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Acromioclavicular Joint Sprain (Separated Shoulder)

Acromioclavicular (AC) joint sprains are injuries to the ligaments at the joint where the clavicle (collarbone) articulates with the acromion (roof of the shoulder) of the scapula (shoulder blade). These injuries are commonly referred to as "shoulder separations" and represent injuries to the acromioclavicular ligaments between the clavicle and the acromion and the coracoclavicular ligaments between the coracoid and the clavicle. A sprain indicates that the ligament between the bones is either partially or completely torn which affects the stability of the acromioclavicular joint. AC joint sprains are graded I through VI from least to most severe.





Normal Anatomy

Grade of AC joint injuries



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X-ray of AC joint separation (Grade III)

X-ray of AC joint sprain (Grade VI)

Frequent Signs and Symptoms

- Pain, swelling, and deformity on top of the shoulder at the AC joint (see pictures)
- Loss of strength and inability to raise the arm initially following the injury.
- Bruising that appears at the site of injury and sometimes the chest, usually within 48 hours.

Etiology (Causes)

- Falling and landing on the tip of the shoulder (most common cause)
- Direct impact on the tip of the shoulder

Risk Factors

- Sports that involve contact or collision
- Racquetball, squash, cycling, and football.
- Poor strength in supporting musculature.
- Inadequate protective equipment

Prevention

- Appropriate conditioning, including shoulder and arm flexibility, muscle strength, and endurance.
- Proper protective equipment fit.
- Proper technique (including falling and landing, tackling)



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Outcomes

The treatment and outcome depend upon the severity of the ligament injury. The time to return to activities varies by the type of sport and position, arm injured (dominant versus non-dominant), and severity of sprain. Most low grade I and II sprains do well, and patients can return to activity within two to six weeks. Higher grade IV, V, and VI sprains require surgery and return to full activities requires four to six months. Intermediate grade III sprains may take six to 12 weeks to return or may have persistent symptoms requiring surgery and four to six months to return. Following these injuries, the AC joint can remain unstable and may continue to cause pain. The cartilage surface at the AC joint can also be injured and lead to premature post-traumatic arthritis of the AC joint (pain, swelling, etc.).

Potential Complications

- Weakness of shoulder
- Neurovascular injury is rarely associated with the injury.
- Pain and inflammation of the AC joint may persist.
- Prolonged healing time may be necessary if strenuous activities are resumed too quickly.
- Prolonged disability occasionally occurs.
- The AC joint may remain unstable or develop post-traumatic arthritis and cause pain.

Treatment Considerations

Initial treatment of lower grade sprains (I, II, and most III's) consists of rest, ice, and antiinflammatory medication to relieve pain. Gentle range of motion exercises help to prevent shoulder stiffness, and modification of activities. Higher grade IV, V, and VI sprains require surgery to reduce (re-locate) the AC joint and repair/reconstruct the torn ligaments. Return to full activities occurs four to six months after surgery. Intermediate grade III sprains may take six to 12 weeks to return but sometimes can cause persistent symptoms which require later surgery.

- Treatment of non-surgical patients involves a sling initially for comfort, followed by gentle range of motion exercises and progressive strengthening as the pain and limitations resolve.
- Surgical treatment is usually reserved for those with severe sprains, particularly those who
 are heavy laborers, throwing athletes, or those whose condition has not improved after two
 to six months of conservative treatment. Surgery typically involves reducing the clavicle to
 the acromion, sometimes removing the end of the clavicle (if the cartilage surface is
 damaged), and repairing or reconstructing the acromioclavicular and coracoclavicular
 ligaments



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X-Rays demonstrating the acromioclavicular (AC) separation injury (left image) and AC joint repair/reconstruction with graft and anchor (right image arrow marks anchor in the bone)

Pain Relief

You will receive a prescription for a pain medication. Take it as directed. Scheduling your doses so that you take the medicine one-half hour before physical therapy can be helpful. If you have any side effects from the medication, discontinue its use and call our office. The use of cryotherapy also can be effective for relieving pain.

For six weeks following your surgery, do NOT take any non-steroidal anti-inflammatory drugs (NSAIDs). This includes Advil[®], Motrin[®], Aleve[®], ibuprofen, Naprosyn[®], etc., as these drugs can affect the healing process. This includes aspirin unless you are directed to take it by Dr. Chudik or another physician for a specific condition.

Modalities (Heat and Cold)

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every two to three hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage with a cloth between the ice and your skin to prevent burning /freezing your skin.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.



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Notify My Office if Symptoms Worsen





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Shoulder AC Joint Separation Initial Rehabilitation Exercises

The following exercises should help you decrease pain and increase/maintain motion in the shoulder and elbow. You should feel a stretch while doing the exercises and not pain. This is just to get your started until physical therapy is stared and/or you can progress activities.

Stage 1: Range of Motion Exercises Assisted Shoulder Flexion



- 1. Lay on your back, hold a stick in both hands (with both palms facing up) shoulder width apart.
- 2. Raise both hands overhead (as shown) until a good stretch is felt but stop before significant pain. Progress further overtimes as tolerated.
- 3. Hold the stretch for 2-3 seconds then relax.
- 4. Repeat exercise 5-10 times, two times per day.

Assisted Shoulder External Rotation



- 1. While sitting, grasp a stick or cane with both hands.
- 2. Place a rolled-up towel between the affected sides elbow and torso as shown in picture.
- 3. Slowly use your good arm to rotate the affected arm away from the body until a good stretch is felt.
- 4. Hold the stretch for 2-3 seconds then relax.
- 5. Repeat exercise 5-10 times, two times per day.



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Scapular Retraction (Shoulder Blade Squeezes)



- 1. Pinch your shoulder blades down and back.
- 2. Hold this position for 2-3 seconds then relax.
- 3. Perform this exercise 5-10 times 2-3 times per day.



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Physical Therapy Prescription

Diagnosis: S/P (Left/Right) Acromioclavicular Separation/Sprain

Patient Name:

Date of Injury:

Please instruct patients on safe methods of dressing, bathing, and personal care. Recovery/Recuperation Phase Discontinue sling PRN. Rest from aggravating activities Gentle pendulums, and Elbow, Wrist, Hand ROM until pain resolves Avoid cross-chest adduction and other aggravating shoulder movements while painful. A/AAROM to restore normal ROM as tolerated. As pain subsides (0 to 6 weeks depending on severity): Begin rotator cuff strengthening and scapular stabilization exercises starting below horizontal with isometrics, then progress to TheraBand

Perform all exercises in pain-free arc of motion.

Perform exercises at 0° abduction/elevation and progress to forty-five°/ 90° as tolerated.

Modalities PRN

Limited return to Sport/Activity Phase (as appropriate)

Trunk exercises for sport/activity specific activities

Progress rotator cuff and scapular stabilization exercises to Isotonic below horizontal Continue with flexibility exercises.

Upper Body Ergometer (endurance activities) below horizontal

Progress to deltoid, latissimus, triceps, and biceps strengthening.

Return to Sport/Activity Phase (as appropriate)

Emphasize eccentric rotator cuff and scapula stabilization exercises.

Sport specific strengthening with TheraBand

Plyometric program for overhead athletes

Continue endurance activities.

Continue flexibility exercises.

Advanced Proprioceptive training

Frequency/Duration:

One time per week for first 2-3 weeks while acutely painful 2-3 times per week for subsequent 4 to 6 weeks



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Physical therapy notes:

Dr. Chudik does **NOT** accept faxed or emailed progress notes. Please have the patient bring the notes to the next clinical appointment for review and signature.

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Date: _____



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