

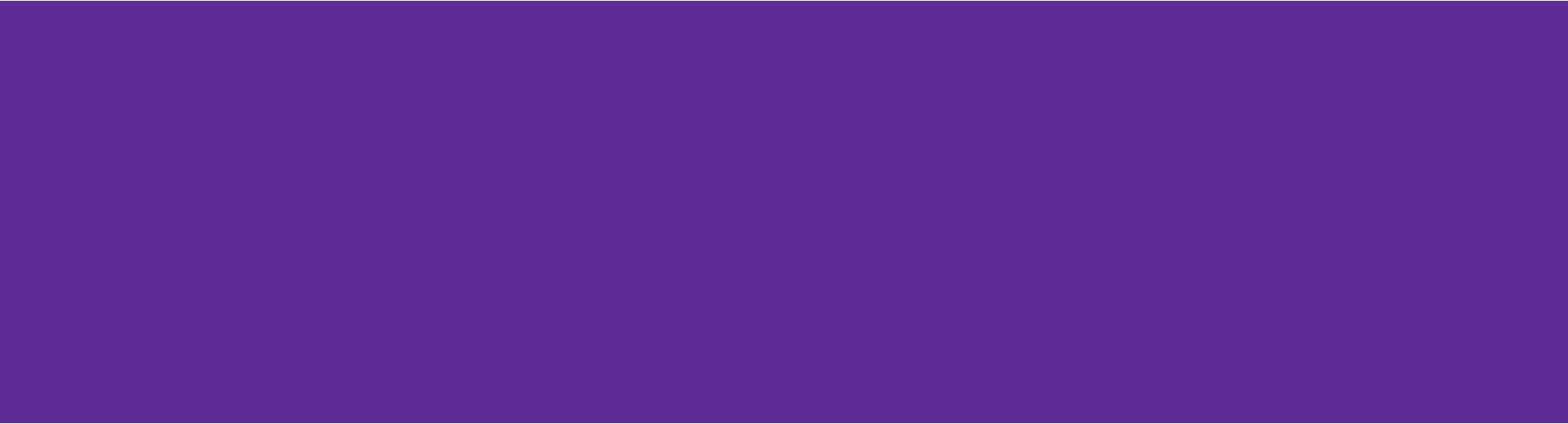
# **The Shoulder: An Osteopathic Approach**

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# Shoulder pain

Very common complaint- approach just as any other complaint



**Make sure you  
do an H and P!!**

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# Shoulder tests

There are millions

Keep in mind that they (mostly) suck.

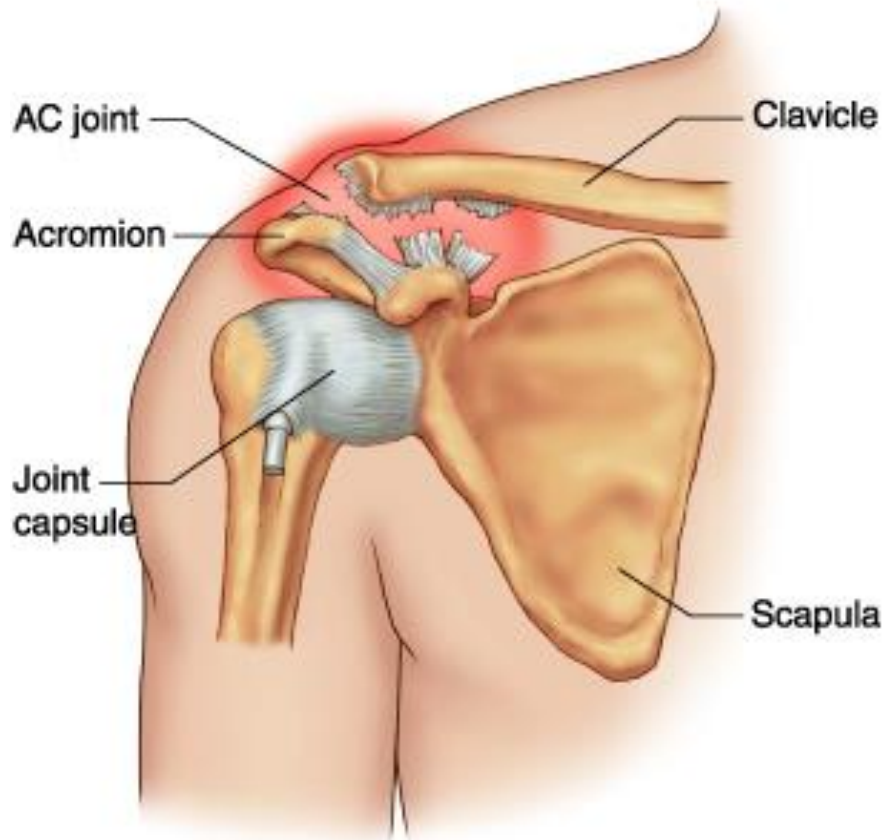
[http://www.physio-pedia.com/Yergasons\\_Test](http://www.physio-pedia.com/Yergasons_Test)

Supraspinatus: “Therefore, the Empty Can Test must be questioned as a valid diagnostic tool for isolated supraspinatus pathology, due to the high activation of many shoulder muscles simultaneously.”

