

Acromioclavicular Joint Injuries

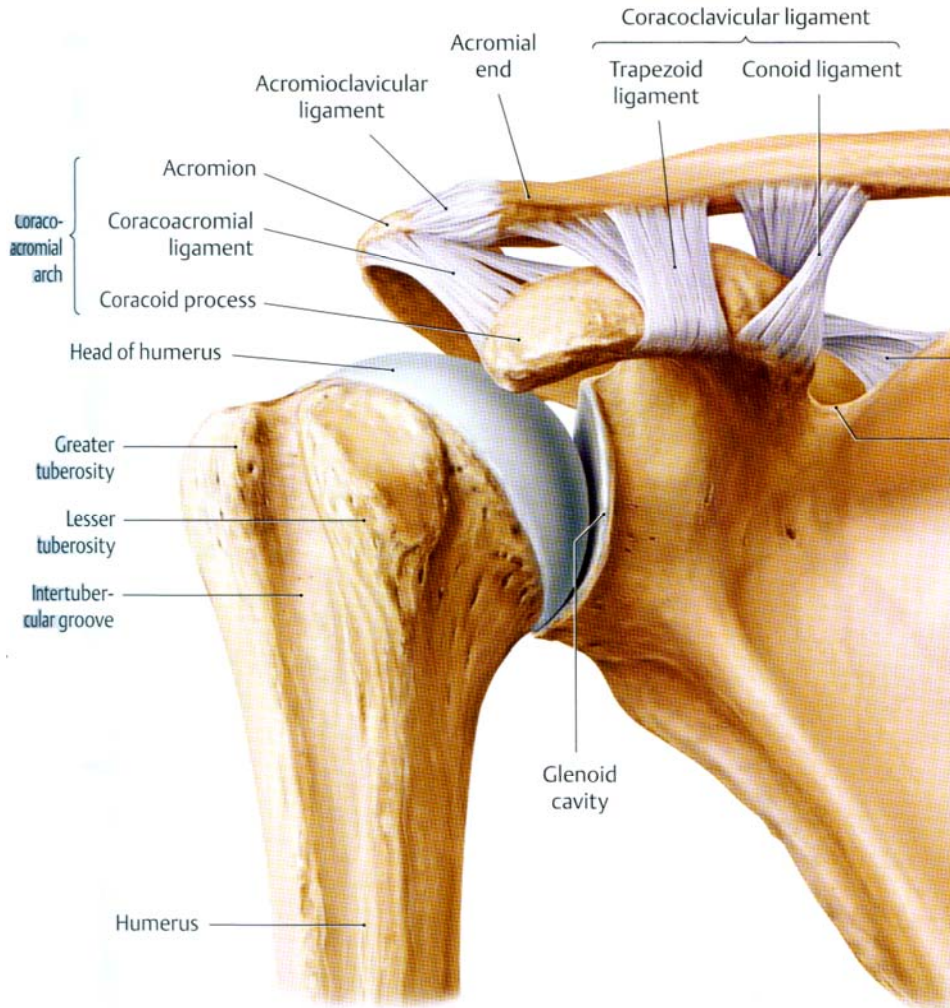
Developed for OU-COM CORE

By : ***Aaron Hanshaw, D.O.***

Edited by: **Wayne Feister, D.O.** and the
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Series B - Session #7: Upper Extremity



