

## PATIENT GUIDE TO "AC" (ACROMIOCLAVICULAR) JOINT PROBLEMS

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### ***WHAT IS THE "AC" JOINT?***

The "AC" joint is a joint in the shoulder where two bones meet. One of these bones is the collarbone (or clavicle). The second bone is actually part of the shoulder blade (scapula), which is the big bone behind the shoulder that also forms part of the shoulder joint. The portion of the shoulder blade which meets the clavicle is called the Acromion. As a result, where the "Clavicle" meets the "Acromion" is called the "AC" joint (Figure 1). Like most joints in the body where bones meet, there is cartilage between the two bones, which the white tissue between bones that allows them to move on each other, like Teflon on two ball bearings.

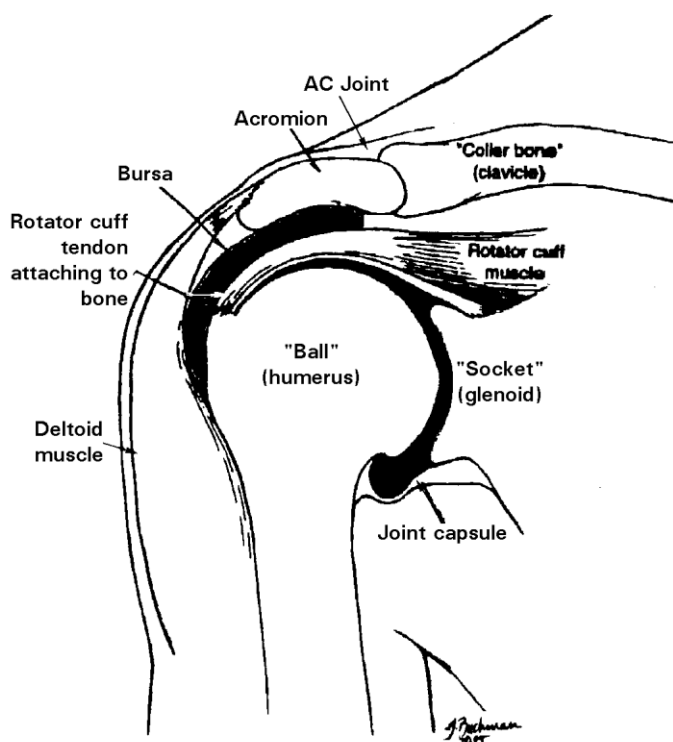


Figure 1

### ***WHAT KINDS OF PROBLEMS OCCUR AT THE AC JOINT?***

There are many things that can happen to the AC joint, but the most common conditions are arthritis, fractures and "separations". Arthritis is a condition characterized by loss of cartilage in the joint, which is essentially wear and tear of the smooth cartilage which allows the bones to move smoothly. Like arthritis at

