



MUSTANSIRIYAH UNIVERSITY  
COLLEGE OF MEDICINE  
DEPT. OF HUMAN ANATOMY

# UPPER LIMB ANATOMY

## JOINTS OF SHOULDER GIRDLE

STERNOCLAVICULAR  
ACROMIOCLAVICULAR  
GLENOHUMERAL (SHOULDER)

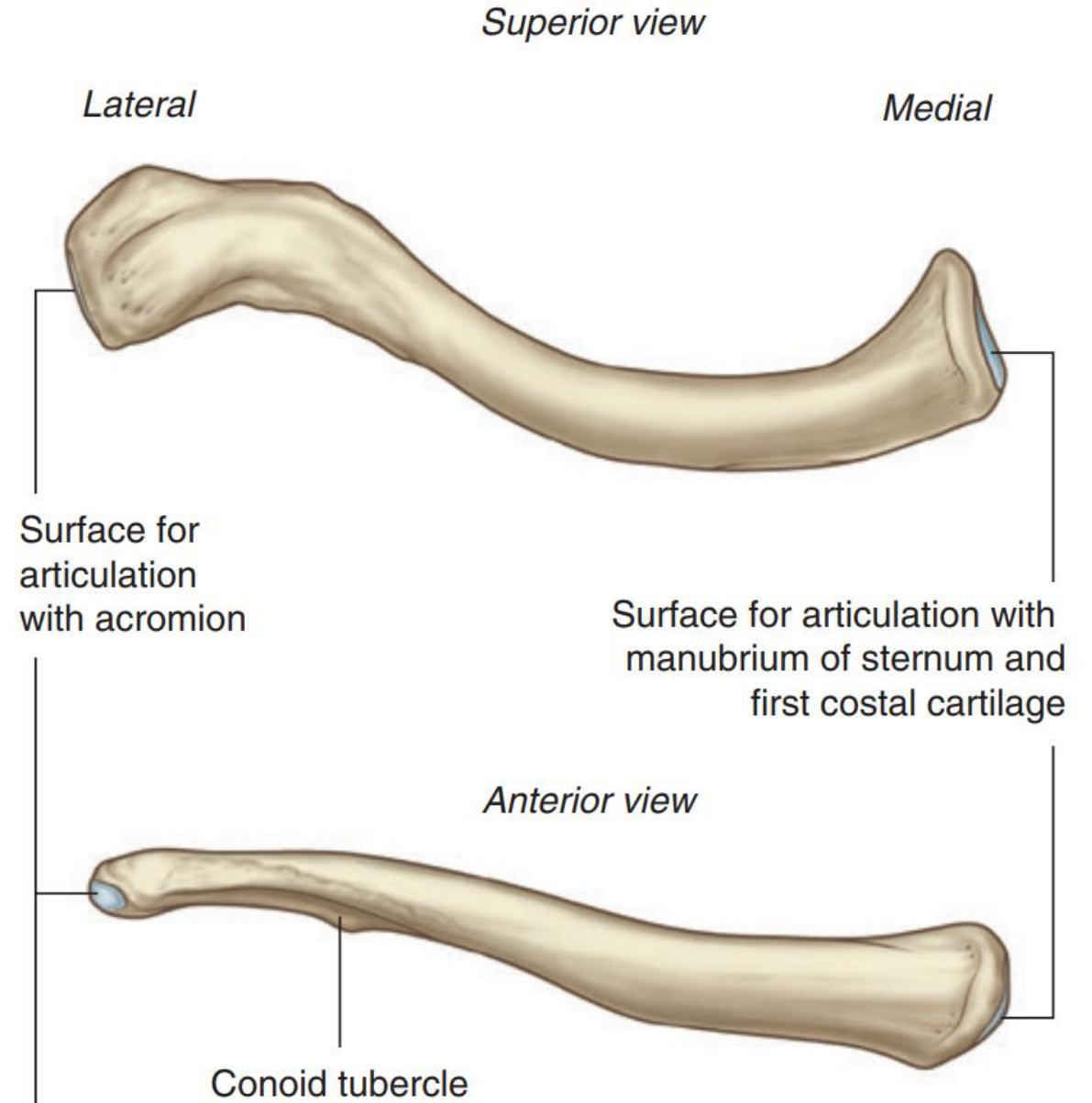
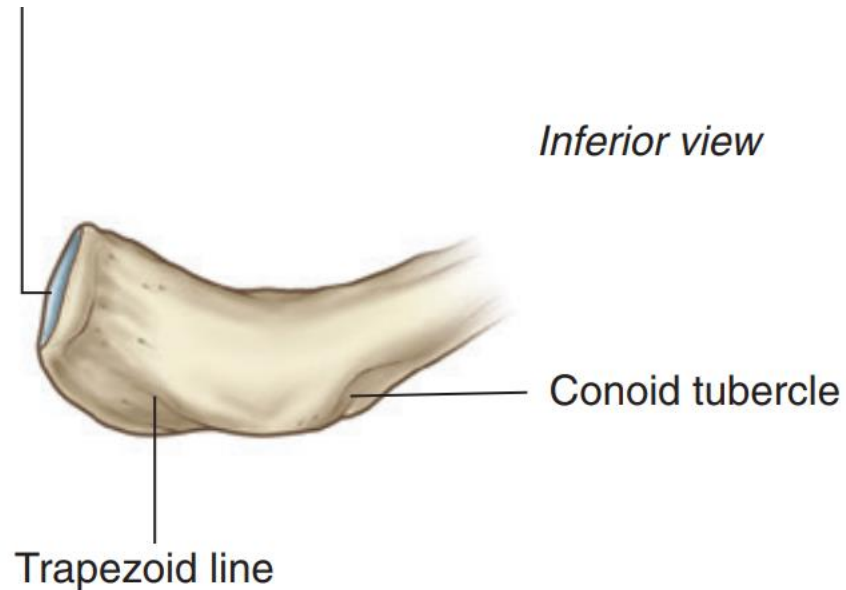


# Objectives:

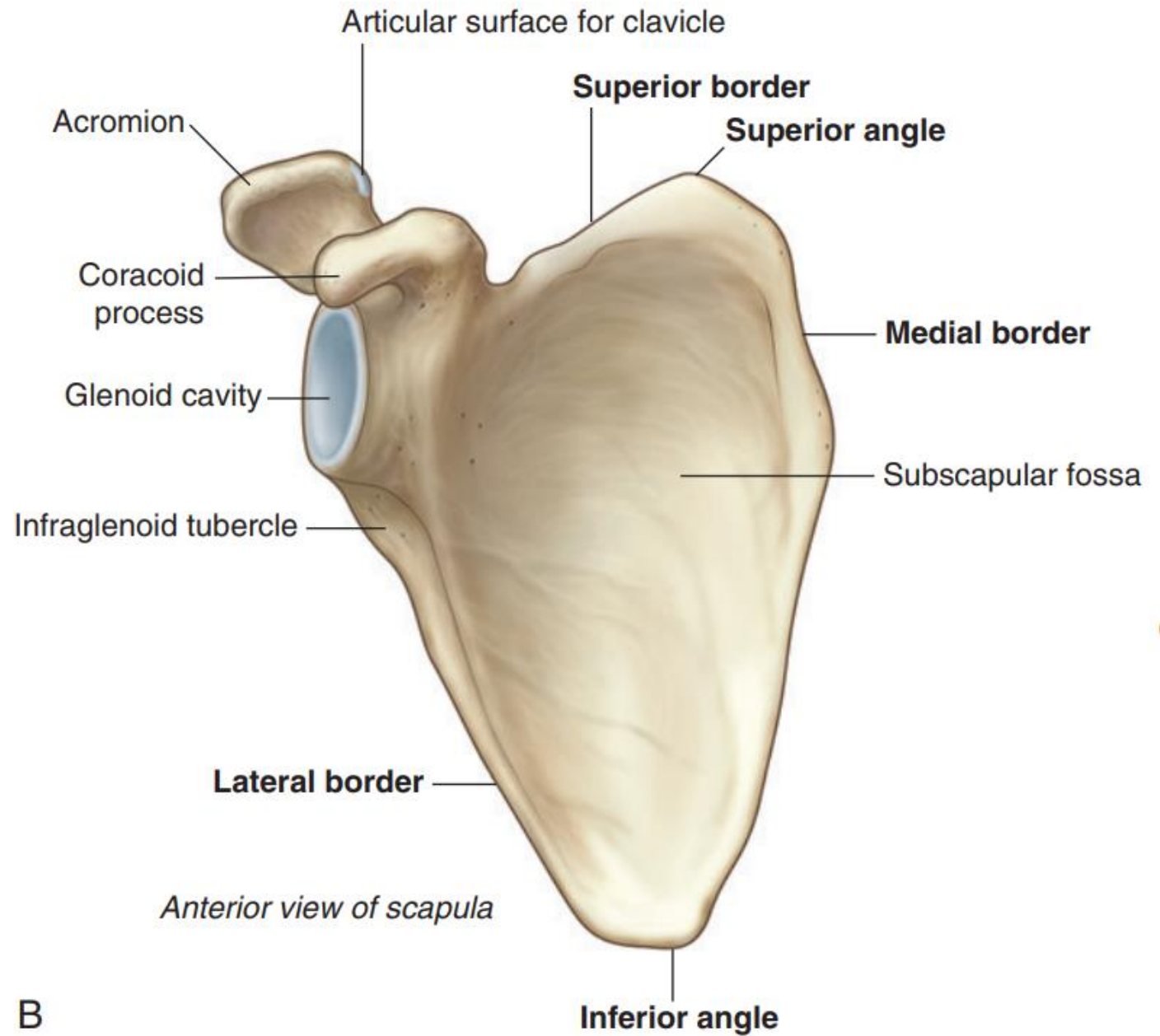
- Recognize the **type & articulation**
- Identify the **stabilizing factors** (ligaments, muscles, other)
- Review the **movements** possible at each joint the muscles producing them
- Relate common clinical problems to anatomical study