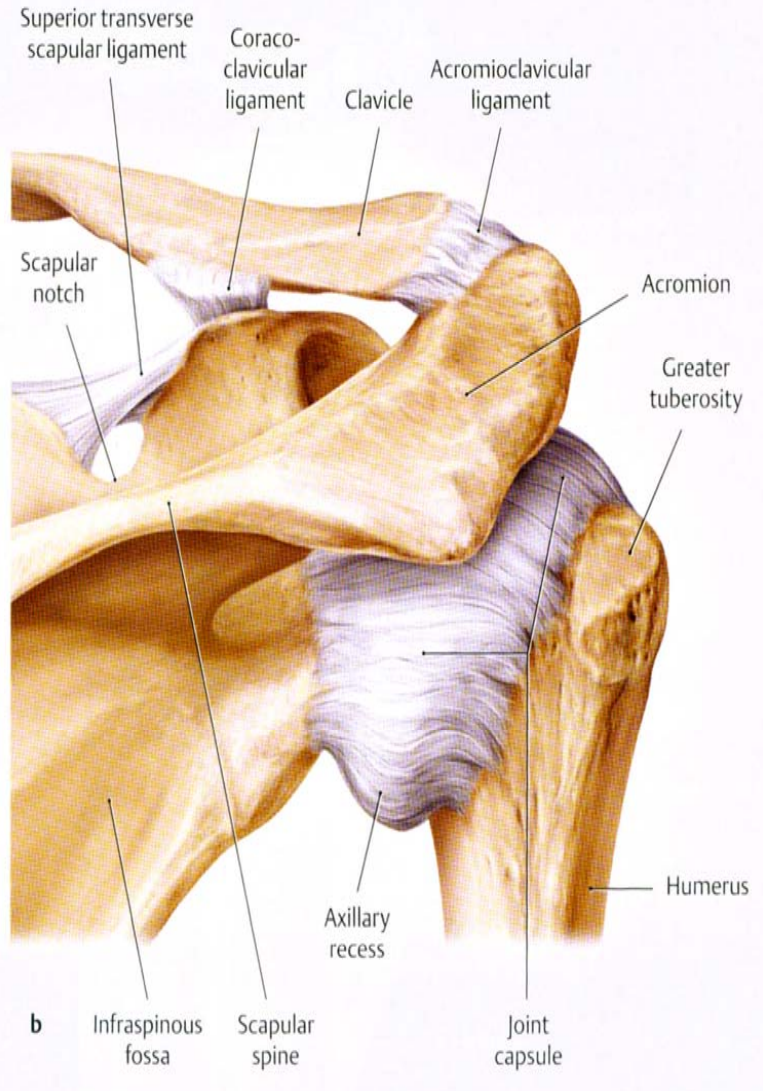


- The AC Joint is where the lateral aspect of the clavicle joins with the acromion of the scapula

- Anterior View

Thieme: Atlas of Anatomy





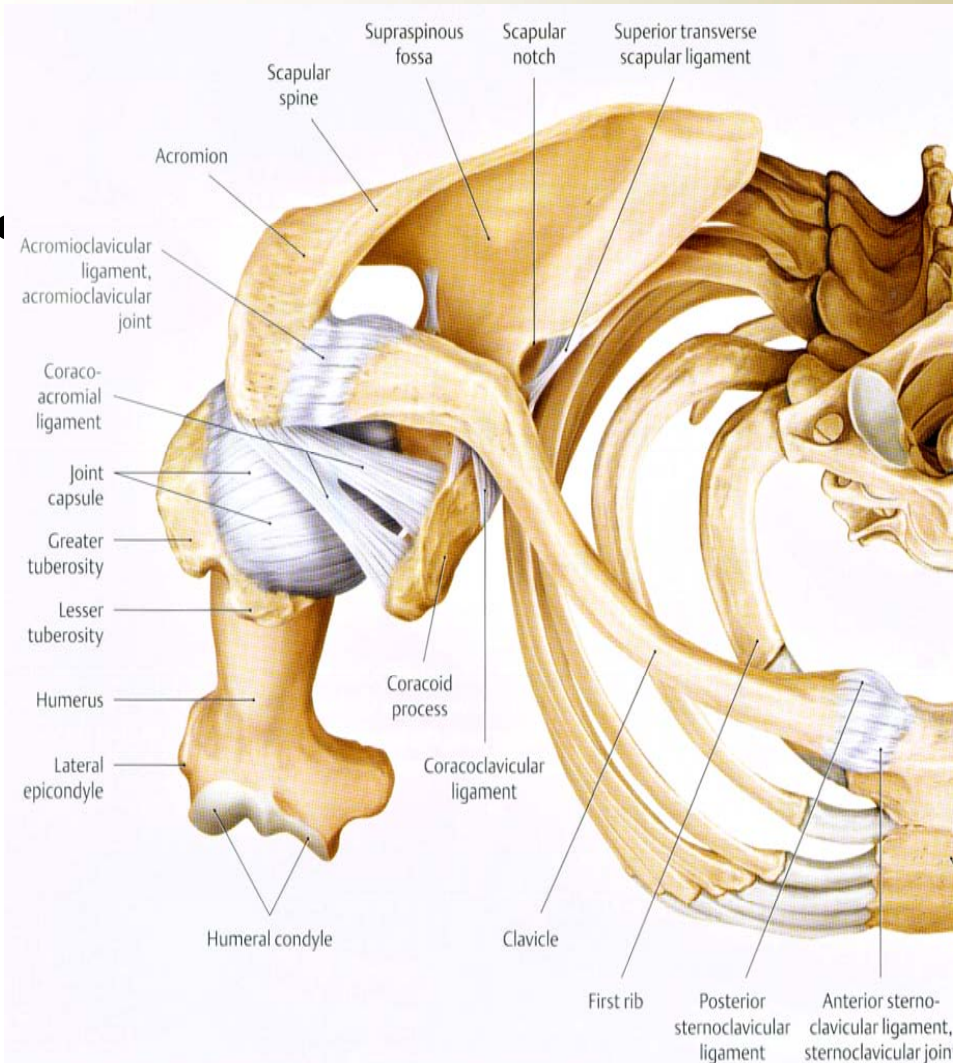
- The AC Joint is where the lateral aspect of the clavicle joins with the acromion of the scapula

