

# Shoulder Separation

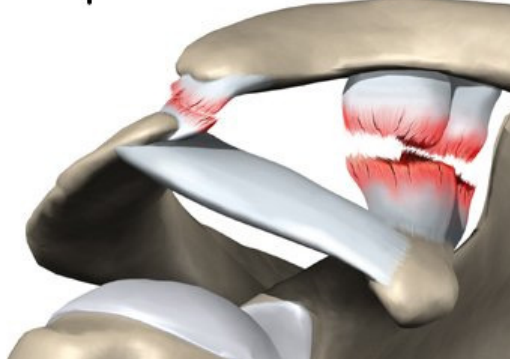
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## OVERVIEW

A shoulder separation is a fairly common injury, especially in an athletic population. A shoulder separation is actually a sprain or dislocation of the acromioclavicular (AC) joint, which is the joint between the acromion part of the scapula (shoulder blade) and the clavicle (collarbone).

## BACKGROUND

The shoulder is made up of three bones: the scapula (shoulder blade), the humerus (upper arm bone) and the clavicle (collarbone). The part of the scapula at the upper outer part of the shoulder is called the acromion. The articulation or joint where the acromion and the clavicle join is known as the acromioclavicular or AC joint. There are ligaments that hold these two bones together. Ligaments are soft tissue structures that connect bone to bone. One set of ligaments surround the joint and make up the joint capsule. 2 other ligaments hold the clavicle down, and attach the clavicle to a bony knob on the scapula called the coracoid process. The AC joint can be injured in varying degrees. The simplest type injury is a simple sprain of the ligaments around the joint (grade 1). A more severe injury can result when the ligaments around the joint are actually torn (grade 2). If the ligaments that the clavicle to the coracoid process are also torn, the injury results in more displacement and a bigger bump on the shoulder (grade 3).



## CLINICAL PRESENTATION AND DIAGNOSIS

The most common cause of shoulder separation is a fall on the shoulder. As the shoulder strikes the ground, the force pushes the scapula down. The collarbone, because it is attached to the rib cage, cannot move down enough to follow the motion of the scapula. Something has to give, and the ligaments around the AC joint begin to tear - separating, or dislocating, the joint.



The symptoms range from tenderness over the joint, to significant pain with motion. There may be a considerable amount of swelling if the separation is grade 2 or 3. A bluish discoloration of the skin due to bruising may occur several days after the injury. In the grade 3 separation you may feel a popping sensation due to the loose joint shifting. There is usually a noticeable bump on the shoulder if the joint has completely dislocated. Diagnosis is usually made on physical examination. X-rays may show the AC joint to be separated or dislocated, and may be necessary to make sure there is not a fracture of the clavicle. In some cases, x-rays are taken while

holding a weight in each hand to stress the joint and determine how much instability in the joint is present.

## TREATMENT

Treatment for a *Grade 1* or *Grade 2* shoulder separation usually consists of a sling and pain medication until the sprain, or tearing, of the ligaments heals. In most cases, the shoulder becomes relatively pain free within 3 weeks. Since there is not a danger of making the condition worse, activity can be determined by the symptoms. You can usually do whatever you can tolerate.



The treatment of *Grade 3 AC* separations is somewhat controversial. Many studies show no difference in the outcomes for surgically treated separations versus doing nothing. A significant portion of people who undergo surgery will need another operation later as the injury causes the joint to degenerate and become painful. Other physicians feel that some patients benefit from surgical repair. One case where repairing the ligaments may be best is in the case of the highly functioning throwing athlete. Some would argue that these athletes perform better following repair than without the repair. Surgery involves relocating the joint and repairing the torn ligaments. A screw or some other type of fixation may be used to hold the joint together while the ligaments heal. If a screw is used to hold the clavicle in place while the ligaments heal, it will usually be removed 6-8 weeks after the surgery.

Several studies have been done looking at what happens to the *AC* joint after this injury. It appears that many people whether they had the joint repaired surgically or not, will need a second operation at some time in the future. The injured joint degenerates faster than normal and over time becomes arthritic and painful. This process would typically take many years to develop, but sometimes this happens more quickly. There are surgical options for treating *AC* joint arthritis, but not good options for prevention after a shoulder separation. Hopefully, it will not develop or would develop and progress very slowly.

## MORE INFORMATION

Further information can be obtained on the internet. Your local public library can help you explore these sources if you are interested. Two good sites for expert and peer reviewed information are the American Academy of Orthopedic Surgeons at [www.aaos.org](http://www.aaos.org) and the Pediatric Orthopedic Society of North America at [www.orthokids.org](http://www.orthokids.org).