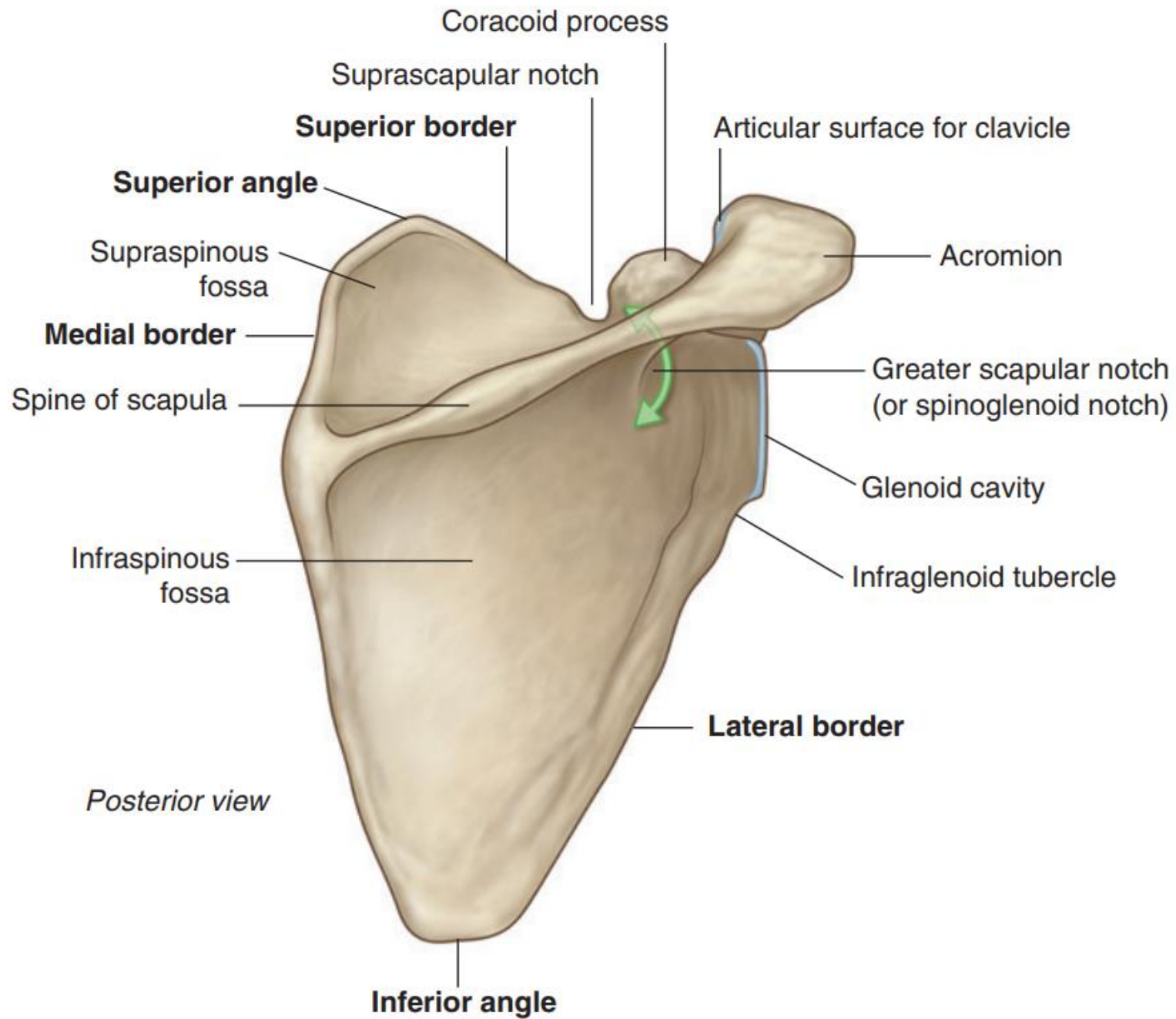
# Bones of the shoulder girdle

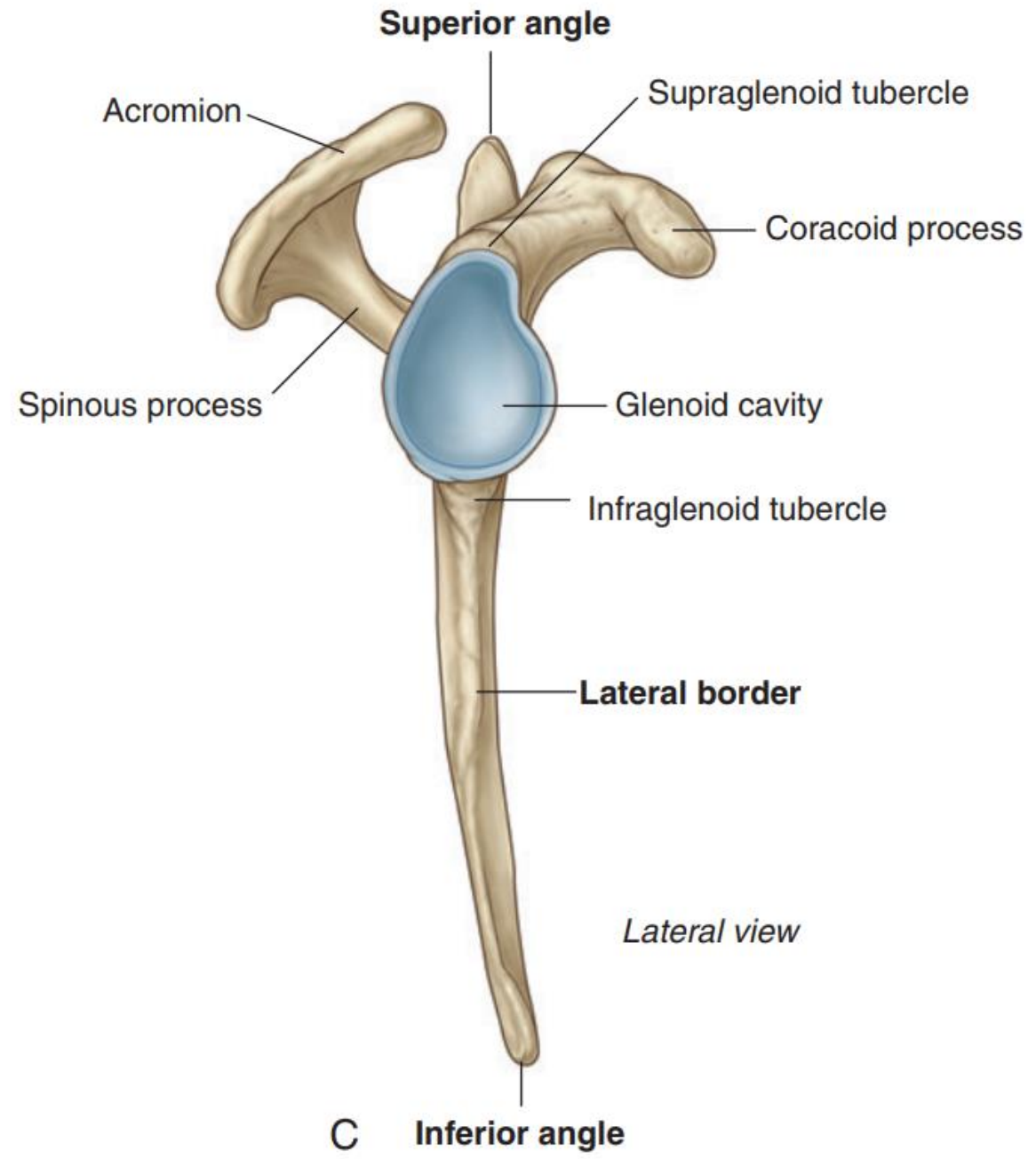
- **The clavicle**



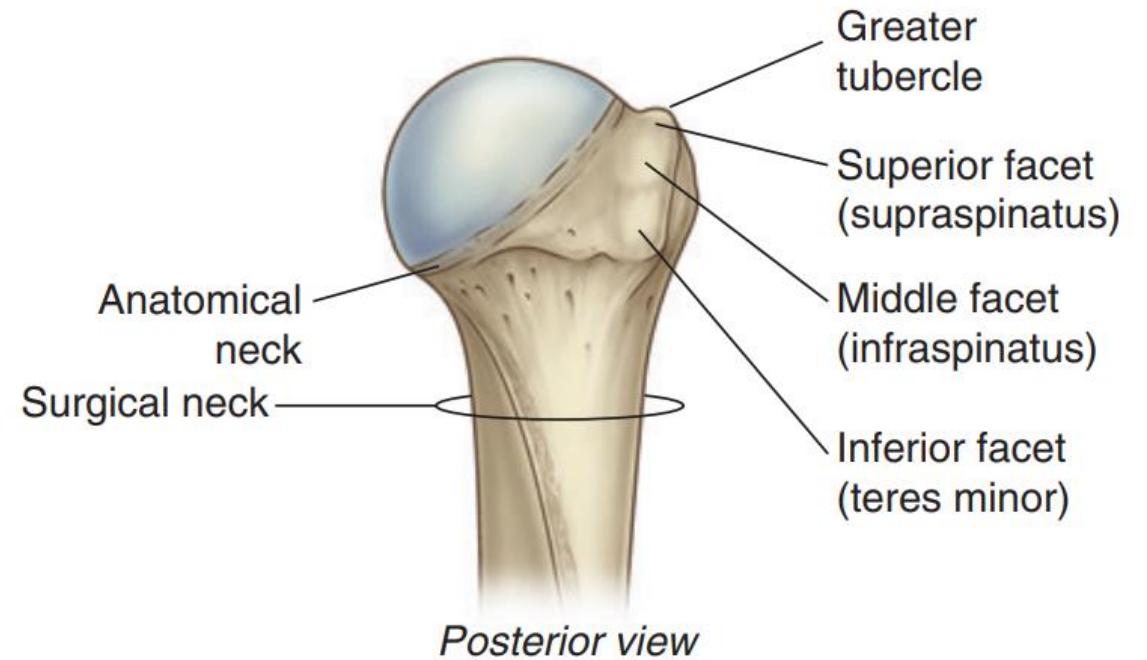
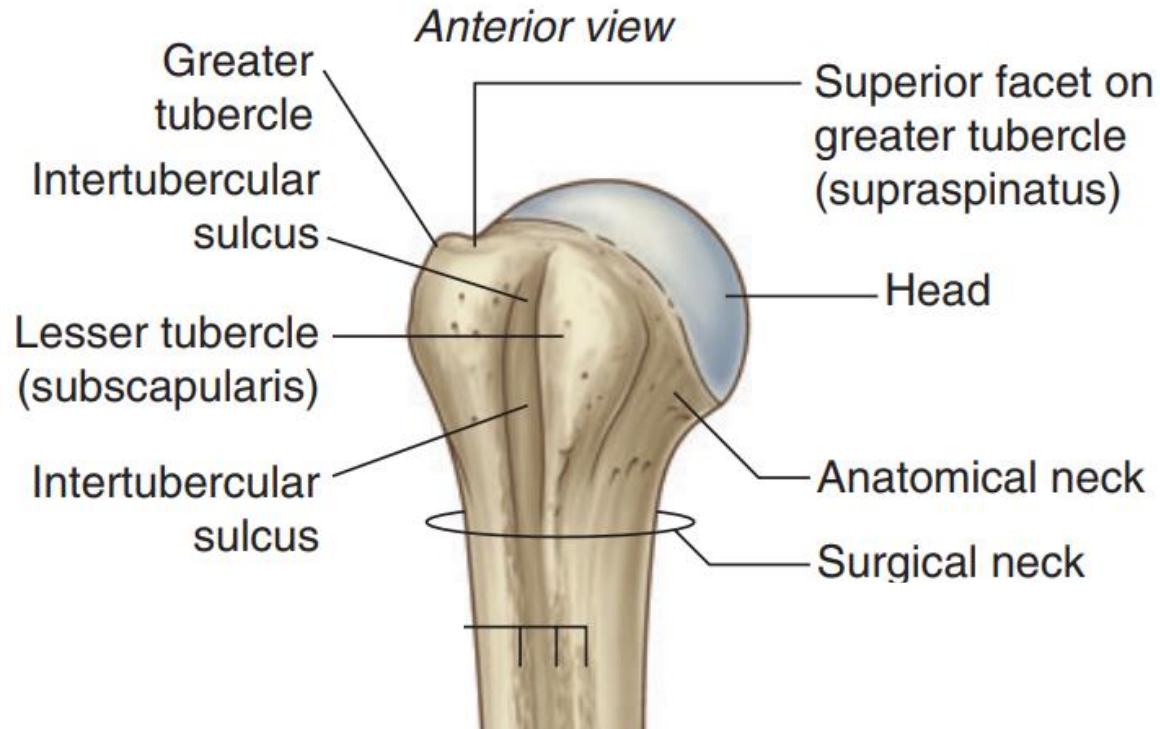
- **The Scapula**