- Posterior view

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The Joint Itself



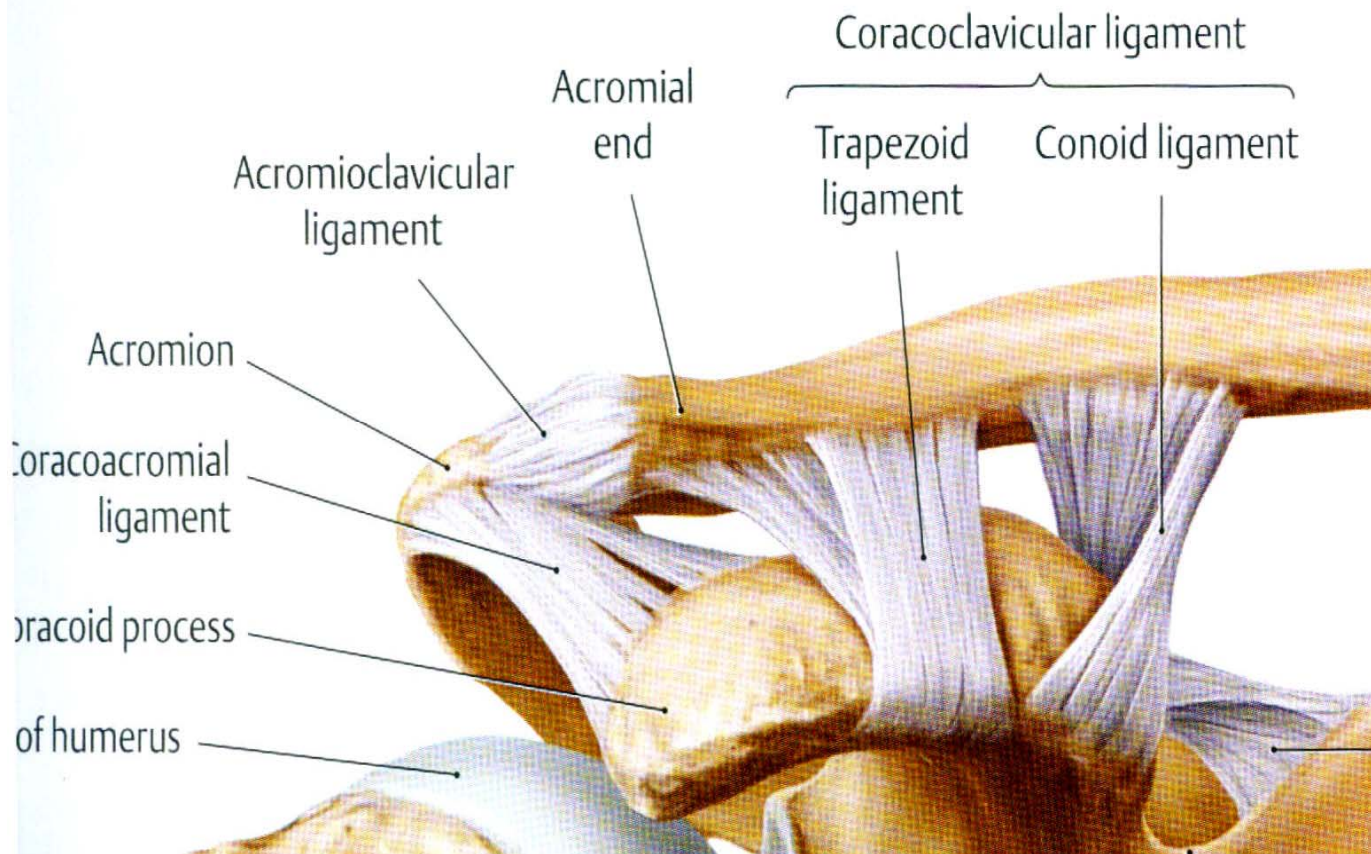
A Ligaments of the sternoclavicular and acromioclavicular joints
Right side, superior view.

