



Shoulder Separation (Acromioclavicular Joint Separation)

One of the more common injuries to the shoulder in sports is the AC separation. Injury to the AC area most often occurs as the result of an unimpeded fall. In the fall the top of the shoulder lands on the ground while the arm is held close to the body. The impact is to the top of the shoulder which pushes the shoulder blade down. The collarbone is firmly attached to the rib cage under the neck at the chest. The collarbone cannot move down with the shoulder blade, so the AC joint ligaments are forced to stretch or tear. The injury is more prevalent in football, hockey, rugby, biking, snowboarding and skiing.

Pain is present as soon as the injury occurs. This pain generally limits shoulder motion immediately. Swelling and bruising may occur. The end of the collarbone may look like a raised lump. If the area looks abnormal, an x-ray (often with a weight held in the hand) is taken to look for AC joint separation and possible collarbone fracture.

The AC joint is at the tip of the shoulder where the shoulder blade (scapula) joins the collarbone (clavicle). The joints are held together by strong, sinewy tissue called ligaments. There are actually two joints and two ligament groups in this area. The acromioclavicular ligaments surround the joint that forms a capsule over the area where the acromion of the scapula and clavicle meet. The other ligaments are the coracoclavicular ligaments. They hold the clavicle by attaching to a bony prominence on the shoulder blade called the coracoid process.

Between the clavicle and the acromion there is a pad of cartilage within the joint. There may be damage to the cartilage. It is a cushion that allows both gliding and twisting motions of one bone on the other. When the ligaments are completely torn, the end of the collarbone may lift out of place. The ligaments then are no longer holding the collarbone against the acromion of the shoulder blade.

Shoulder separations are “typed” depending on the severity of separation of the collarbone from the shoulder blade:

Type I: The ligaments are bruised or sprained but there is no physical separation of the joint. There is tenderness over the joint and there may be some limitation in shoulder motion especially reaching forward and across the body.

Type II: There may be a partial tear in the AC ligaments, the coracoclavicular ligaments are stretched, and there is a slight actual separation of the collarbone from the shoulder blade. The cartilage in the AC joint may or may not be injured.

Type III: Separation occurs when the AC ligaments and the CC ligaments are both torn; the collarbone is not attached to the shoulder blade. There is a prominent bump at the joint. The cartilage may be injured. There may be considerable swelling.

Type IV: The tip of the clavicle is forced backwards.

Type V: The same damage as Type III, but with more than 100% elevation of the clavicle. There will be a large “step-off” in looking at the contour of the collarbone.

Treatment:

Initial treatment is the same as for any injured ligament. The shoulder is immobilized if the injury is more than Type I, ice is used 20 minutes every 2 hours, and pain medication is given. As pain diminishes physical therapy is begun to increase mobility and strength. The physical therapy program will protect the healing ligaments by working the arm in ways that will allow the sprained ligaments to heal short and tight while keeping the shoulder mobile and strong. Doing the wrong exercises can cause problems.

A Type I injury will be painful for a few days and will allow full return to function in as few as two weeks. A more severe injury usually takes three weeks to become pain free and a few more weeks to be fully functional for sports. Return to play is based on symptoms and pain. Surgery may be an option in Type IV and V injuries if it is necessary to hold the collarbone in place. Many people have good function of their arm even if there is a Type V injury and no surgery. Relatively speaking AC surgery is infrequently considered, as most injuries are Type I, II and III.