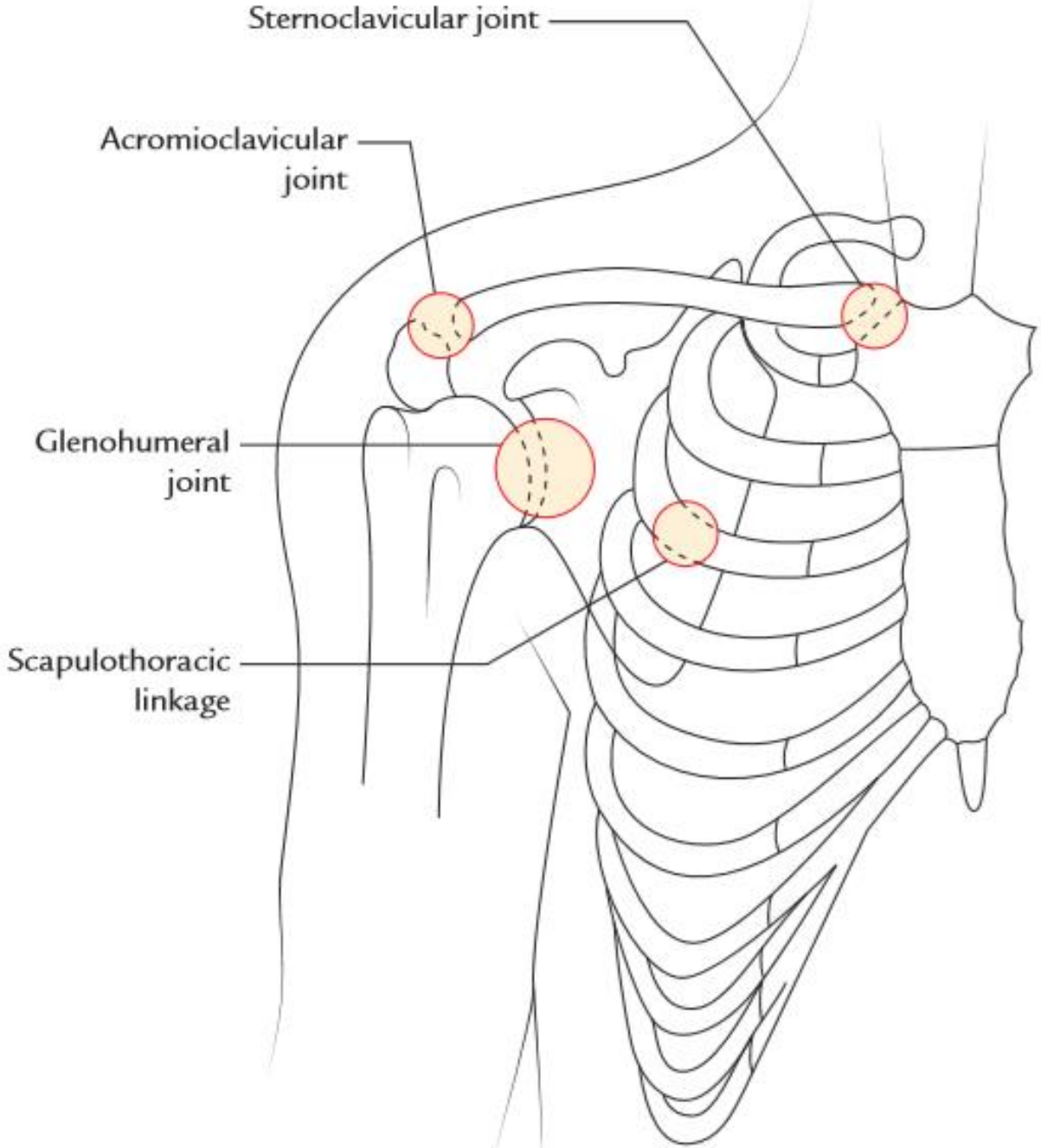




# • The Proximal humerus



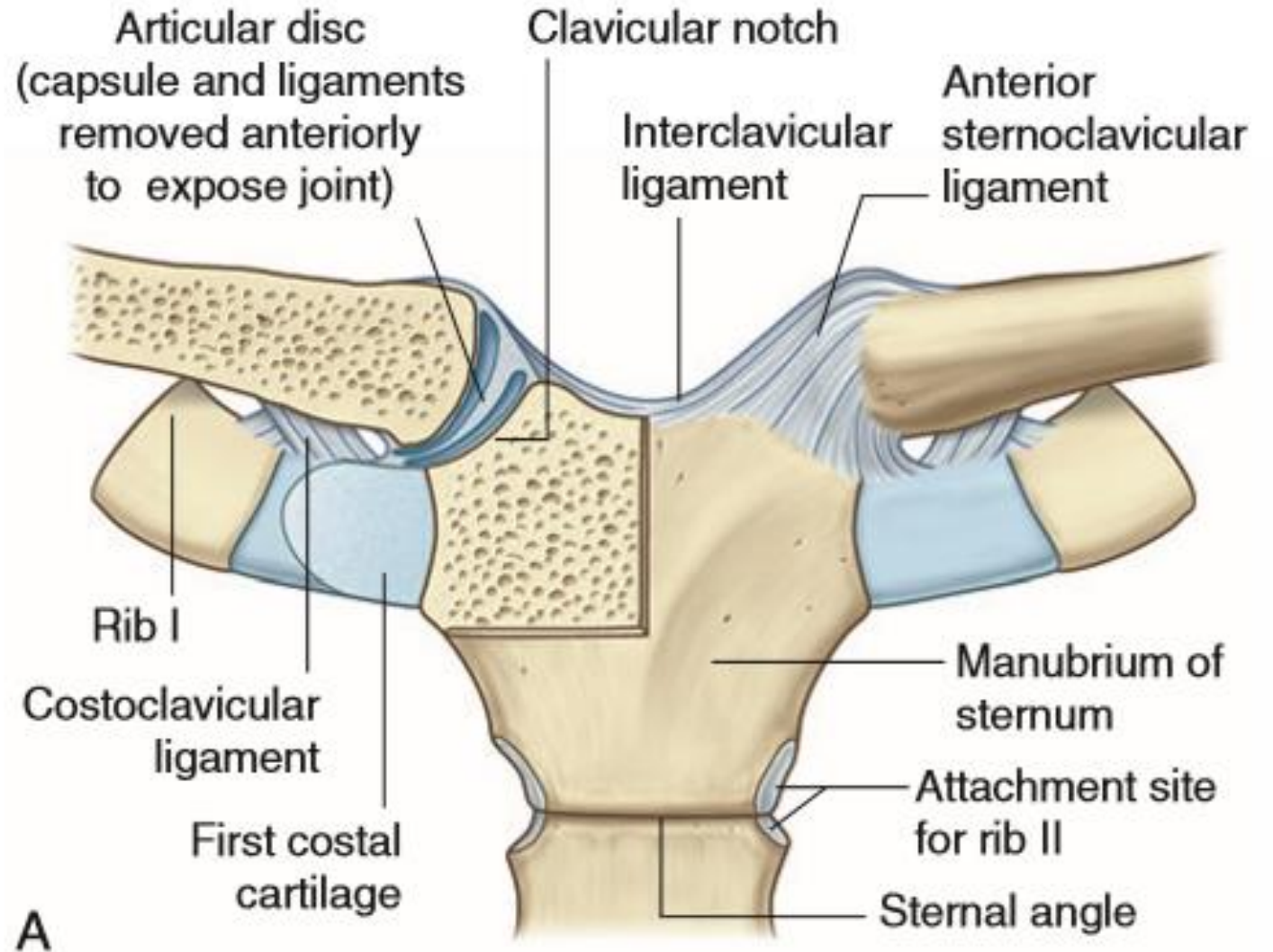
# Shoulder Joint complex





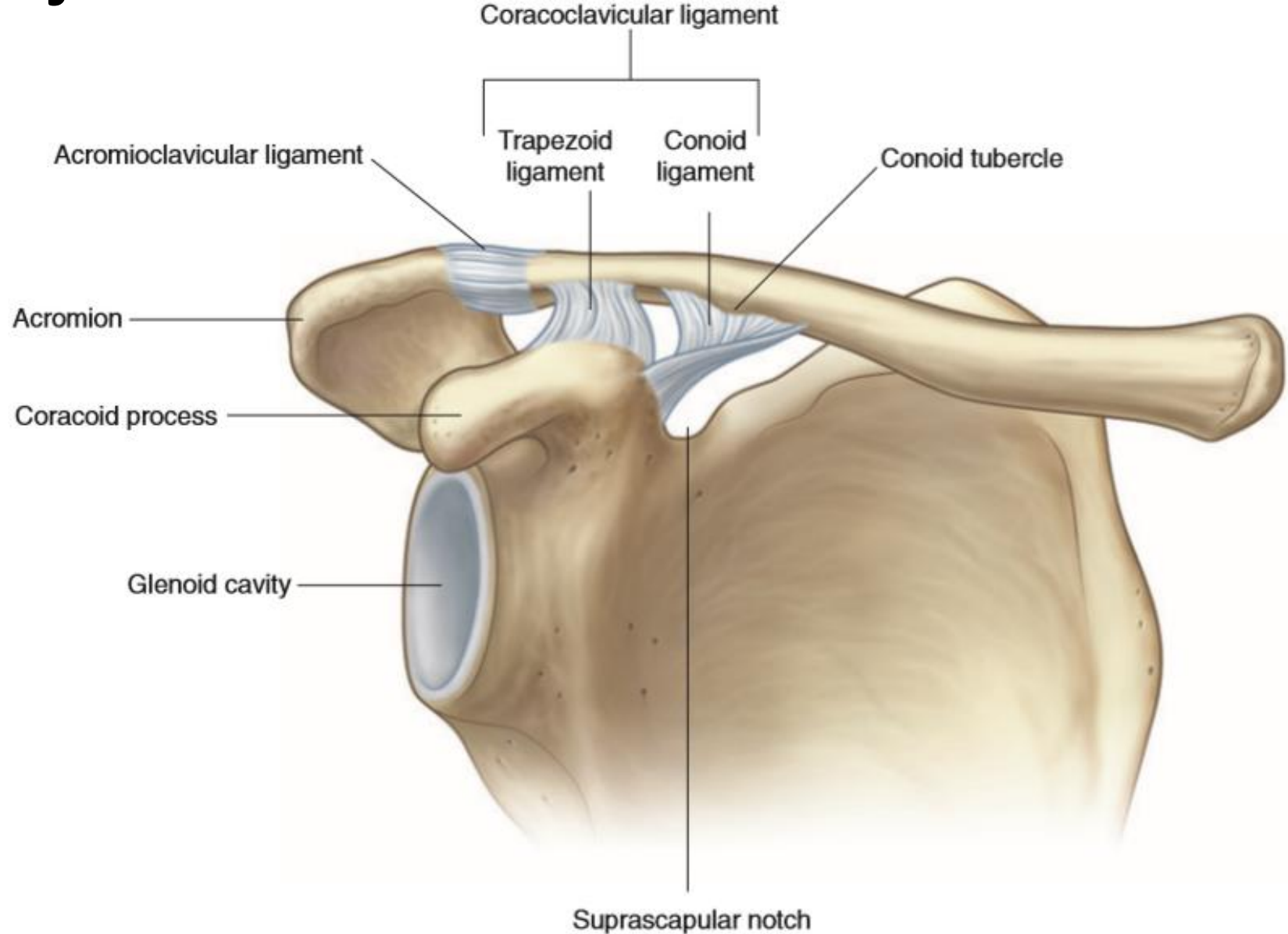
# Sternoclavicular joint

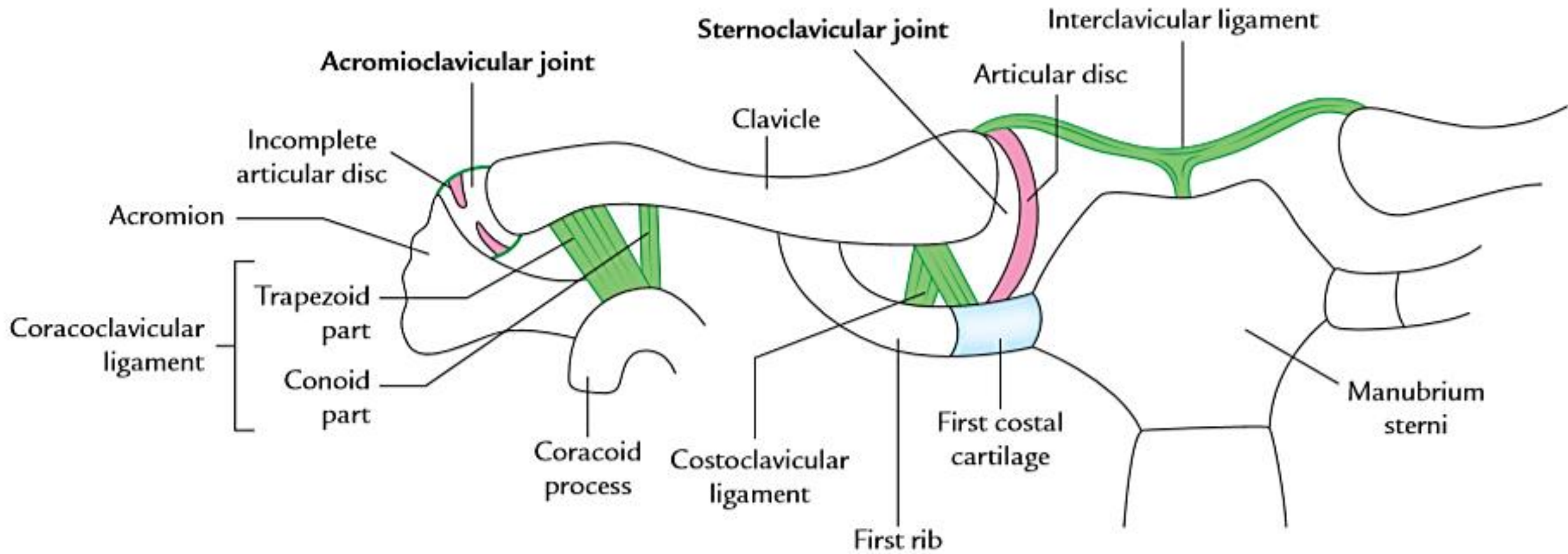
- **Synovial (saddle)**