# Contemplate age when coming with DDx



**>40:  
Rotator  
Cuff  
lesions,  
Frozen  
Shoulder**



**<40: Subluxation, Overuse injuries , AC joint separation**

# DDX for shoulder pain

Neurologic: cervical radiculitis/radiculopathy

MSK: Bursitis, tendinitis, Arthritis, Fracture

Oncologic: tumor

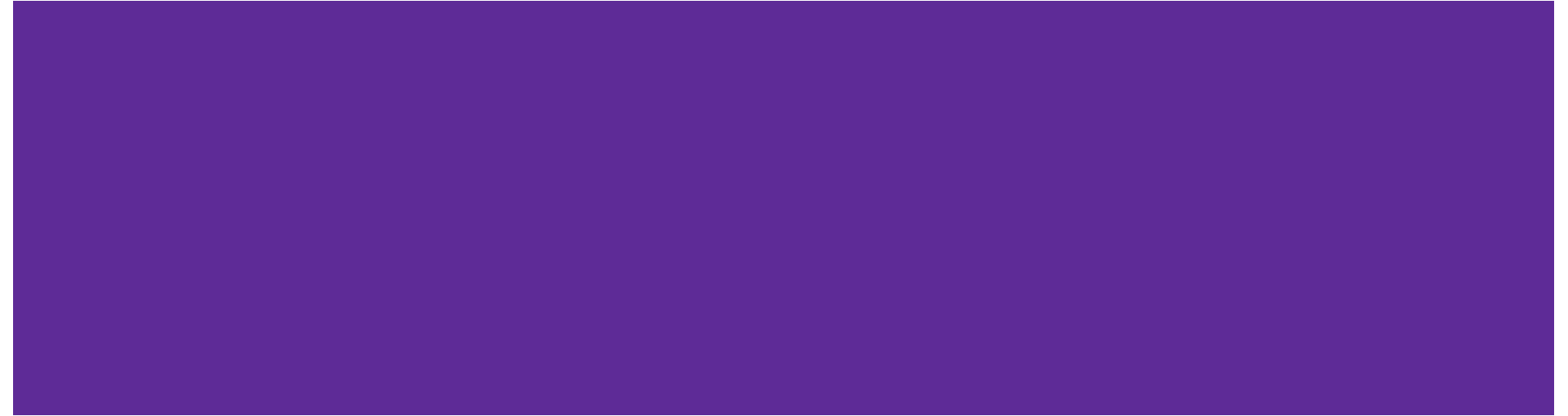
CV: ACS

Resp: PE

Pneumonia

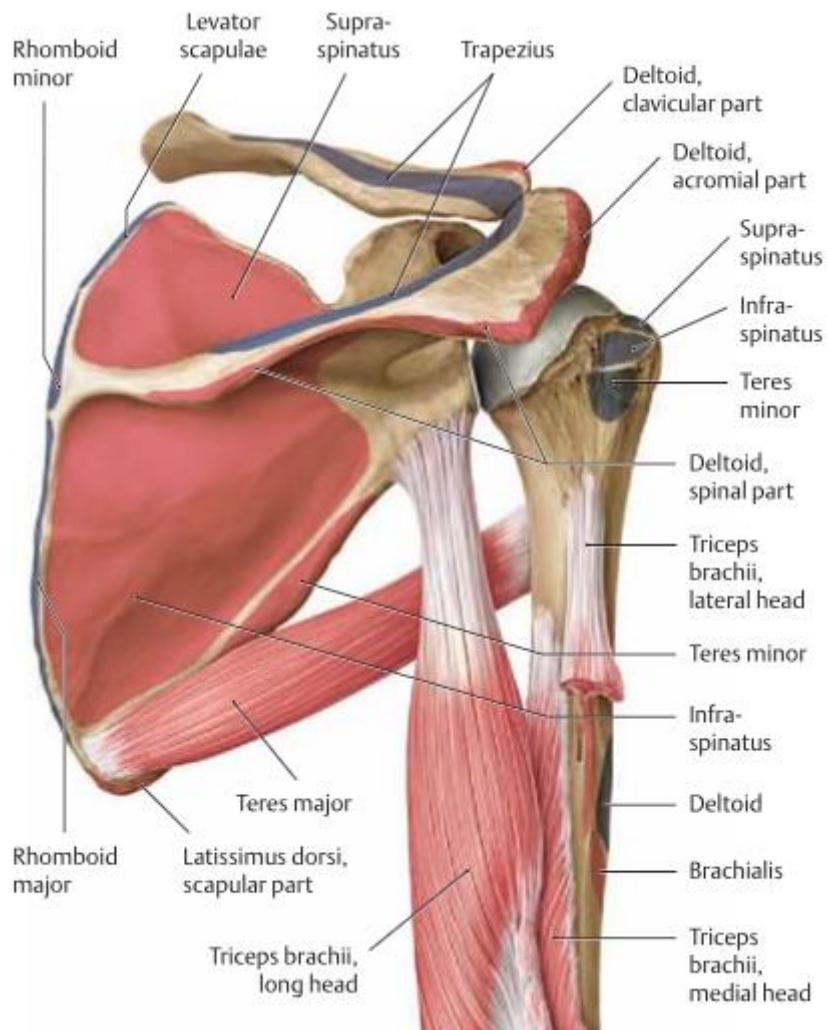
GI: Cholecystitis

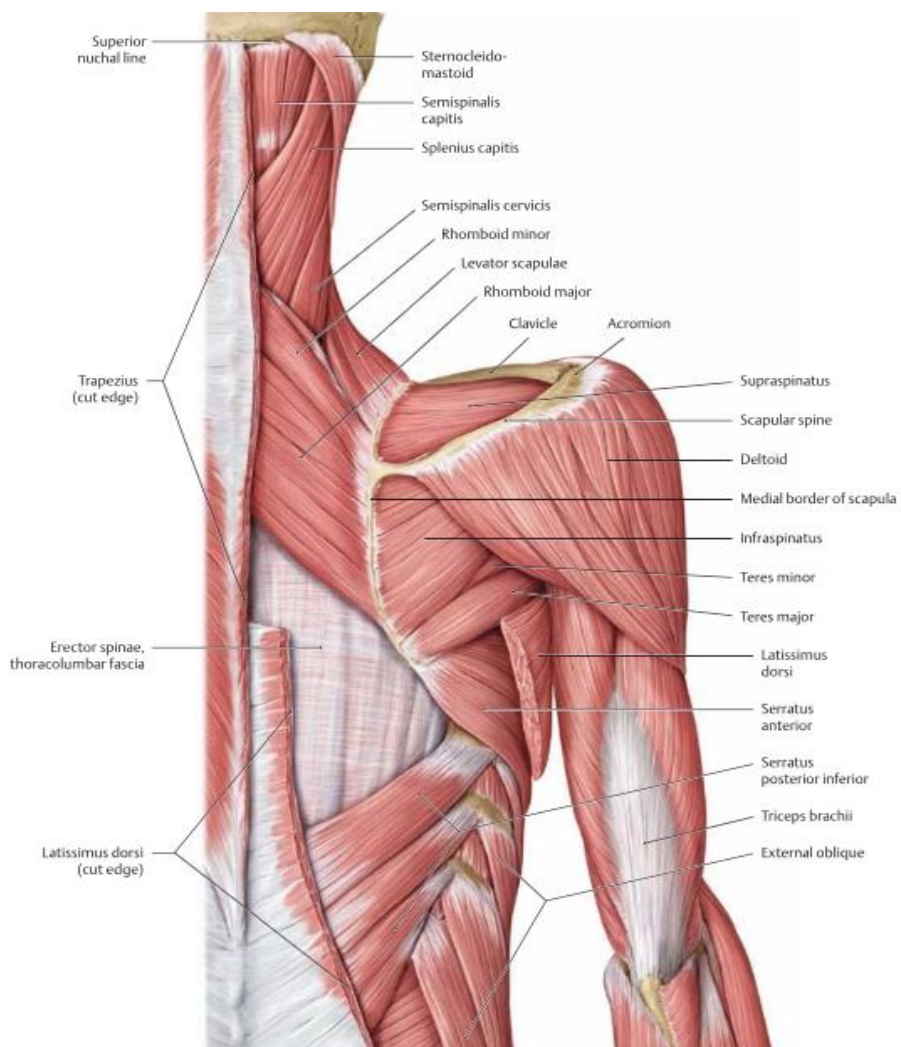
**What a weird joint.**





# The Shoulder Joint





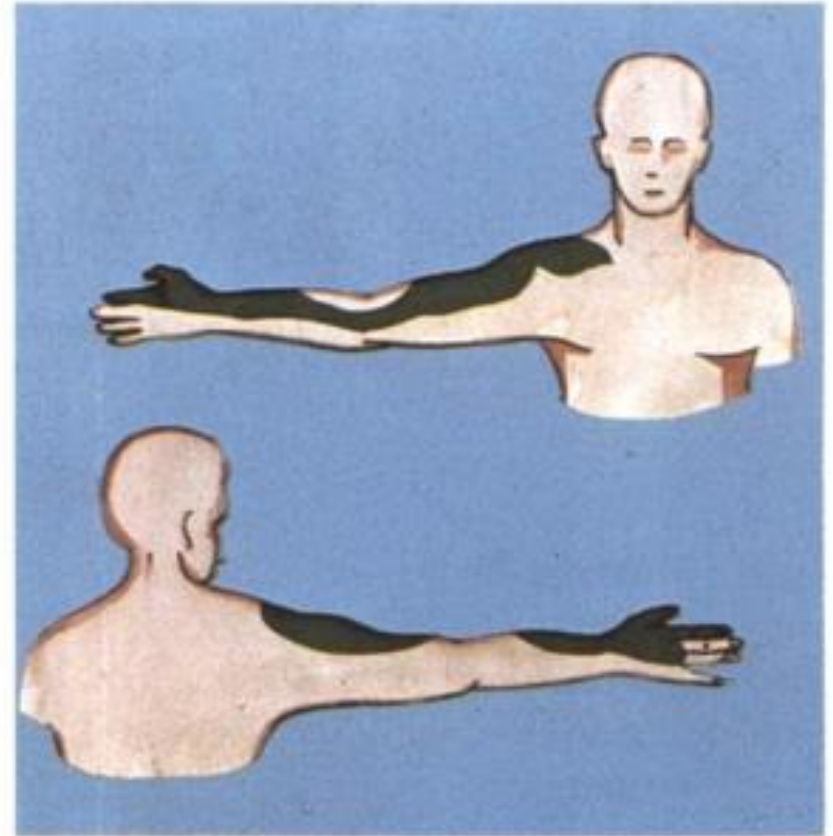
Remember the other stuff too.

# Make sure to clear the neck!

Nearly all shoulder structures are derived from C5 segment.

Pain will be felt in the C5 dermatome

Most common cause of **unilateral scapular pain** is a cervical disc lesion - lateral disc protrusion impinging on the C5, C6, C7, or C8 nerve root produces root pain felt down the arm in the relevant dermatome



**3.1** *The C5 dermatome.*

**When is it the  
joint?**

# Capsular Pattern

Capsular pattern - hard end-feel and limitation of all three passive movements in fixed proportions.

- Limitation of medial rotation is slight
- Restriction of glenohumeral abduction is more pronounced
- Impairment of lateral rotation is most marked

# What can cause Capsulitis?

Osteoarthritis

Gout or psuedogout (rare in shoulder)