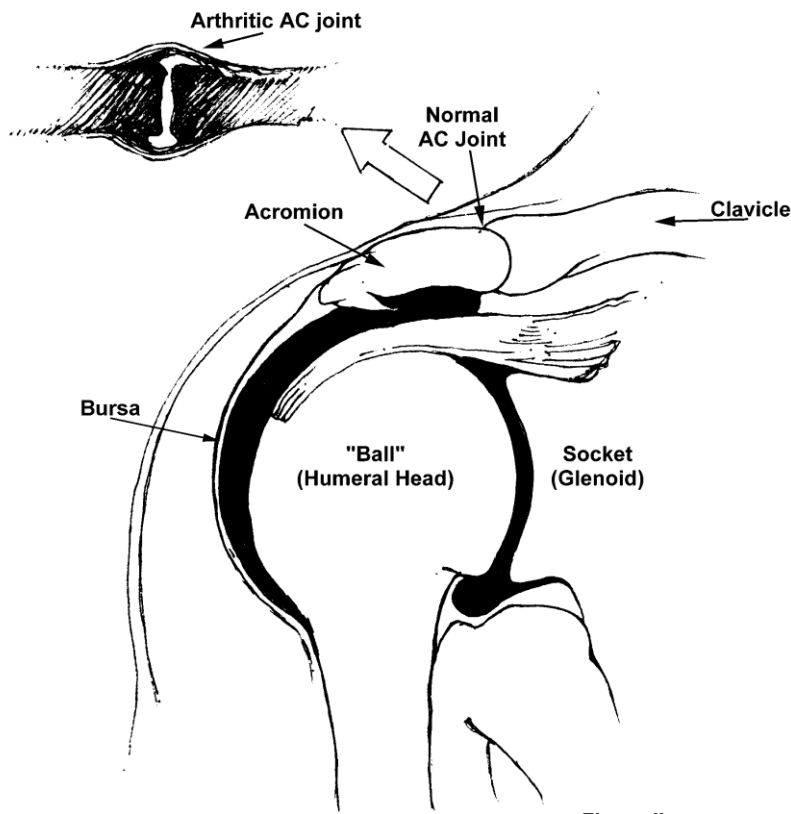


Figure II  
Front View of Shoulder

other joints in the body it is characterized by pain and swelling, especially with activity. Over time the joint can wear out even more so that the joint gets larger and spurs form around the joint (Figure 2). These spurs are a sign of the arthritis and not a cause of the pain. Motions which aggravate arthritis at the AC joint include reaching across the body toward the other arm. AC joint wear and tear is common in weight lifters, especially with the bench press and to a lesser extent military press. In weight lifters the arthritis at the AC joint has a special name and is called "osteolysis."

### ***HOW DO YOU TREAT ARTHRITIS OF THE AC JOINT?***

When the cartilage is gone from the joint there is currently no way to replace it. As a result, one way to treat the arthritis is to modify your activities so as to not aggravate the condition. This does not mean giving up activities entirely but it may mean doing certain ones less often or with less intensity. For example, weight lifters may do bench press only three-quarters of the way down instead of a full bench press, or to exercise their pectoralis muscle (muscle made stronger by bench press) they may instead do a lift called a butterfly which does not seem to irritate the joint as much as bench press.

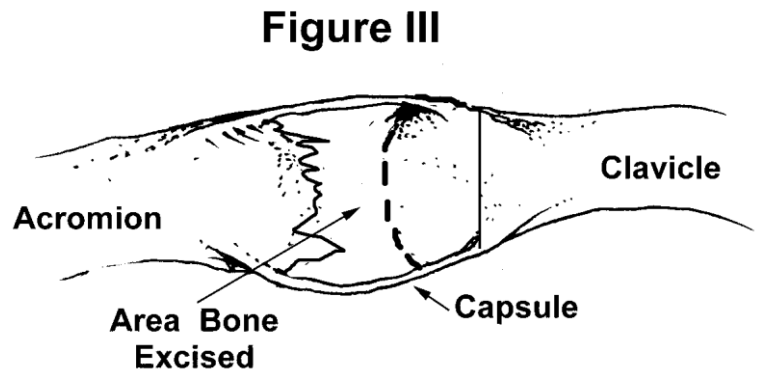
Other ways to treat arthritis of the AC joint include the use of ice and medication. Application of ice to the joint decreases the pain and the inflammation at the joint. It is recommended that the more the joint hurts the more ice be used. Ice should be particularly applied after athletic activities, or if the joint is very sore, ice should be applied daily or as often as every two hours. Ice should be applied for twenty to thirty minutes directly to the joint either using an ice bag or by massaging the joint with ice cubes. Since the joint is relatively small ice massage can be very effective, and paper cups filled with water and placed in the freezer make great ice cones for massaging the joint.

Medication which typically can decrease the inflammation includes aspirin or medications called non-steroidal anti-inflammatory drugs. These are medications like aspirin but do not have to be taken as frequently as aspirin, and include ibuprofen (or Advil or Motrin), naprosyn (or Aleve), Feldene, Clinoril, Daypro, Indicin and others.

### ***WHAT CAN BE DONE IF THOSE TREATMENTS DO NOT WORK?***

If rest, ice, medication and modifying your activity does not work, then the next step is a cortisone shot. One shot into the joint sometimes takes care of the pain and swelling permanently, but the effect is unpredictable and may not last forever. Usually no more than one or two cortisone shots are given before surgery is considered.