- The AC Joint is where the lateral aspect of the clavicle joins with the acromion of the scapula

- Superior view

Thieme: Atlas of Anatomy





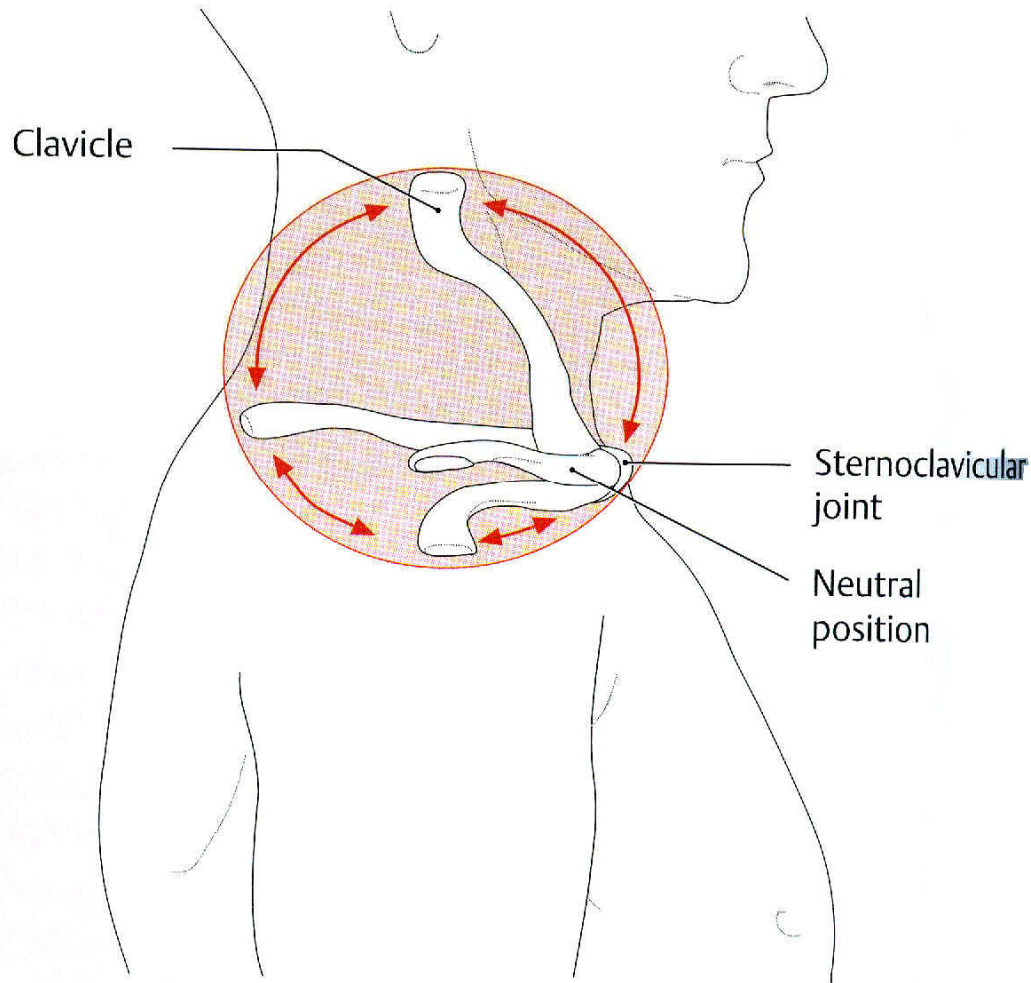
The AC joint is plane a joint held together by very strong ligaments: the acromioclavicular, coracoclavicular, and deltotrapezial fascia.

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- Gliding motion of clavicle on the acromion (anterior/posterior or cephalad/caudad)
- Rotation of scapula anterior and posterior on the clavicle (primarily “axial rotation”)
- Injuries of any kind with limited one or both of these motions





- In abduction, the distal end of the clavicle moves superiorly, the proximal end moves inferiorly.