Traumatic injury

Infectious arthritis

Autoimmune

**When is it the  
stuff around the  
joint? Other stuff  
to consider.**

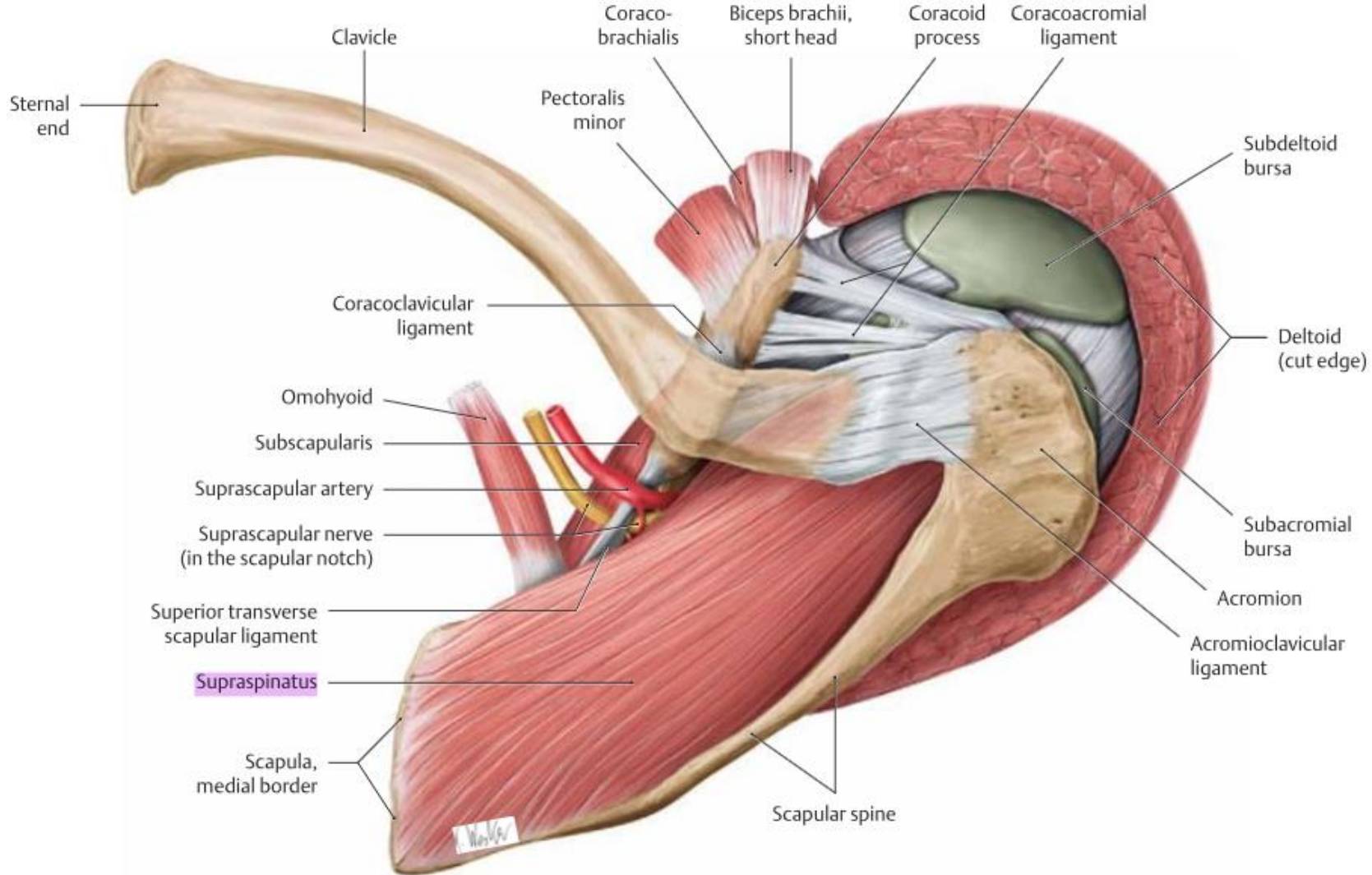
## **Tendons/ligaments - very frequently injured**

Could do an entire talk just about this - we will keep it short. Keep in mind what the tendons/ligaments in and around the shoulder do and why we need them.



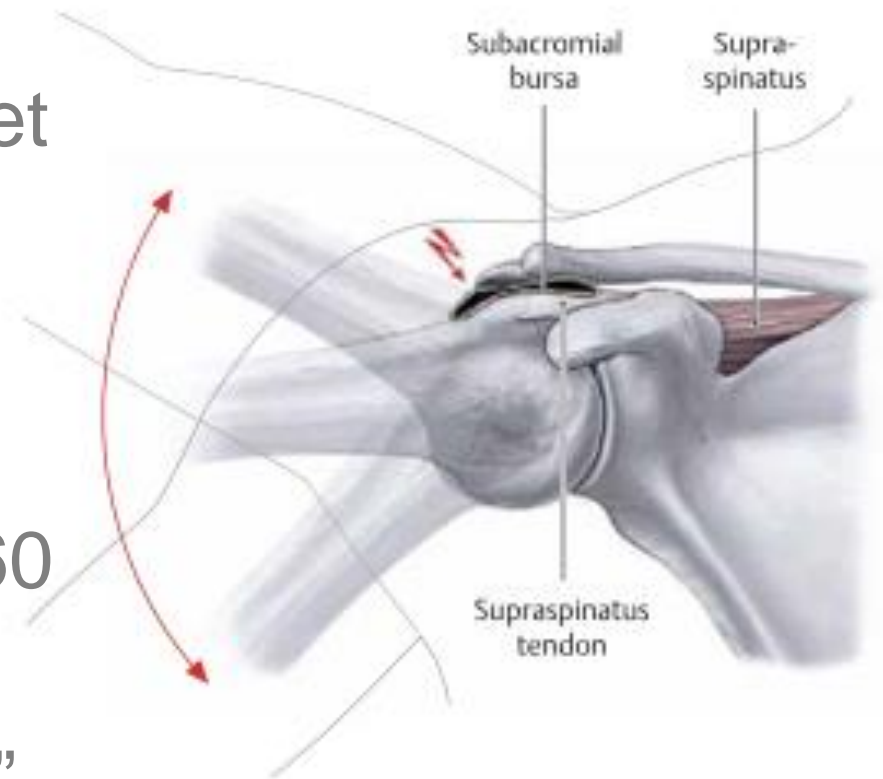
## **Worth mentioning - Supraspinatus tendon**

Anatomy makes this particular tendon a trouble maker.