If these treatments do not work then surgery can be considered. Since the pain is due to the ends of the bones making contact with each other, the treatment is actually removal of a portion of the end of the collarbone. (Figure 3) The AC joint is one of the few joints in the body where you can live without a portion of the bone making up the joint. The surgery can be done through a small incision about one inch long or it can be done with several small incisions using an arthroscopic technique.



Regardless of the technique utilized the recovery and results are about the same. In most cases the patient can go home the same day as the surgery wearing an arm sling. The stitches come out about a week later and motion of the shoulder begins right away. It takes about four to six weeks to get complete motion and a few more weeks to begin regaining strength. Recovery is variable depending upon many factors but most patients are back to full activity by three months.

### **WHAT ARE THE RESULTS OF SURGERY?**

Most patients get excellent pain relief with this operation and nearly ninetyfive percent return to their pre-injury level of activity and sports. There are few complications and most patients are very satisfied with the result. There is always a possibility of infection but it is rare. Occasionally a patient may have some fatigue or pain with extreme lifting or with exercises if the shoulder is not in shape. However, most patients are very satisfied with the surgery and can be more active than before surgery.

## WHAT IS AN AC "SEPARATION"?

When the AC joint is "separated" it means that the ligaments are torn and the collarbone no longer lines up with the acromion. Ligaments are tough, sinewy tissues that act like tethers to hold the bones together. When those ligaments are stretched or torn they can be very painful. The injury to the ligaments in an AC separation can be mild to severe. The injuries are graded depending upon which ligaments are torn and how badly they are torn. A grade I injury is where the least damage is done and only the joint itself is injured. A grade II injury consists of damage to the ligaments at the AC joint and also to other ligaments which stabilize the joint. This second set of ligaments attach the collarbone to another part of the shoulder blade, called the coracoid (Figure 4). These ligaments are called the "coraco-clavicular ligaments". In a grade II injury these coraco-clavicular ligaments are only stretched but not entirely torn. The collarbone may not line up with the acromion if these are stretched and results in a lump at the AC joint. In a grade III injury the coraco-clavicular ligaments are completely torn and the collarbone is no longer tethered to the shoulder blade. As a result the collarbone no longer lines up with the acromion and there is a deformity at the joint (Figure 5).