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All patients with AC joint injuries should be fully examined and assessed for need of radiographic studies:

- The AC joints should be compared to one-another (visibly, motions testing, etc.)
- Neurovascular assessment should be included (sensation, pulses, capillary refill)
- If x-rays are taken, obtain one of the unaffected side for comparison





INTEGRATE:

Orthopedic
Neurologic
&
Structural

EXAMS



A common injury to the shoulder girdle is an AC Joint separation (Shoulder Separation):

- This occurs usually when enough force is applied to the acromion process and transmitted through the attached ligaments, causing rupture
- The first ligament to rupture is usually the acromioclavicular ligament, followed by the coracoclavicular ligaments/Deltotrapezial fascia
- A common somatic dysfunction is the restriction in internal & external rotation



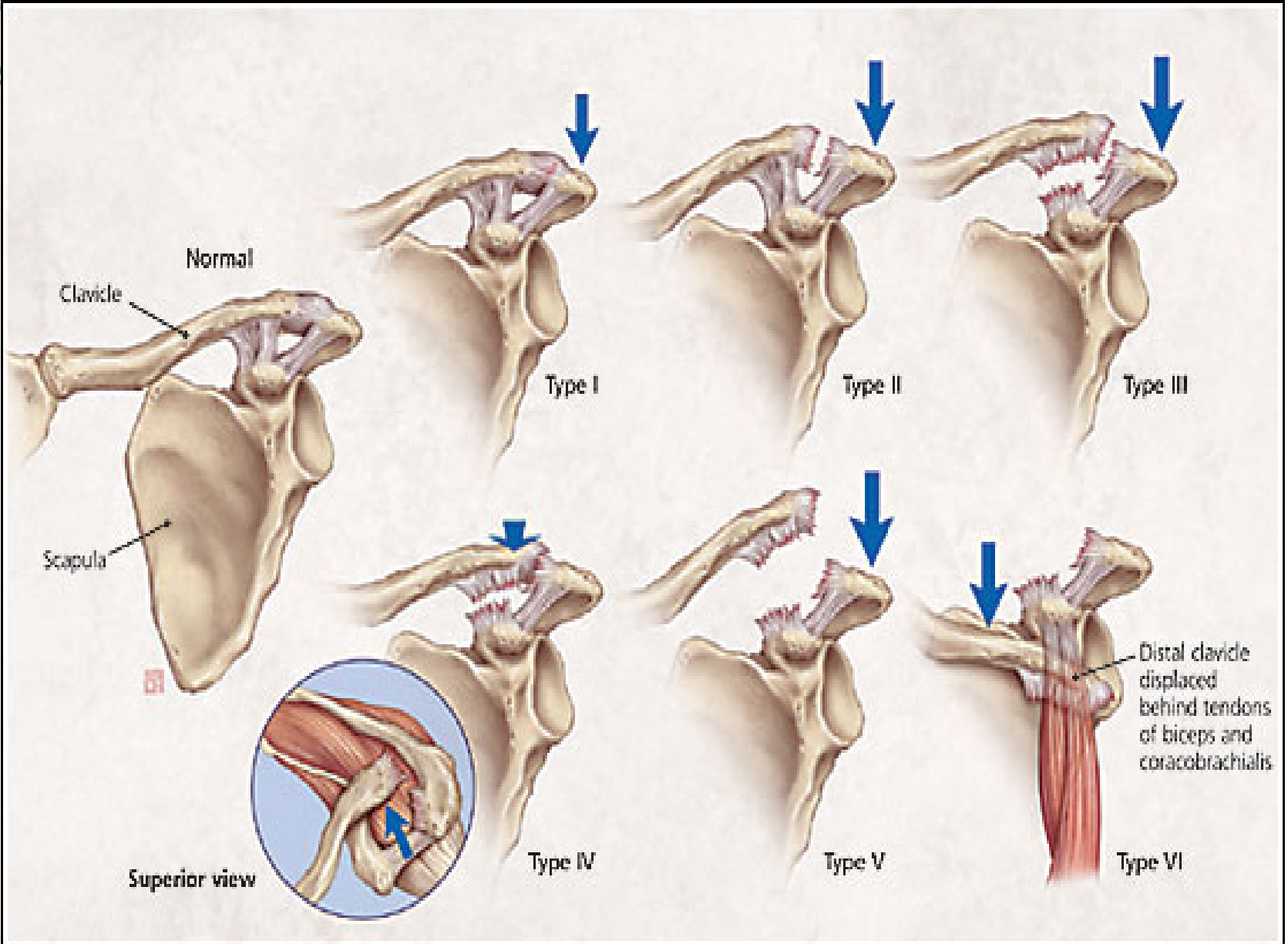
AC Separations occur in six different types (using the Rockwood classification):

- **Type I:** tenderness over the joint, physical and radiographs otherwise negative
- **Type II:** distal clavicle slightly more prominent and patient's pain may be more lateral, radiographs show only slight widening of joint
- **Type III:** visible prominence of distal clavicle, radiograph shows separation of joint by 25-100% compared to other side