# Impingement syndrome

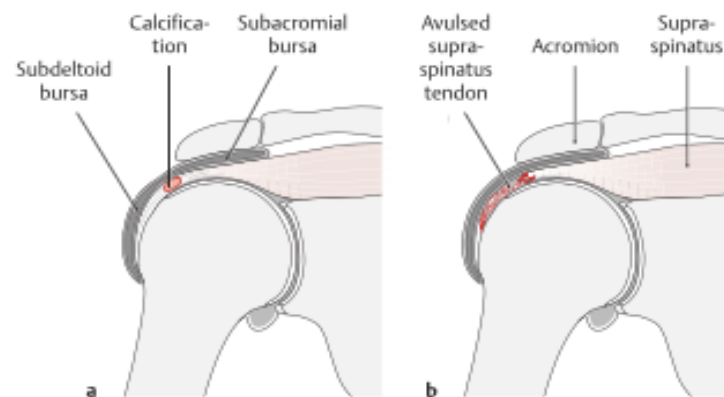
Supraspinatus tendon has changes that cause it to get caught underneath the acromion when the arm is abducted. Pain can occur in arc of motion between 60 and 120 degrees of abduction - ie, “painful arc”

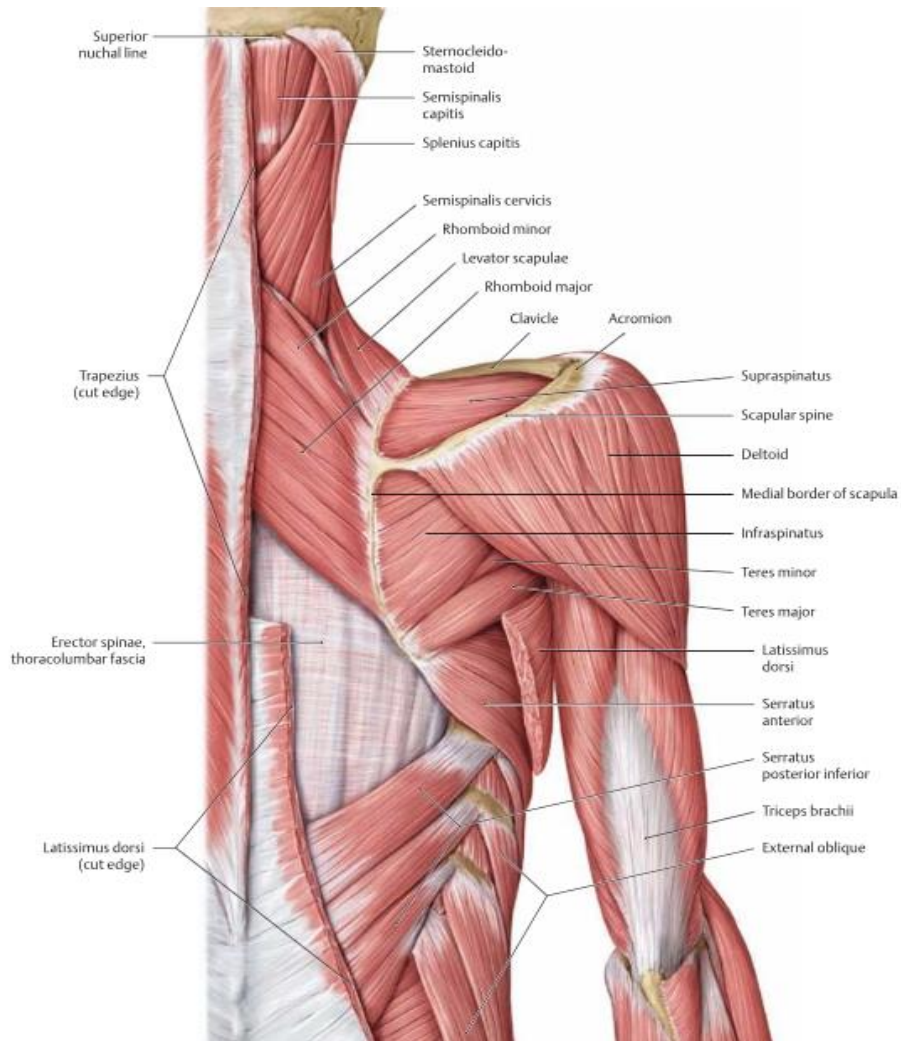


## D Damage to the supraspinatus tendon

- a Calcification (calcifying tendinitis) and related degenerative changes.
- b Rotator cuff tear (supraspinatus tendon avulsion).

The supraspinatus tendon is the most frequently damaged component of the rotator cuff. When it is ruptured, the subacromial and subdeltoid bursae are no longer isolated from the joint cavity, becoming one continuous space. When the function of the supraspinatus muscle is lost after rupture of its tendon, the initial phase of arm abduction is specifically impaired. The supraspinatus normally contributes significantly to the first 10° of abduction (“starter function”; see p. 262).