- **Interarticular disc**
- **4 ligaments**
  - ✓ Ant. & Post. Sternoclavicular
  - ✓ Interclavicular
  - ✓ Costoclavicular
- Sliding & rotational



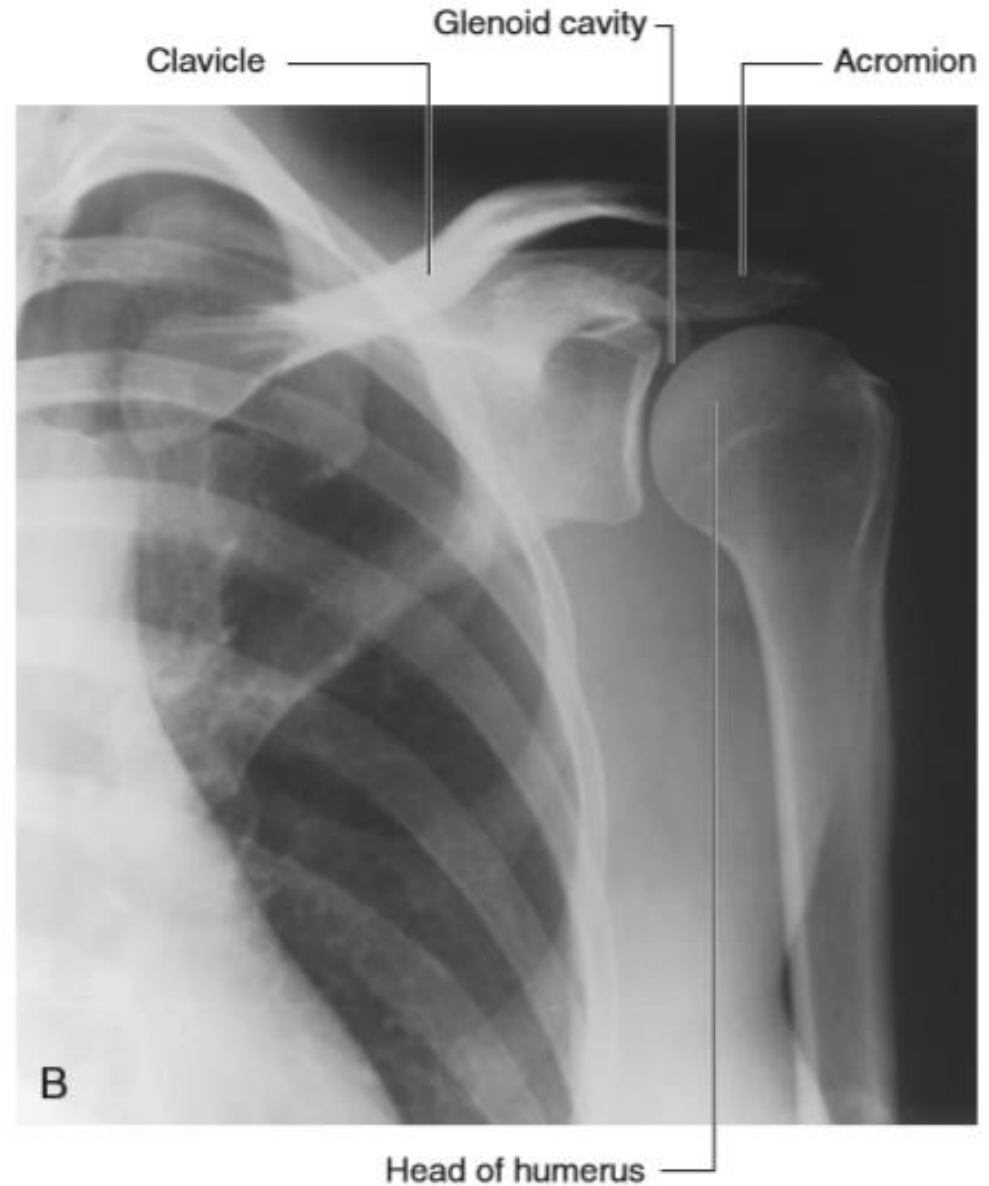
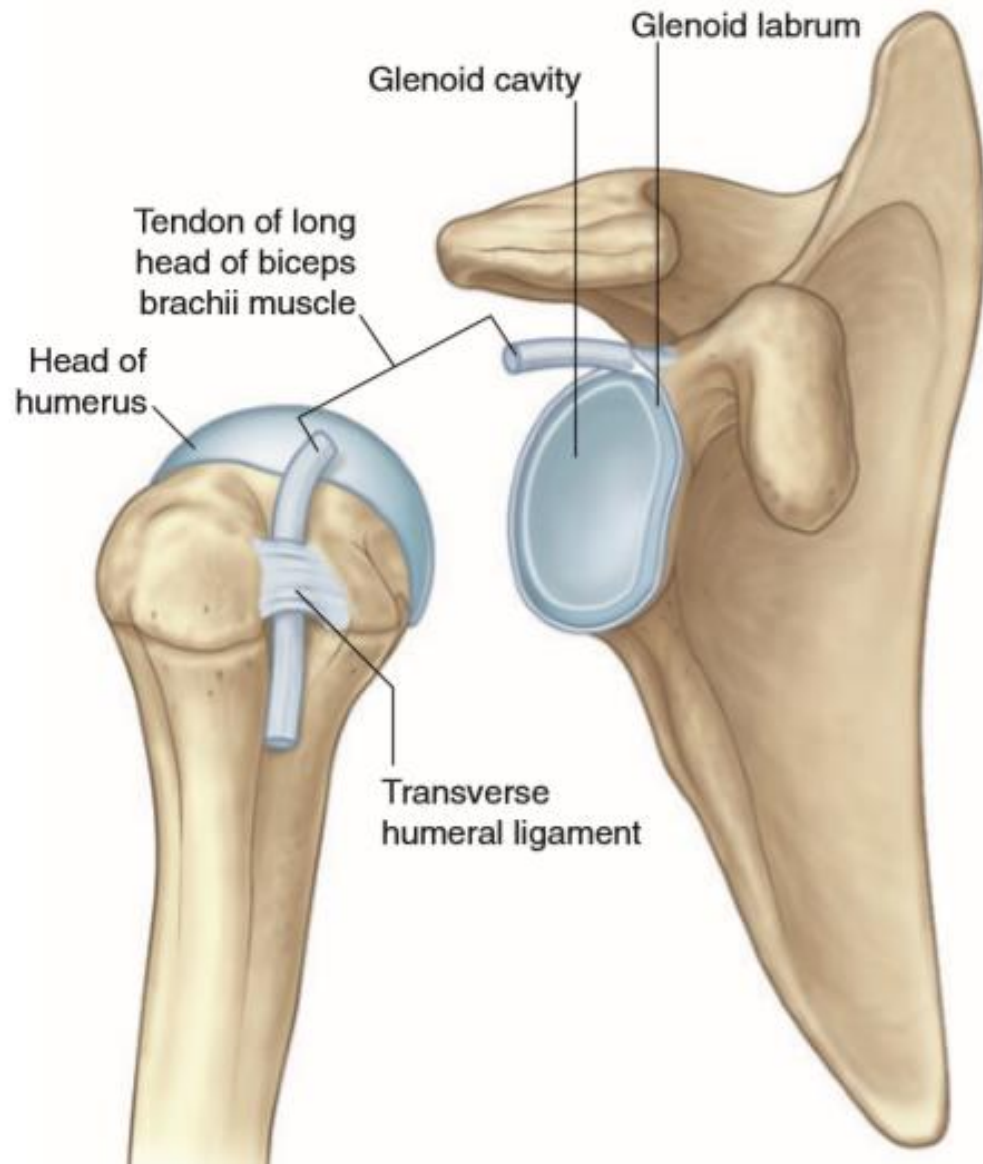
# Acromioclavicular joint