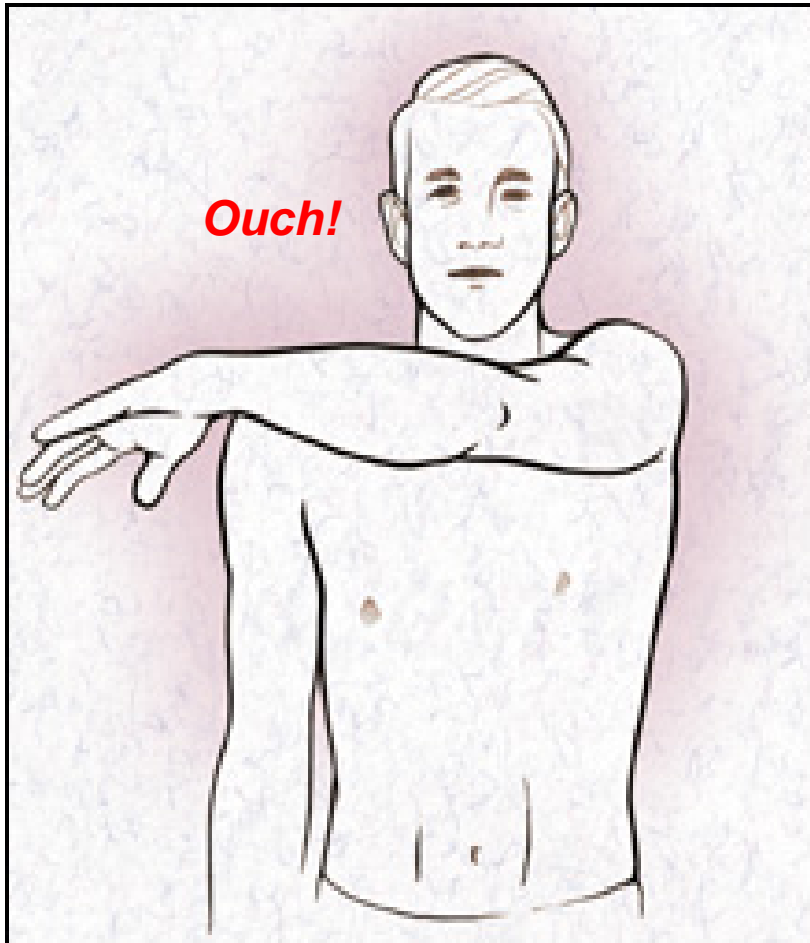


- **Type IV:** clavicle separated and displaced posterior
- **Type V:** clavicle separated and displaced superiorly
- **Type VI:** distal clavicle actually displaced behind tendons of biceps and coracobrachialis





Type I Separation



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- Often the physical findings and the radiographs will be completely negative, don't forget to assess with the "*cross-arm test*"
- This will elicit pain at the AC Joint



- Treatment of **Types I-II** include rest, ice, NSAIDs, OMT, etc...
- Treatment of **Types IV-VI** include surgery
- Treatment of **Type III** is not well defined
- Arm slings are often used in AC joint dysfunctions
 - They are often indicated and useful in patients with severe pain
 - **Be cautious**, however, keeping a painful AC joint in a sling can lead to a frozen shoulder in the future



- Recovery from a **Type I** separation is usually around 14 days
- Recovery from **Type III** and higher may take several weeks to months



OMT can be used in the treatment of AC sprains/separations:

- During the patient history, think about the mechanics of the injury, perhaps the patient's neck was injured during a fall and not just the AC joint
- During the physical, take a look at some of the proximal and distal joints: glenohumeral joint, sternoclavicular joint, elbow, etc.
- Remember to be an osteopath and look at the whole picture, don't get tunnel vision on the AC joint