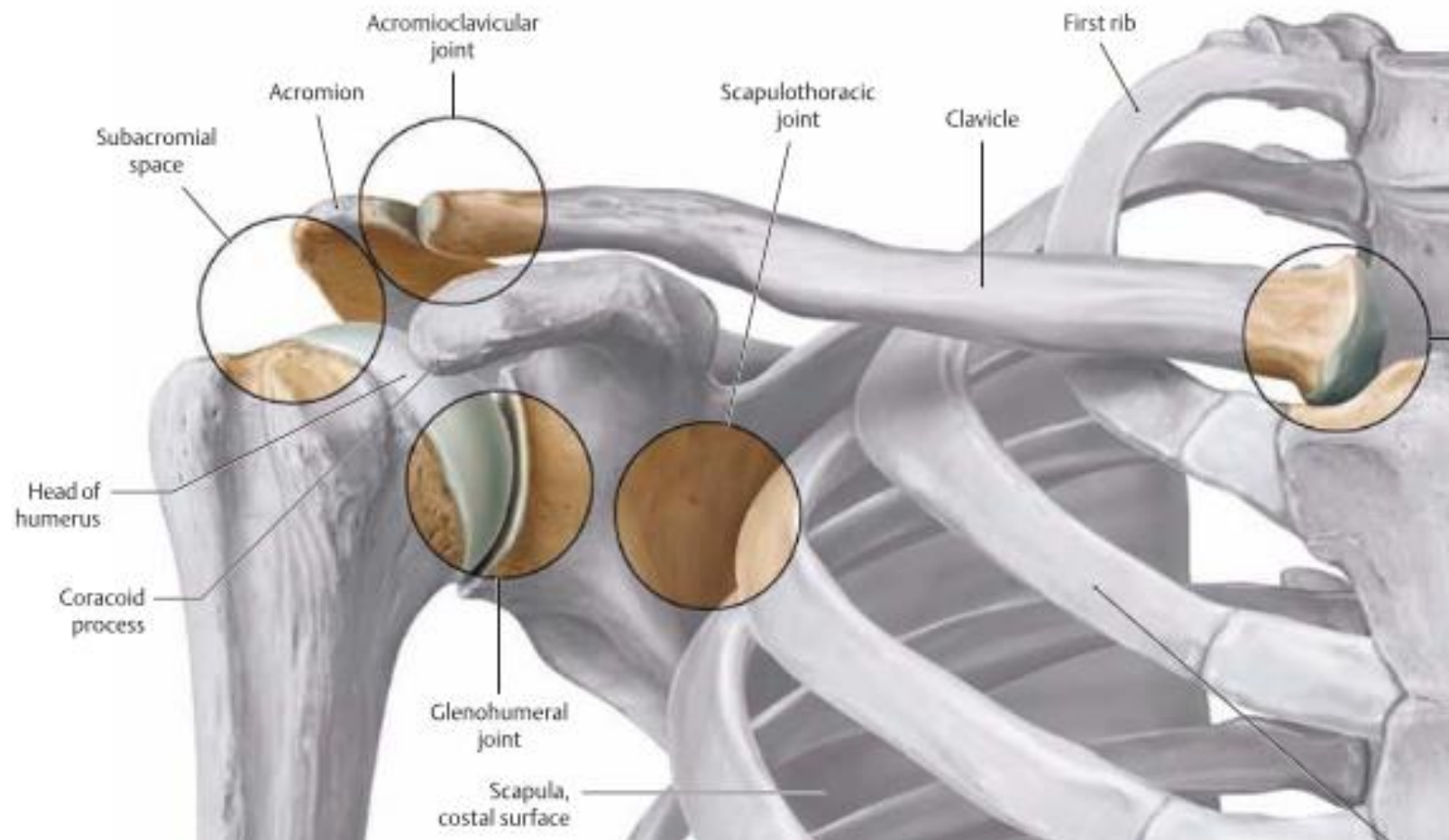




Remember to think about the muscles also!

**Other shoulder joints???**





## **A The five joints of the shoulder**

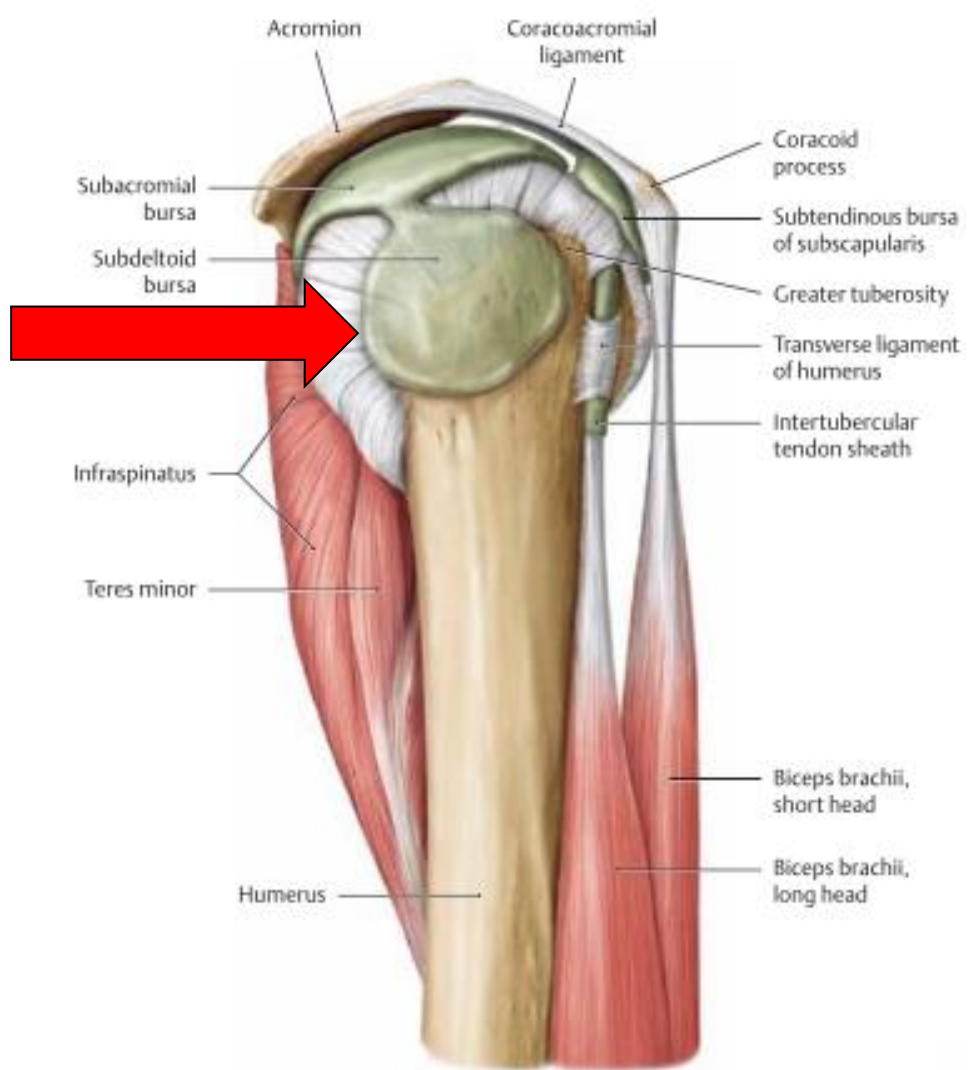
Right shoulder, anterior view. A total of five joints contribute to the wide range of arm motions at the shoulder joint. There are three true shoulder joints and two functional articulations:

- **True joints:**
  1. Sternoclavicular joint
  2. Acromioclavicular joint
  3. Glenohumeral joint
- **Functional articulations:**
  4. Subacromial space: a space lined with bursae (subacromial and subdeltoid bursae) that allows gliding between the acromion and the rotator cuff (= muscular cuff of the glenohumeral joint, consisting of the supraspinatus, infraspinatus, subscapularis, and teres minor muscles, which press the head of the humerus into the glenoid cavity; see p. 263).
  5. Scapulothoracic joint: loose connective tissue between the subscapularis and serratus anterior muscles that allows gliding of the scapula on the chest wall.



# Bursas

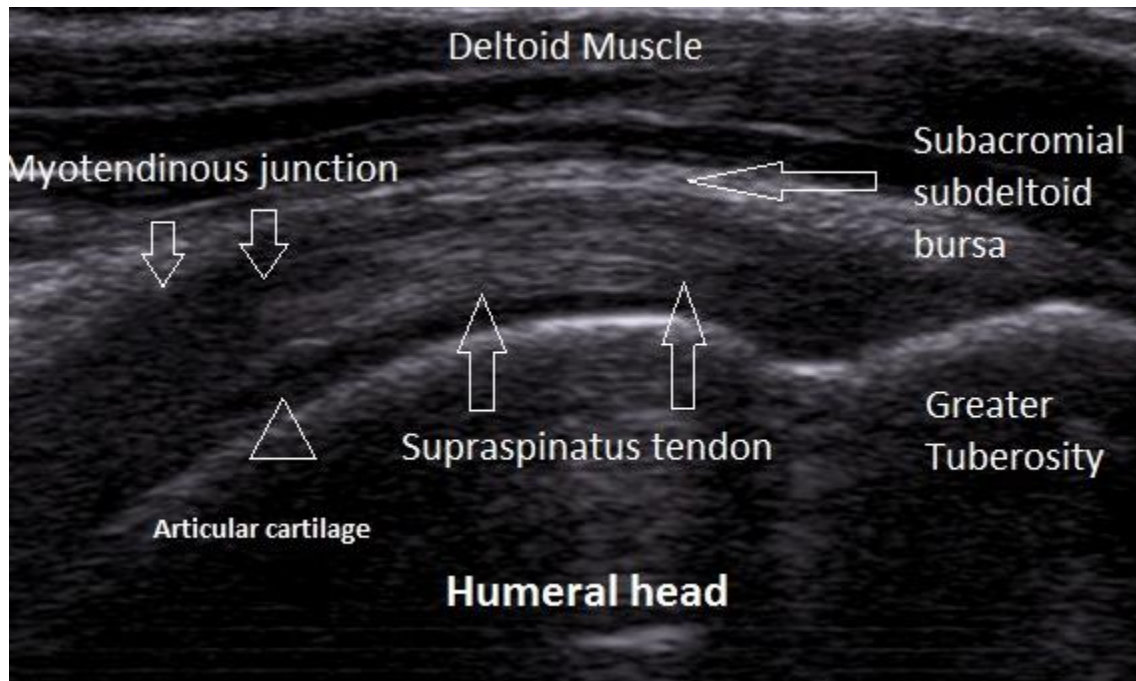
Mainly subdeltoid Bursa



# Subdeltoid Bursa

Very frequently injected, not that effective of a treatment.

Utilizing MSK US we find that Subdeltoid Bursitis is rarely the cause of shoulder pain.

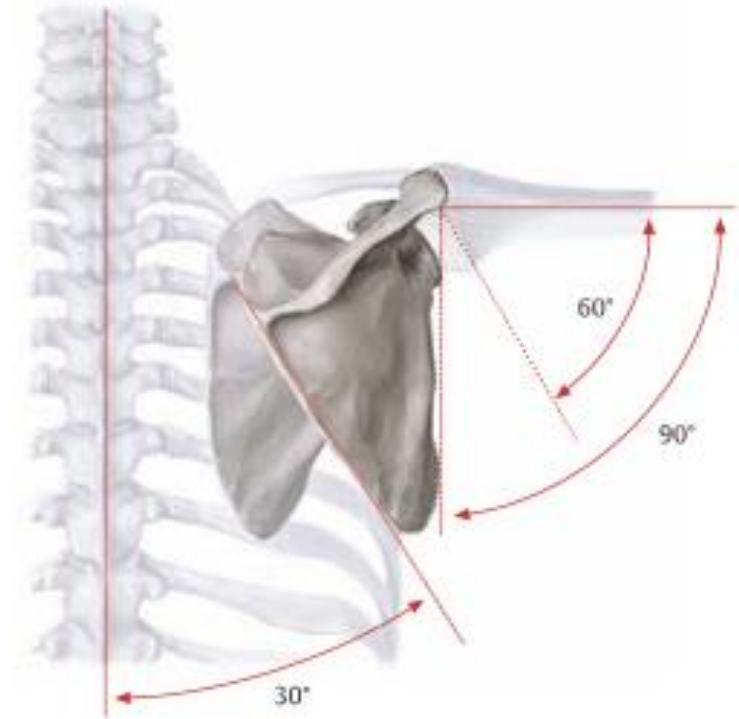


# Scapular dyskinesis

Humeroscapular rhythm is out of whack

Arm and scapula typically move in 2:1 ratio during abduction - when arm is abducted 90 degrees, 60 degrees is in glenohumeral joint while 30 degrees is movement in the shoulder girdle

