months after the injury.

## Risks of Re-Dislocation

Research studies have shown that the younger and more active you are, the higher the risk for re-dislocation. For example, a typical 18-year-old U.S. Marine is more likely to re-dislocate than a typical 45-year-old school teacher.

## Surgical Treatment

Most first-time shoulder dislocations can be successfully treated without surgery. People treated successfully without surgery can expect to use their arms for most normal activities that they enjoyed before their dislocation. The decision to have surgery often comes down to the risk for re-dislocation and any other associated injuries. Repeated shoulder dislocations can lead to cartilage damage and bone loss, which in turn can lead to pain, weakness, chronic instability and osteoarthritis. If the risk of re-dislocation is higher than the risks of surgery, then surgery to stabilize the shoulder may be the best choice. Likewise, surgery may be needed if the rotator cuff, a bone around the shoulder, or the labrum were injured.

The main goal of stabilization surgery after a shoulder dislocation is to keep the shoulder in place while keeping as much range of motion as possible. This is usually done by repairing the structures that were damaged during the dislocation. This may involve repairing the torn labrum and surrounding structures that help provide stability to the shoulder. One commonly used name for this injury is a Bankart tear. This is named after Dr. Arthur Bankart, the physician that first described it in 1923. Typically, repair of this injury involves use of bone anchors and strong sutures to put the torn labrum and surrounding tissues back to the edge of the glenoid, or “socket.” This surgery can be performed in an open fashion or can be done arthroscopically through small incisions depending on many

different variables. Depending on the extent of the damage, this surgery typically takes 1-3 hours to complete, and the patient will usually go home the same day.

## Recovery after surgery

A sling is usually used for four to six weeks after surgery. Because it can be difficult to control our motions while we sleep, you may be required to wear this sling to bed at night. You should confirm the specific restrictions with your surgeon. Some people find it easier to sleep in a recliner during this period.

Surgery for shoulder instability is usually followed by a period of discomfort and shoulder stiffness that can be different for every patient. Some people have very little pain or stiffness, while other patients have pain and stiffness that can last for months. Your surgeon will likely prescribe medications to help with pain for a limited time after surgery. These medications will help lower your level of pain and can help you tolerate physical therapy sessions. Because opioid pain medications can be highly habit-forming, it is important to have a conversation with your surgeon to help understand your expected post-operative pain control.

You will also likely start physical therapy within a few weeks of surgery. Physical therapy may be important after surgery for multiple reasons. A licensed physical

therapist will help you regain and maintain shoulder range of motion, while helping to protect the repair during the early weeks and months after surgery when the repair is most vulnerable to re-tear. The therapist will advance your shoulder range of motion and conditioning based on the post-operative plan laid out by your surgeon. Depending on the procedures performed and the level of pain and shoulder stiffness, you may require many therapy sessions. Most patients that undergo shoulder stabilization surgery will achieve good range of motion and will have improved pain by three or four months after surgery. Shoulder conditioning will likely continue for four to six months after surgery. People are usually allowed to return to sports around six months after surgery.

## Conclusion

Shoulder dislocations are painful injuries that can happen to anyone. Fortunately, most of these injuries can be treated without surgery. Younger and more active people are at a higher risk for re-dislocation. Recurrent shoulder dislocations can lead to chronic instability, additional shoulder injuries and shoulder arthritis. Surgery can be performed for higher risk patients to help prevent this from happening. A consultation with an orthopedic surgeon or other qualified musculoskeletal care professional can help you make the best decision regarding the treatment of your shoulder injury.