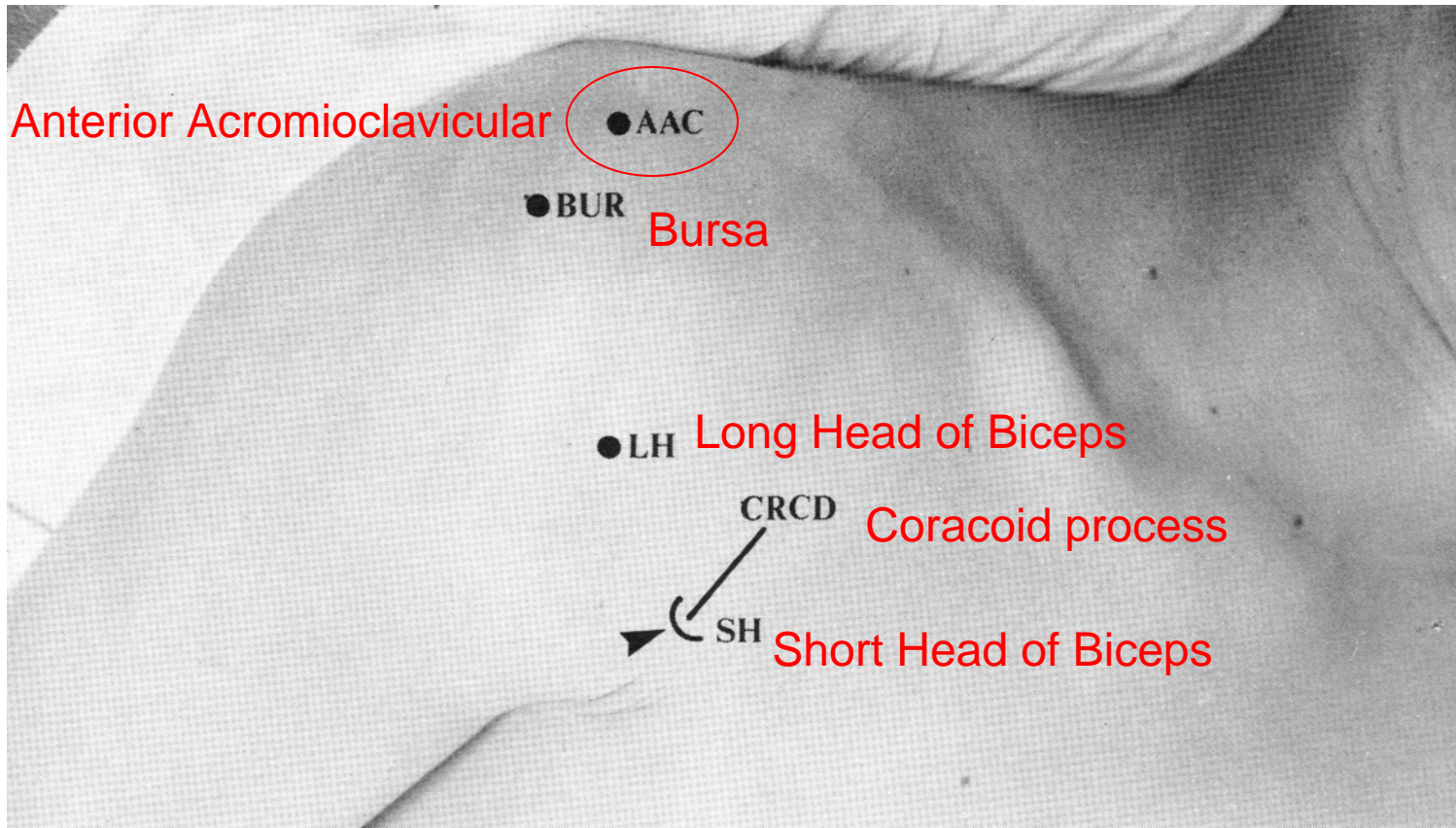
- Some OMM techniques lend themselves to certain injuries more than others
- In the case of AC joint injuries, stay away from pain-inducing direct techniques
- Indirect techniques can be used on or around the AC joint to help patients with pain as well as facilitate healing



Anterior AC Joint:

- Tender point located on anterior of distal clavicle
- Treat with patient supine, adduct the arm across the chest 30-50 degrees with slight internal rotation, minimal traction can be added
- Hold this position for 90 seconds while monitoring the tender point, then bring back to resting position and reassess