- Synovial Plane
- Sliding & axial rotation



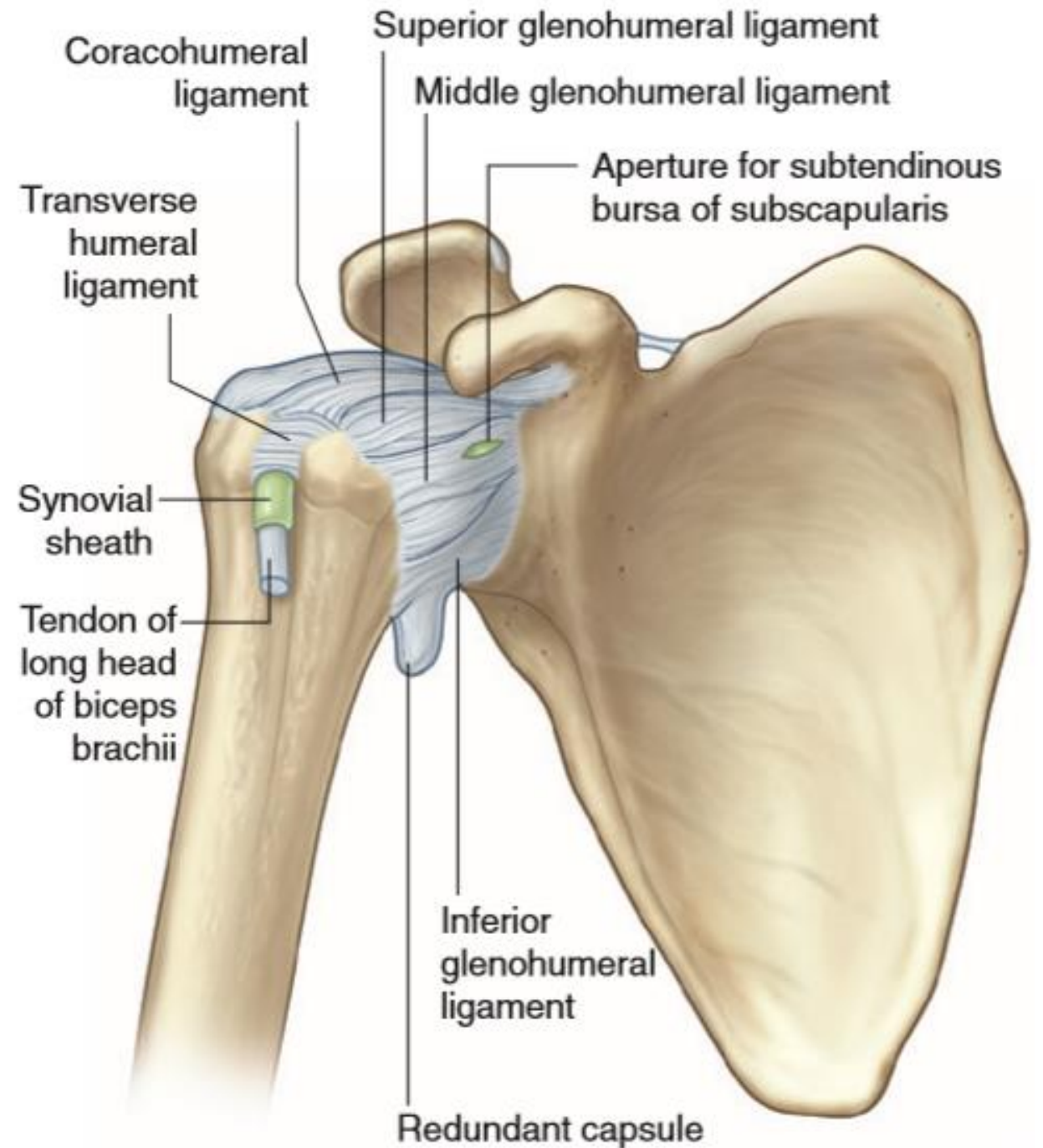


# Shoulder joint (glenohumeral)

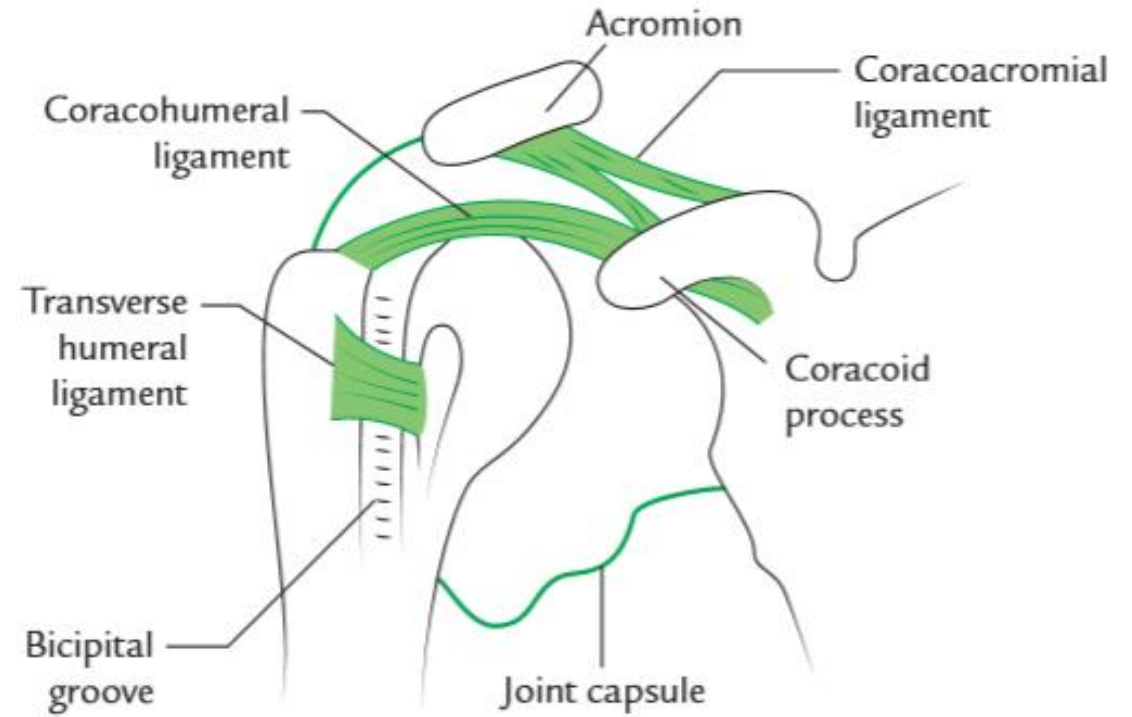
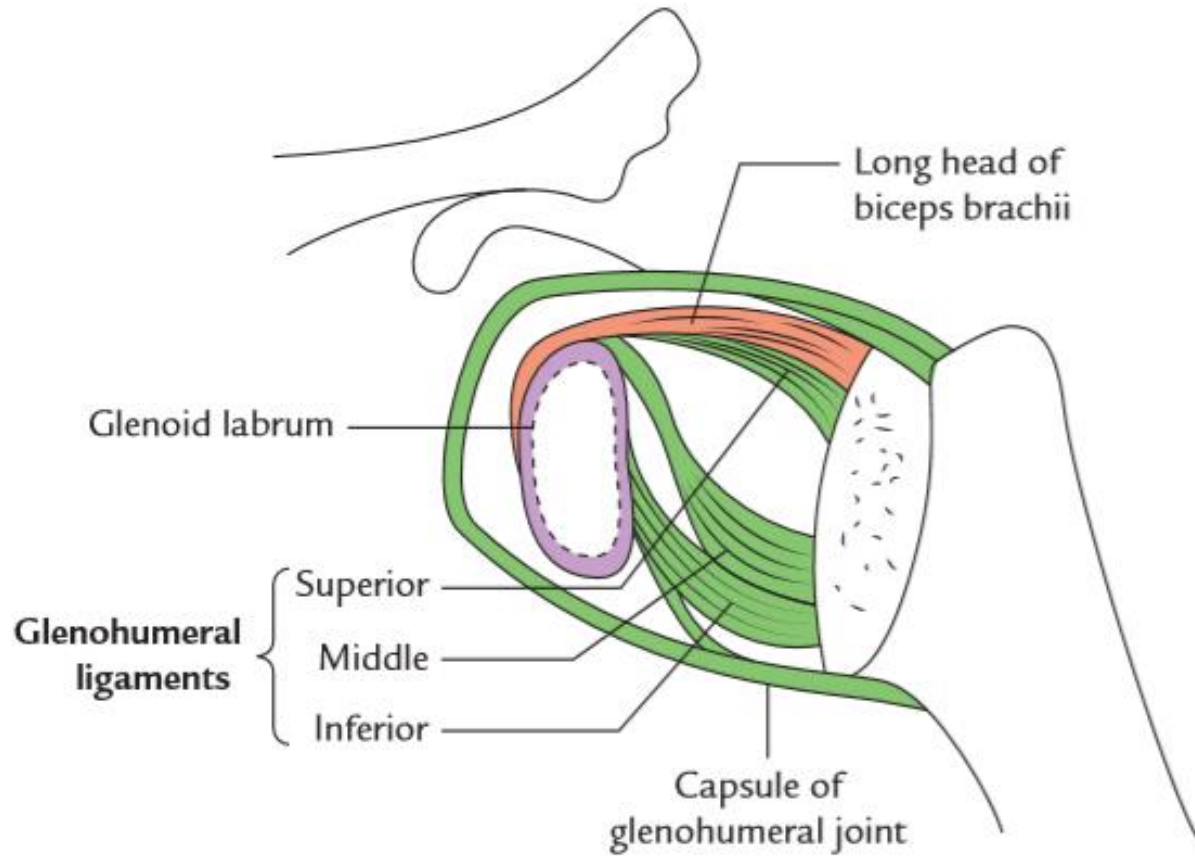


# Capsule

- Attaches to margin of glenoid cavity outside glenoid labrum & long head of biceps
- Redundant capsule
- To anatomical neck
- Apertures
- Coracohumeral lig
- Glenohumeral (sup., middle, inf.)
- Transverse humeral lig