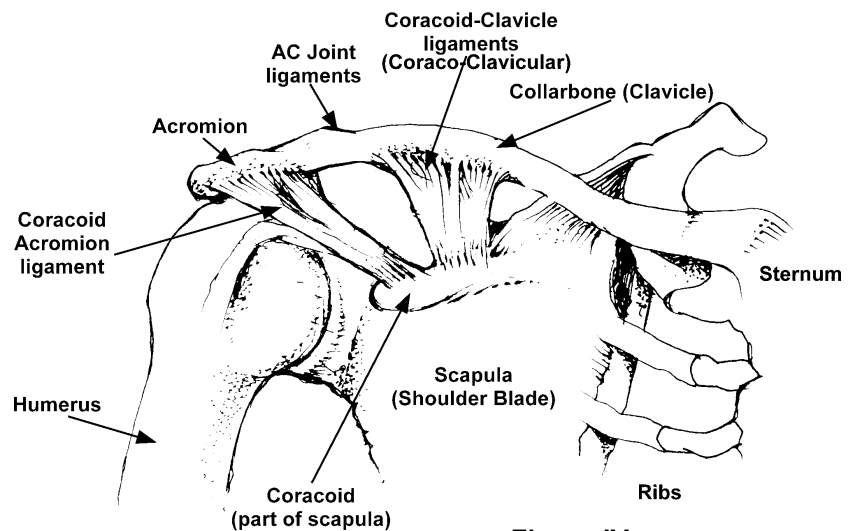
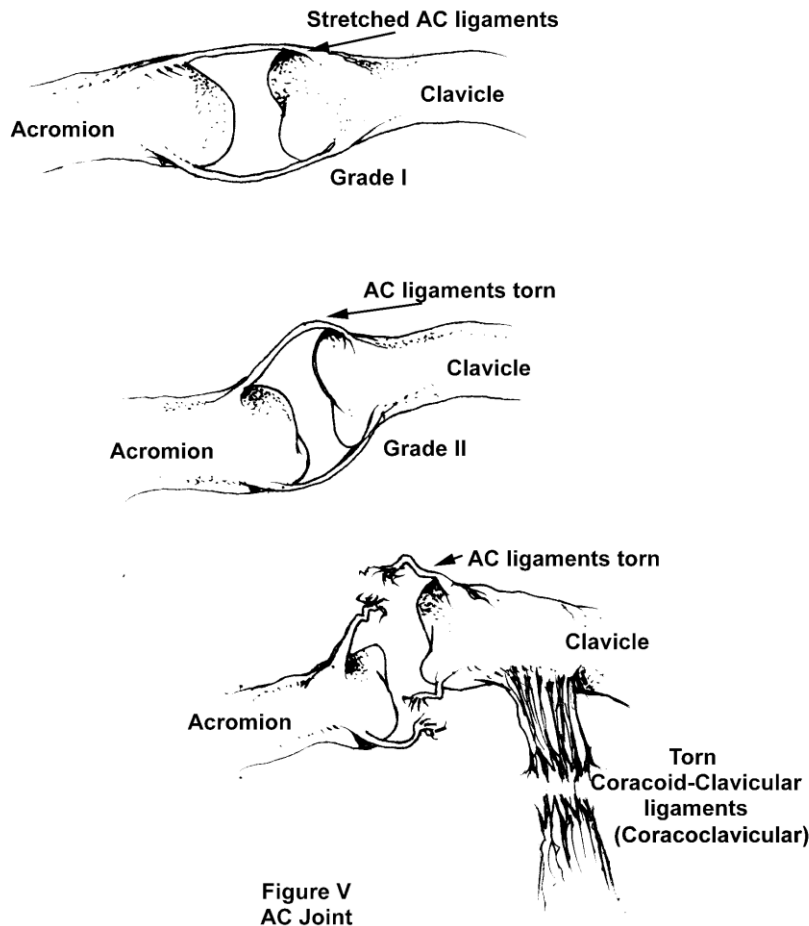


Figure IV

## ***WHAT IS THE TREATMENT FOR AN AC SEPARATION?***

These can be very painful injuries and the initial treatment is to decrease the pain. This is best accomplished by immobilizing the arm in a sling, placing an ice pack to the shoulder for 20-30 minutes as often as every two hours and using pain medication. The pain is usually proportional to the severity of the separation. As the pain starts to subside it is important to begin moving the fingers, wrist and elbow to prevent stiffness. Next it is important to begin shoulder motion to prevent a stiff or "frozen" shoulder. When and how much to move the shoulder should be done at the direction of your physician, physical therapist or trainer. Usually as the pain is decreasing you will find you can move it more, and this will not damage or hinder the healing process. The



length of time needed to regain full motion and function depends upon the severity or grade of the injury. A grade I takes ten to fourteen days whereas a grade III takes six to eight weeks. A grade II takes somewhere in between.

## ***WHEN IS SURGERY INDICATED?***

The good news is that a majority of Grade I, II and III injuries do not need surgery. Even the grade III injuries usually allow return to full activity with few restrictions. There are some surgeons who recommend surgical treatment for high caliber athletes who throw a baseball for a living, but a vast majority of people do not need surgery for this condition. There are rare variations of this injury where the collarbone is higher than usual and almost sticking through the skin. In these cases surgery may be indicated but careful consideration should

be given to the advantages and disadvantages of surgery. The advantage is that the deformity at the AC joint is corrected, but in exchange there is a scar on the shoulder. Another advantage for the very severe deformity is that it will eliminate pain if the end of the collarbone is rubbing the skin or muscle. Disadvantages of surgery are that there are risks of infection, a longer time to return of full function and continued pain in some cases. Surgery can be very successful in cases where it is indicated.