Diseases of the shoulder joint can alter this rhythm = scapula begins rotation early



# Upper Cross Syndrome

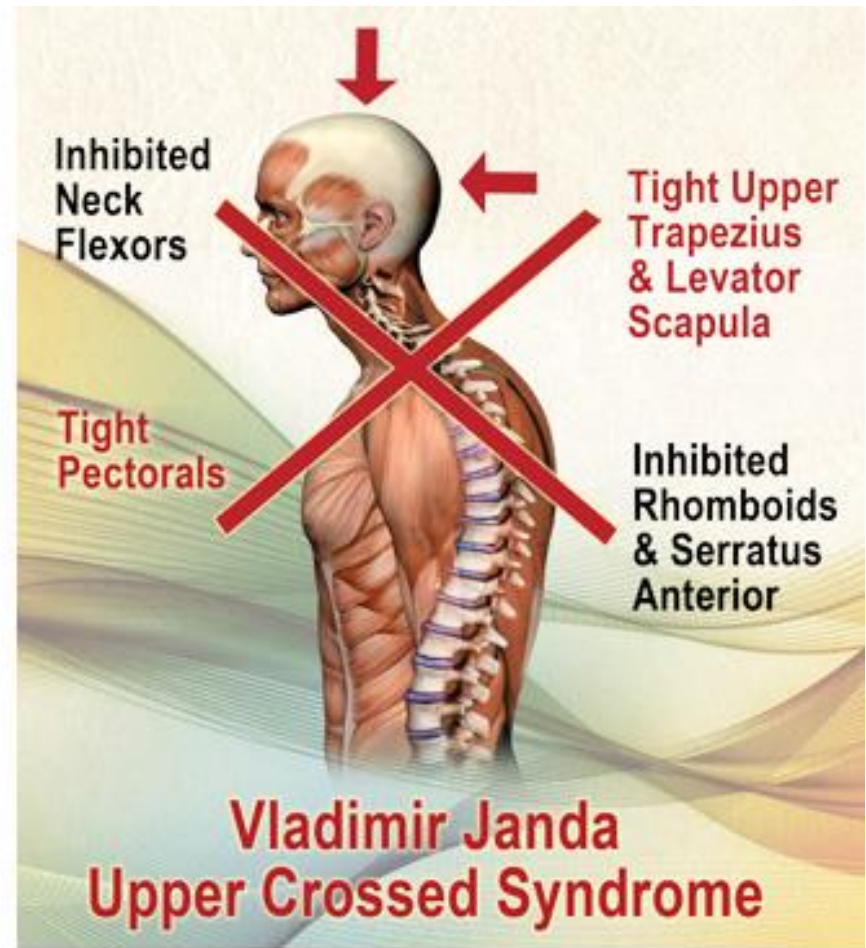
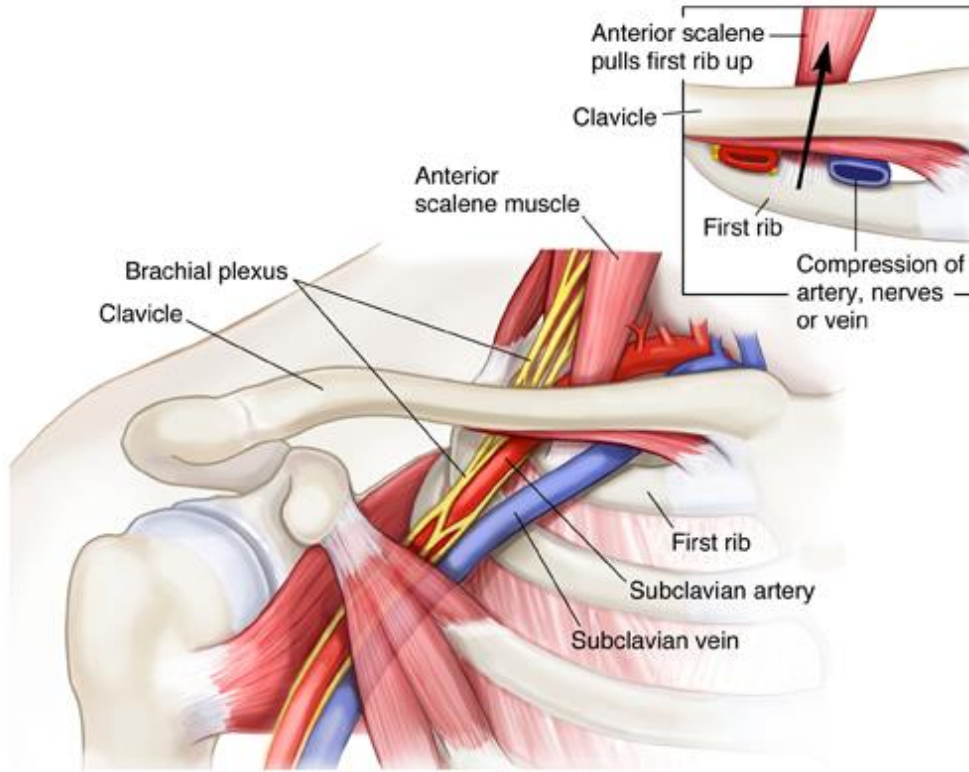


Fig. 1

# Thoracic outlet syndrome



**Thoracic Outlet Syndrome**

# Treatments

Osteopathic Treatments we will go over at the end, but treat “one above and below,” and include:

Neck, clavicle, ribs, scapula in addition to shoulder joint

# Treatments

Injection therapy:

Corticosteroid

Platelet rich plasma

Amniotic Fluid Injection

Stem cell

# The End

Most anatomy slides from Thieme – best anatomy book, ever.