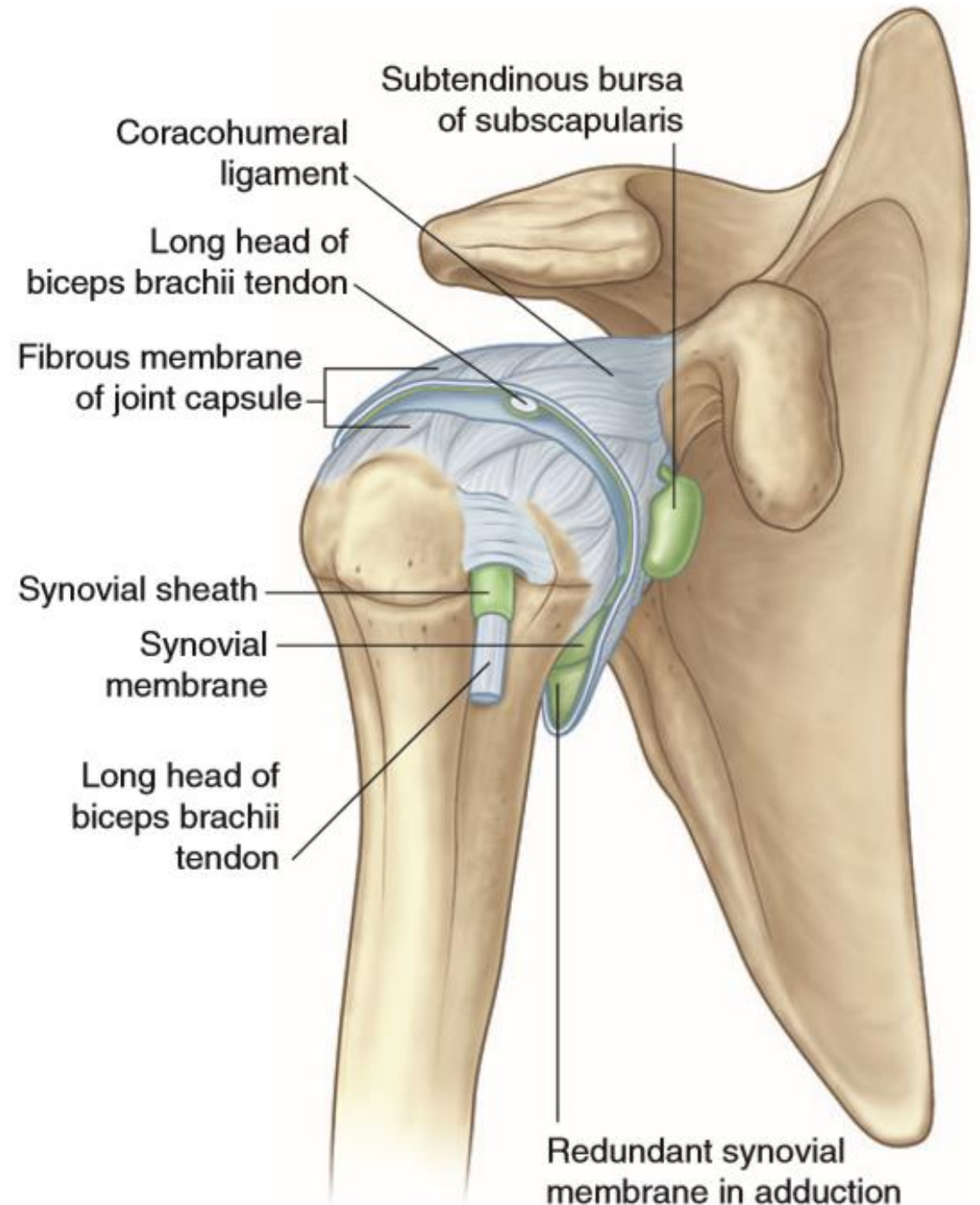


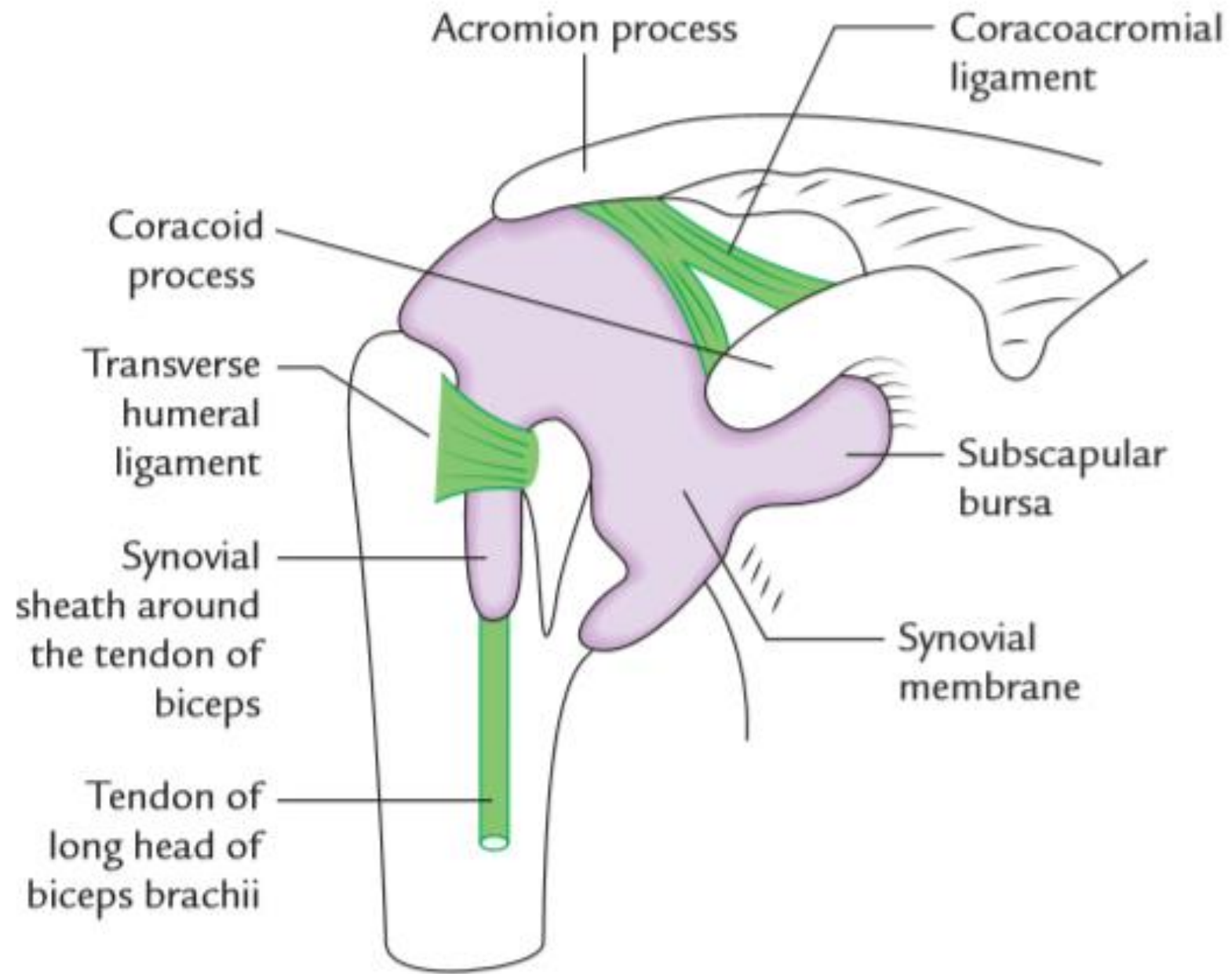
# Capsular ligaments



# Synovial membrane & bursae

- subtendinous bursa of the subscapularis
- Folds around long head of biceps (Tendon synovial sheath)
- Separate subacromial bursa (subdeltoid)







