ORTHOSPORTS

QUESTION FOR PHYSIOTHERAPISTS

QUESTION | I HAVE A PATIENT, 40 YEAR OLD MALE, FIT & ACTIVE (SOCCER, MOUNTAIN BIKING, SWIMMING). WORKS AS A MINING ENGINEER. TWO WEEKS AGO CAME OFF MOUNTAIN BIKE, SUSTAINING "A GRADE 2-3 INJURY A/C WITH TORN CORACOCLAVICULAR LIGAMENTS" (MRI).

HE HAS HAD AN ORTHOPAEDIC SURGICAL OPINION WHICH GAVE HIM TWO OPTIONS:

1. **SURGICAL – OPEN PLATE & SCREWS AND RECONSTRUCT CORACOCLAVICULAR LIGAMENTS.**
2. **CONSERVATIVE (PHYSIO, "WAIT & SEE)**

DOES DELAYING THE OPERATIVE CHOICE DECREASE THE LIKELIHOOD OF A GENUINELY POSITIVE OUTCOME? WHILE NOT AN ELITE ATHLETE HE IS KEEN TO NOT BE LIMITED IN FUTURE ACTIVITY.

ANSWER | Acromioclavicular joint injuries represent nearly half of all athletic shoulder injuries. The injury is caused by direct impact to the shoulder from a fall.

Injury to the acromioclavicular joint involves failure of the AC ligaments and capsule followed by failure of the coraco-clavicular ligaments and deltotrapezial fascia.

The classification system put forth by Rockwood is commonly used to describe the extent of the injury. As outcomes correlate well with the grade of injury, knowing the grade is crucial in dictating the appropriate treatment.

It is important to note that while MRI is being used more commonly to evaluate injuries, plain radiographs of the AC joint are all that is needed to establish the grade of injury. Routine radiographs for AC joint evaluation include a true AP and axillary lateral of the shoulder, as well as Zanca views (10o to 15o cephalic tilt) taken with the patient in the upright position. Comparison views of the uninjured shoulder can be obtained to compare normal to abnormal. Stress views are not necessary.

The classifications are as follows:

Type I- AC ligament sprain with the AC joint not dislocated.

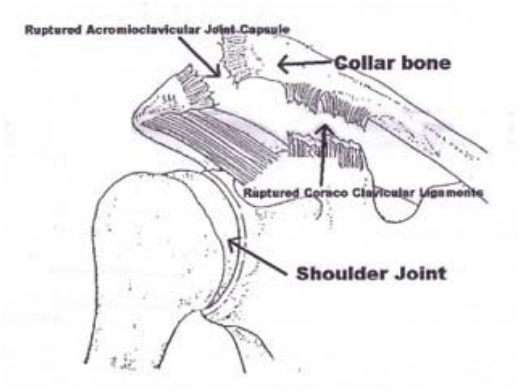
Type II- AC ligament tear, and coracoclavicular ligaments intact

Type III- AC and coracoclavicular ligaments torn with 100% AC joint dislocation.

Type IV- Complete dislocation with POSTERIOR displacement of the distal clavicle throught the trapezius muscle.

Type V- exaggerated superior dislocation of the AC joint between 100% and 300%, a 2-3 times increase in the coracoclavicular distance (normal 1.2cm), involving disruption of the deltotrapezial fascia.

Type VI- complete dislocation with clavicle under the coracoid (extremely rare)



Treatment:

Grades 1-2: There is no question that Grade 1-2 AC joint dislocations should be treated non-operatively. A simple sling can be worn for 1-2 weeks for comfort, and movement allowed as tolerated. A rehab program can be initiated once pain subsides, and return to contact sports after two months.

Grade IV to VI: More severe AC joint dislocations are treated acutely with surgery to reduce the clavicle that has pierced the deltotrapezial fascia. The surgical technique generally involves positioning the AC joint in the anatomic position so that the native ligaments will scar and stabilize the AC joint.

Grade III: The treatment of the grade III AC joint dislocation is controversial, although a recent trend has been toward non-operative management for most patients. A meta-analysis of the literature has shown that patients treated non-surgically returned to work and pre-injury activities sooner and had nearly normal strength and ROM at follow-up. Patients treated surgically had a higher complication rate.

A study of labourers and athletes with type III AC joint dislocations demonstrated that they can recover adequate strength and endurance when treated non-surgically. Furthermore, a study looking at Major League Baseball players with type III AC joint dislocations demonstrated that 80% of pitchers treated non-operatively had complete pain relief and normal function.

Patients who perform repetitive overhead work tasks, such as painters are more likely to experience symptoms of fatigue with an AC joint dislocation. In this subset of patients, acute surgery can be considered. Surgery for an acute AC joint reconstruction is best done within six weeks of the injury. Many procedures have been described and most generally work well.

When non-operative treatment is chosen, some patients will have persistent pain and inability to return to their sport or work. Once the acute injury has healed (after six weeks) surgical treatment must include a biological reconstruction of the coracoclavicular ligaments, as ligament healing is already complete. My preferred technique involves the use of hamstring autograft to reconstruct the conoid and trapezoid ligaments. This procedure will give generally good results to restore stability and reduce pain. However, the harvesting of a hamstring tendon does add morbidity to the procedure.

In summary, a patient with a grade III dislocation is usually treated non-surgically in my practice, regardless of their activity level. Complete pain relief and restoration of strength is expected. For patients with persistent pain, a reconstruction with hamstring tendon is performed with good results.

	
Normal AC Joint relationship	Type III AC Joint dislocation

Dr Todd Gothelf