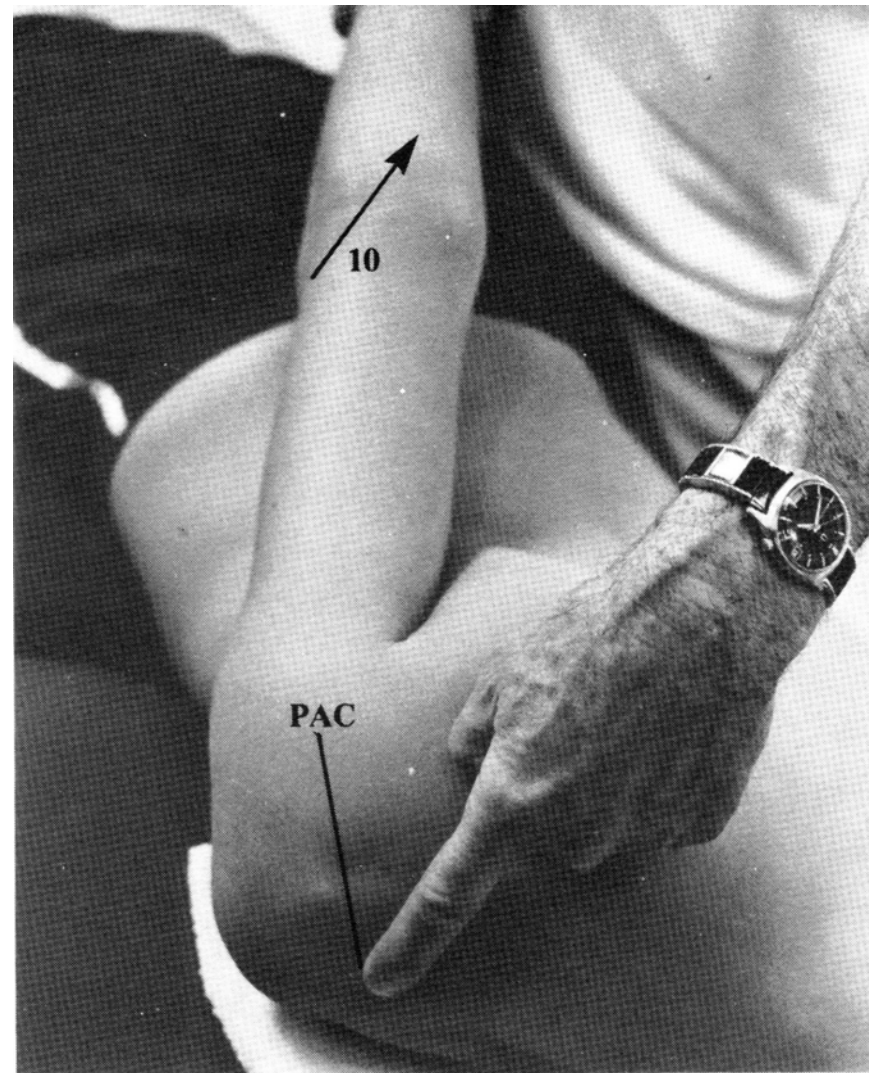


Posterior Tender Point:

- Located behind lateral aspect of the clavicle
- Treat with patient prone
- Pt's arm is adducted across the back, add slight traction, go until pain is gone at tender point and hold for 90 seconds
- Return to neutral and reassess



- Posterior acromioclavicular joint tender point
- The 10 indicates ten kilograms of force



Strain and Counterstrain, Jones, D.O.



Ligamentous Articular Release:

(aka Balanced ligamentous release)

- Lay the patient in a lateral recumbent position with the affected side up, you then wrap your hands around the scapula and “take the fascia where it wants to go”
- Allow the muscles and connective tissue to relax under your hands and facilitate this by accentuating any movement the scapula makes
- Can also make this a more directed technique by moving the scapula into resistance and waiting for a release



Much like LAR already covered, but more of a step-wise technique, scapular release will free up tension built into and around the AC joint after an injury.

- Lateral recumbent with affected side up
- Grasp the scapula in a comfortable fashion (for you and the patient) and induce slight traction
- Then place the scapula in three directions, hold until a release is felt, and reassess
- These motions include cephalad/caudad, lateral/medial, and rotation (clockwise and counterclockwise)



FPR can be used on any tight/painful muscle found around the shoulder/AC joint:

- Lay the patient supine, hold there arm anteriorly, and monitor the tight muscle with your other hand
- Flex the pt's shoulder to 90 degrees and add compression through the elbow (until felt at monitoring finger)
- Adduct/Internally Rotate until hypertonicity is gone at the monitoring finger, hold 3-5 seconds, then reevaluate
- FYI: if the dysfunction is more lateral on the shoulder, the final motions may need to be abduction/external rotation



- The acromioclavicular joint is an important joint in the mobility of the shoulder girdle
- AC separations range from mild tenderness at the AC joint (Type I) to severe structural damage requiring orthopedic surgery (Types IV-VI)
- OMM can reduce pain from AC joint injuries, reduce dysfunctions around the AC joint, and hopefully enhance the healing of any injury of the AC joint
- As with all OMM done, assess the entire person and treat what you find



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