**Arm Raised**

**Clavicle**

**Bursa**

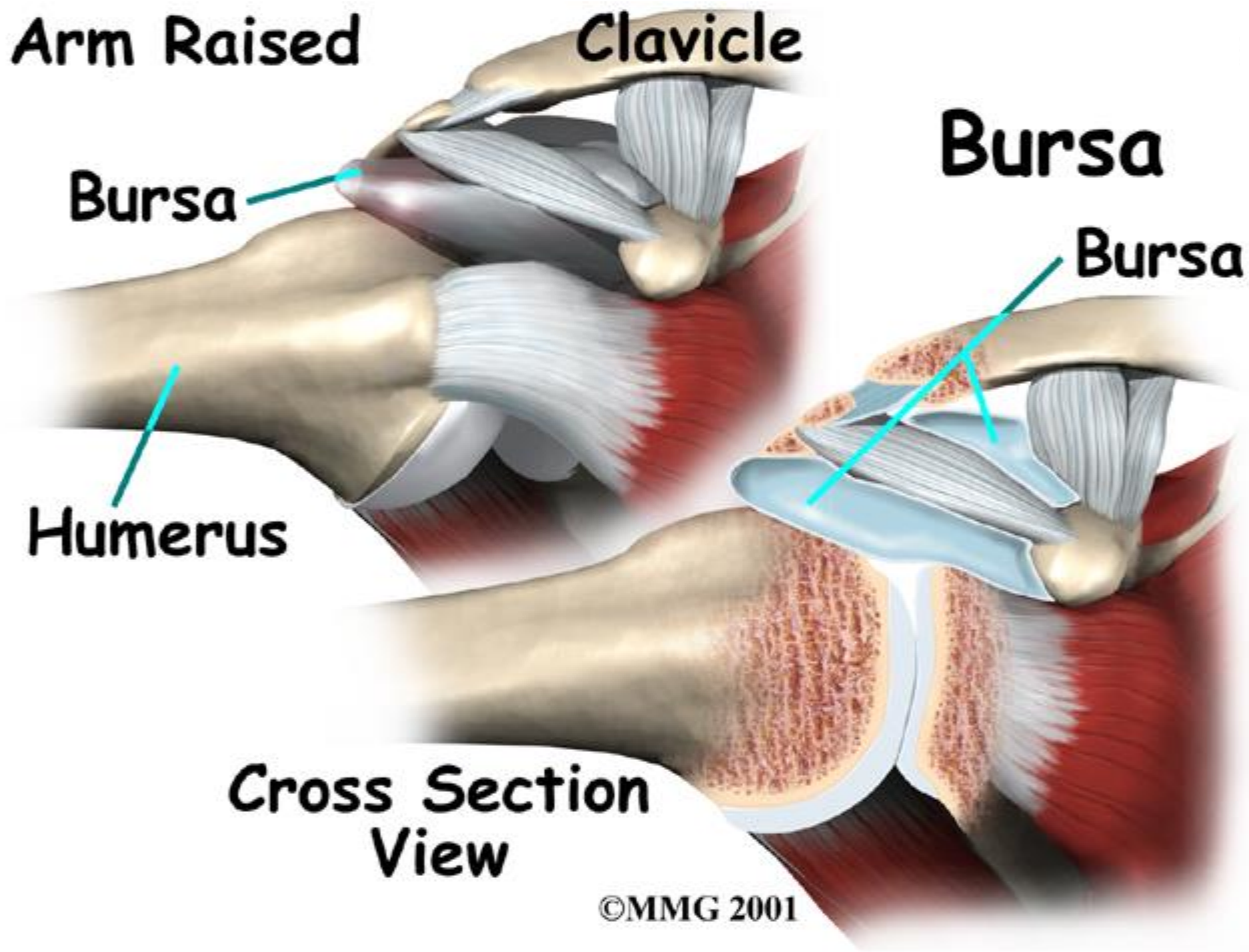
**Humerus**

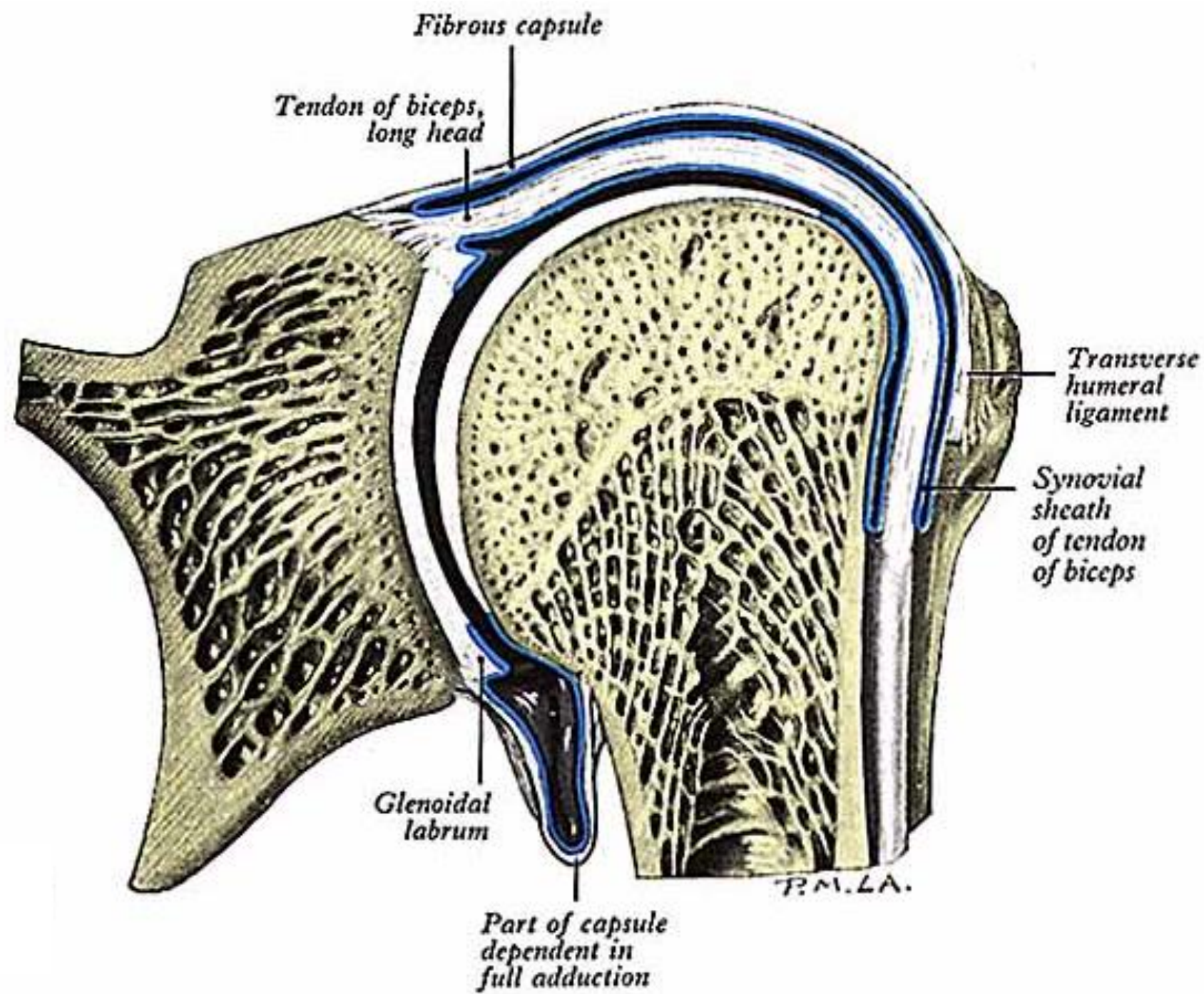
**Bursa**

**Bursa**

**Cross Section  
View**

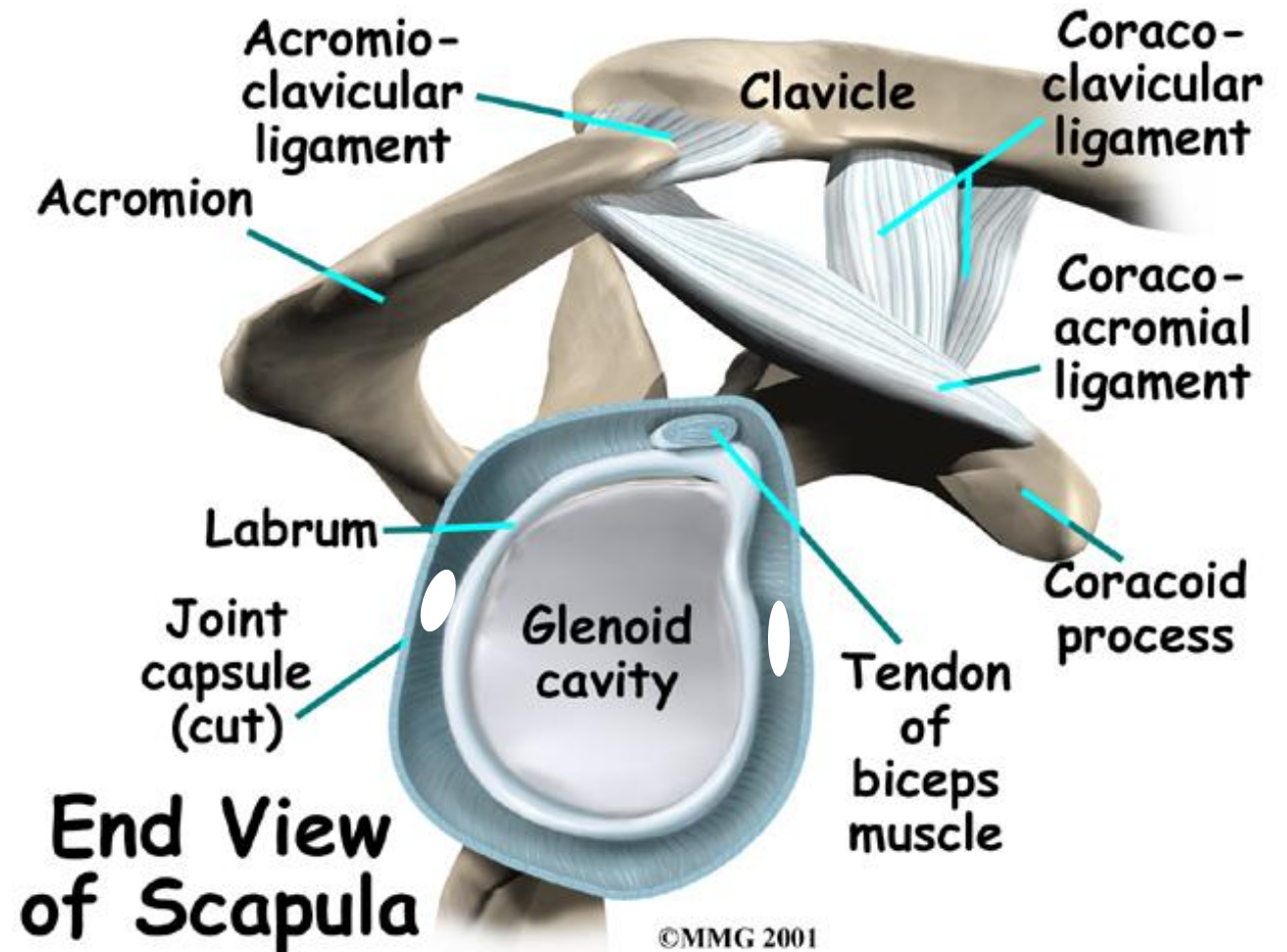
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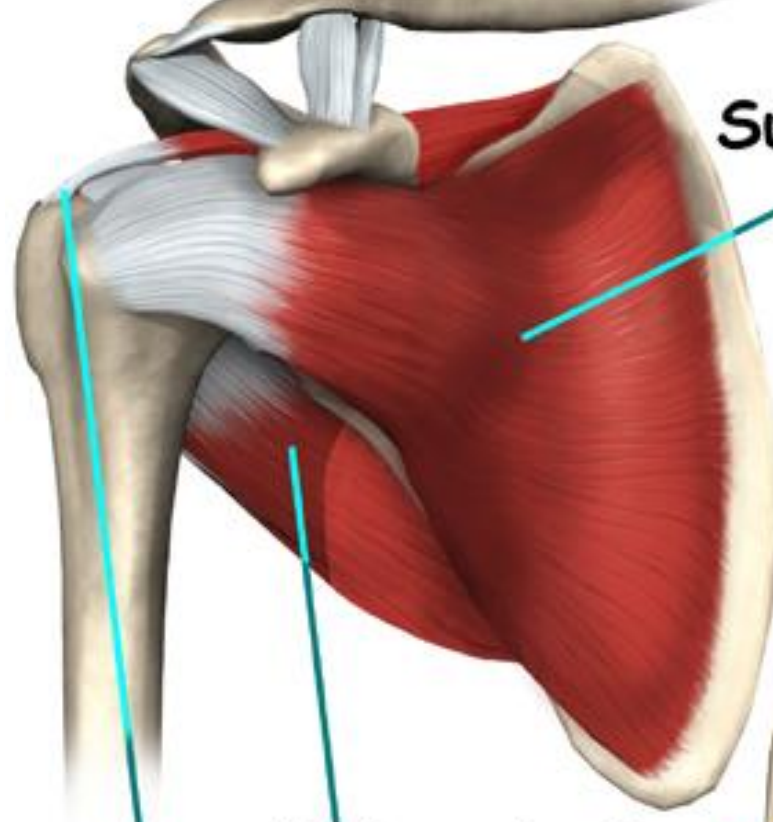
# Stabilizing factors of shoulder joint

1. Rotator cuff muscles (SITS muscles)
2. Long head of biceps
3. Coracoacromial arch= coracoid process + coracoacromial lig + acromion
4. Joint capsule & lig.
5. Glenoid labrum



Front View

# Muscles of the Rotator Cuff

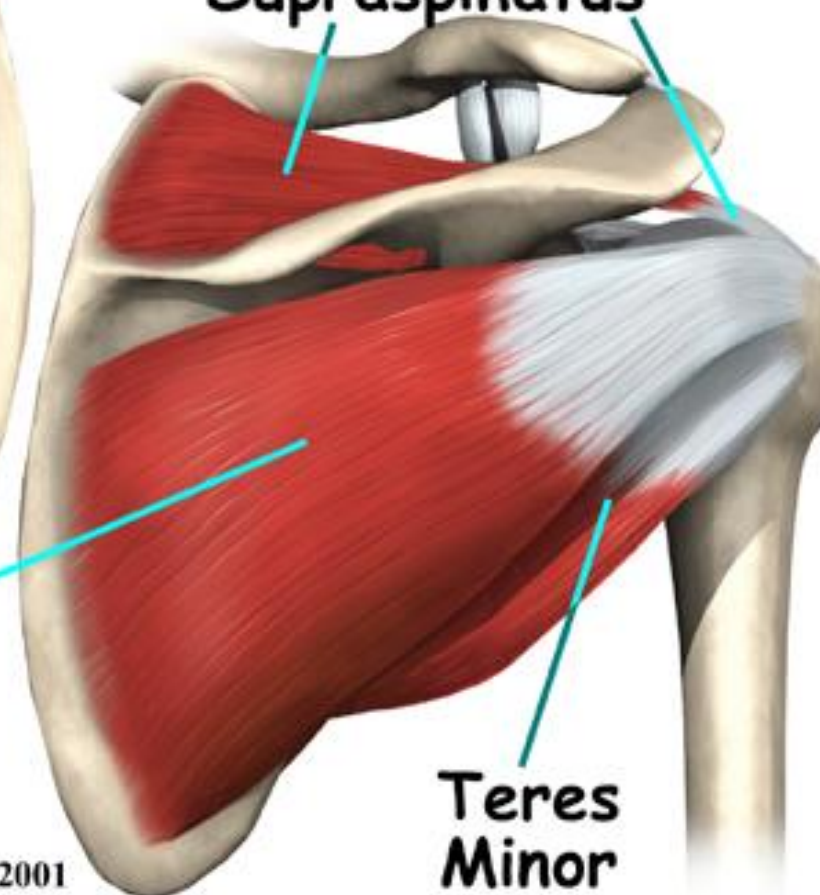


Subscapularis

Infraspinatus

Supraspinatus

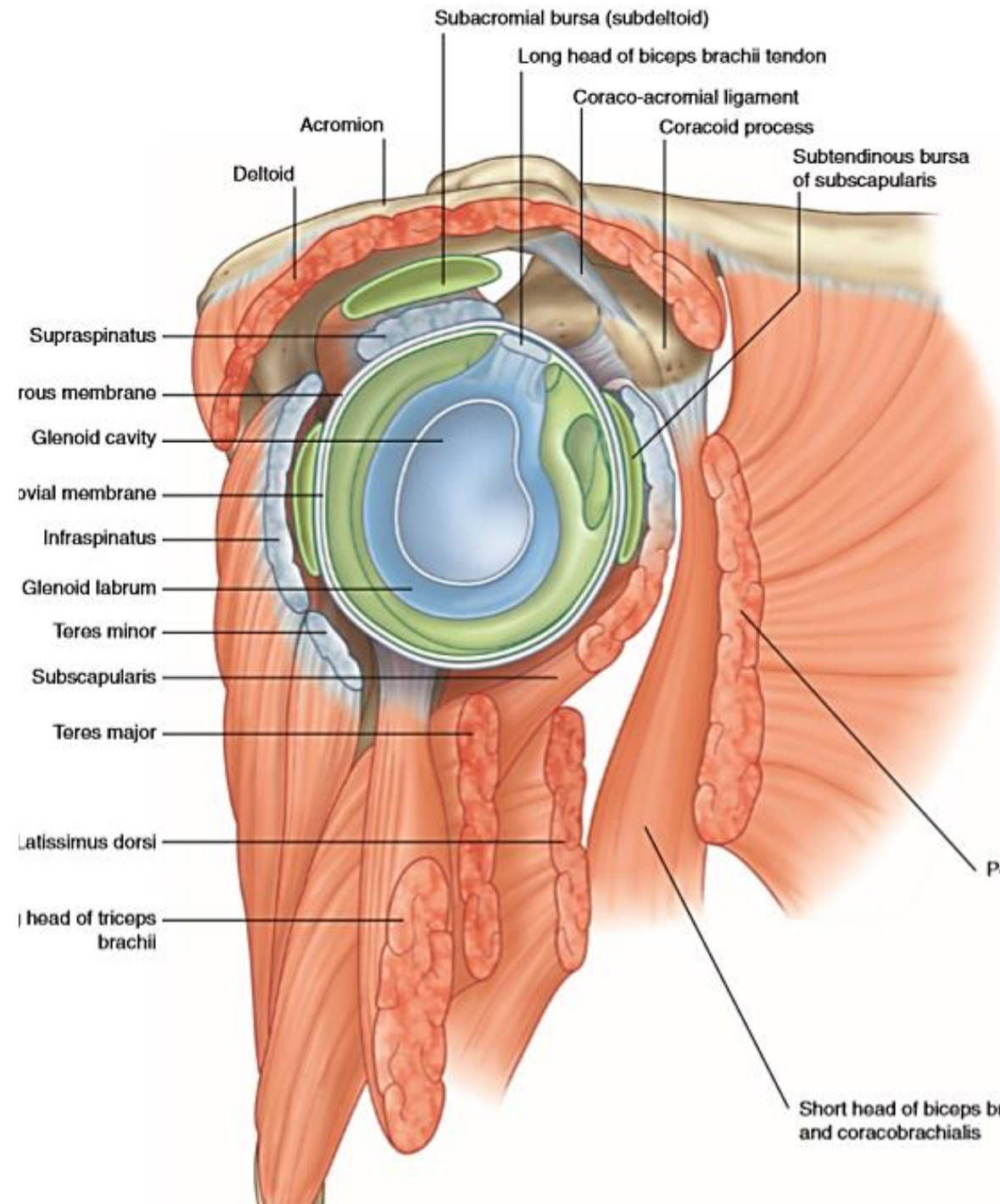
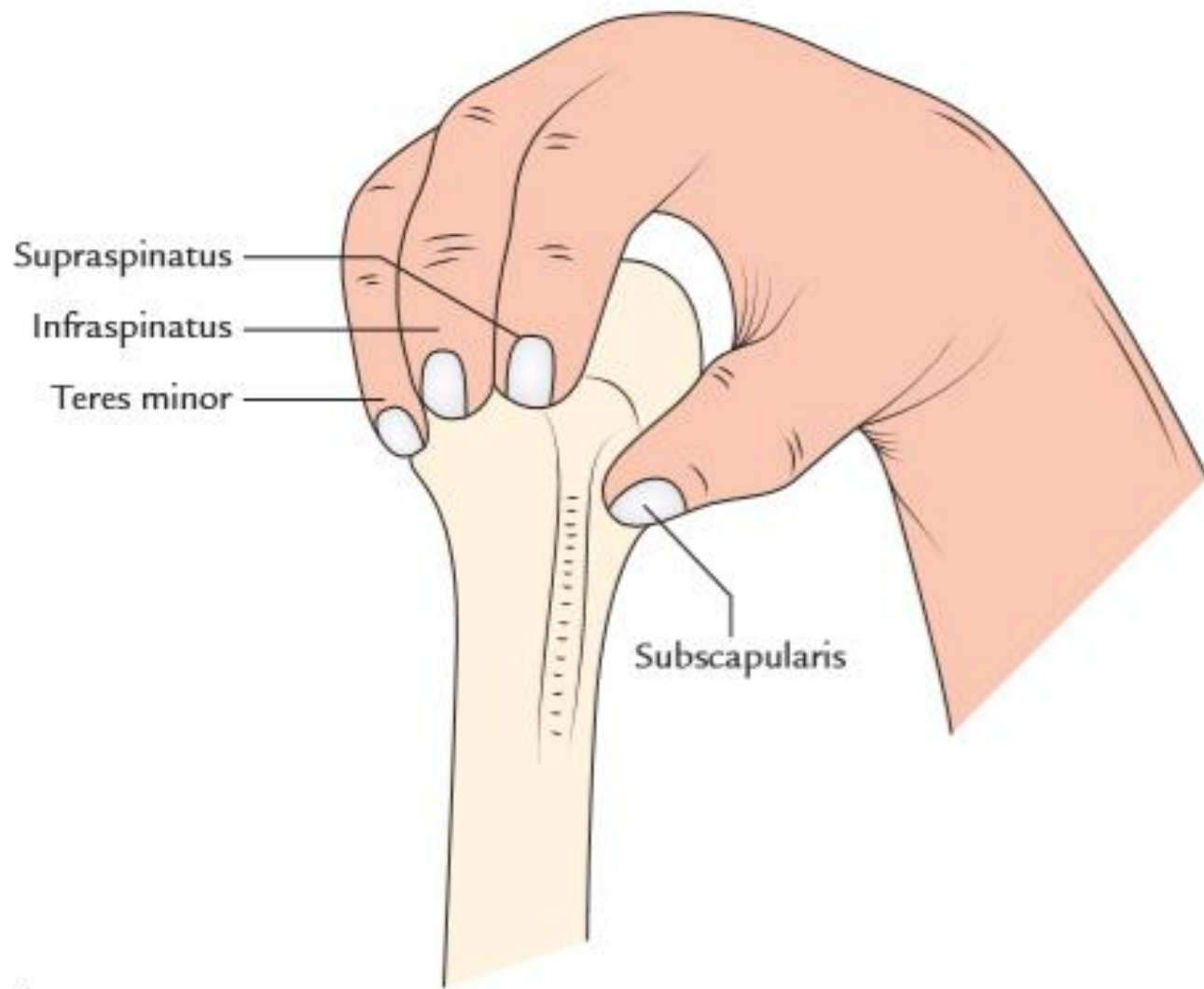
Back View

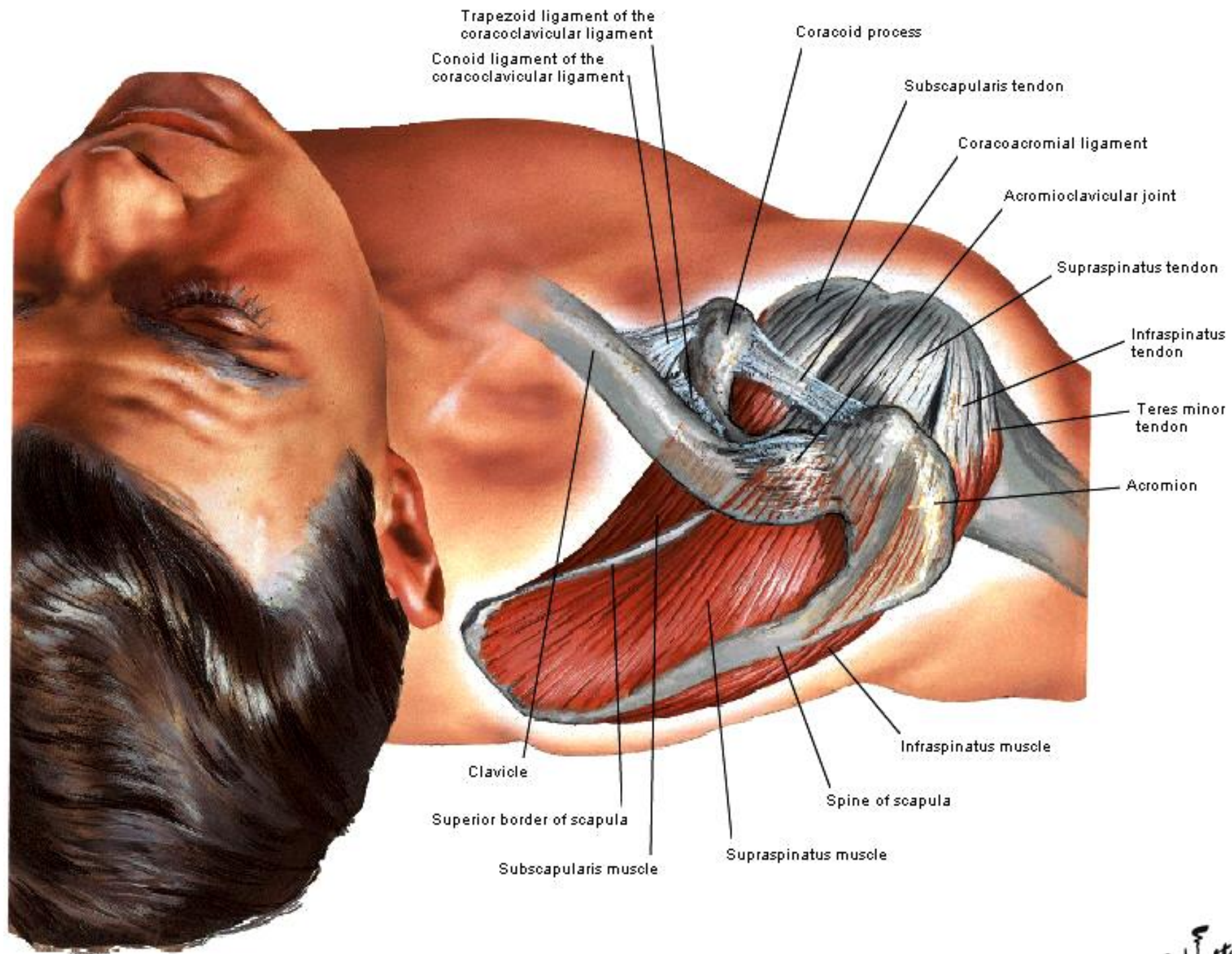


Supraspinatus

Teres Minor

# Rotator cuff





# Dislocation of shoulder joint

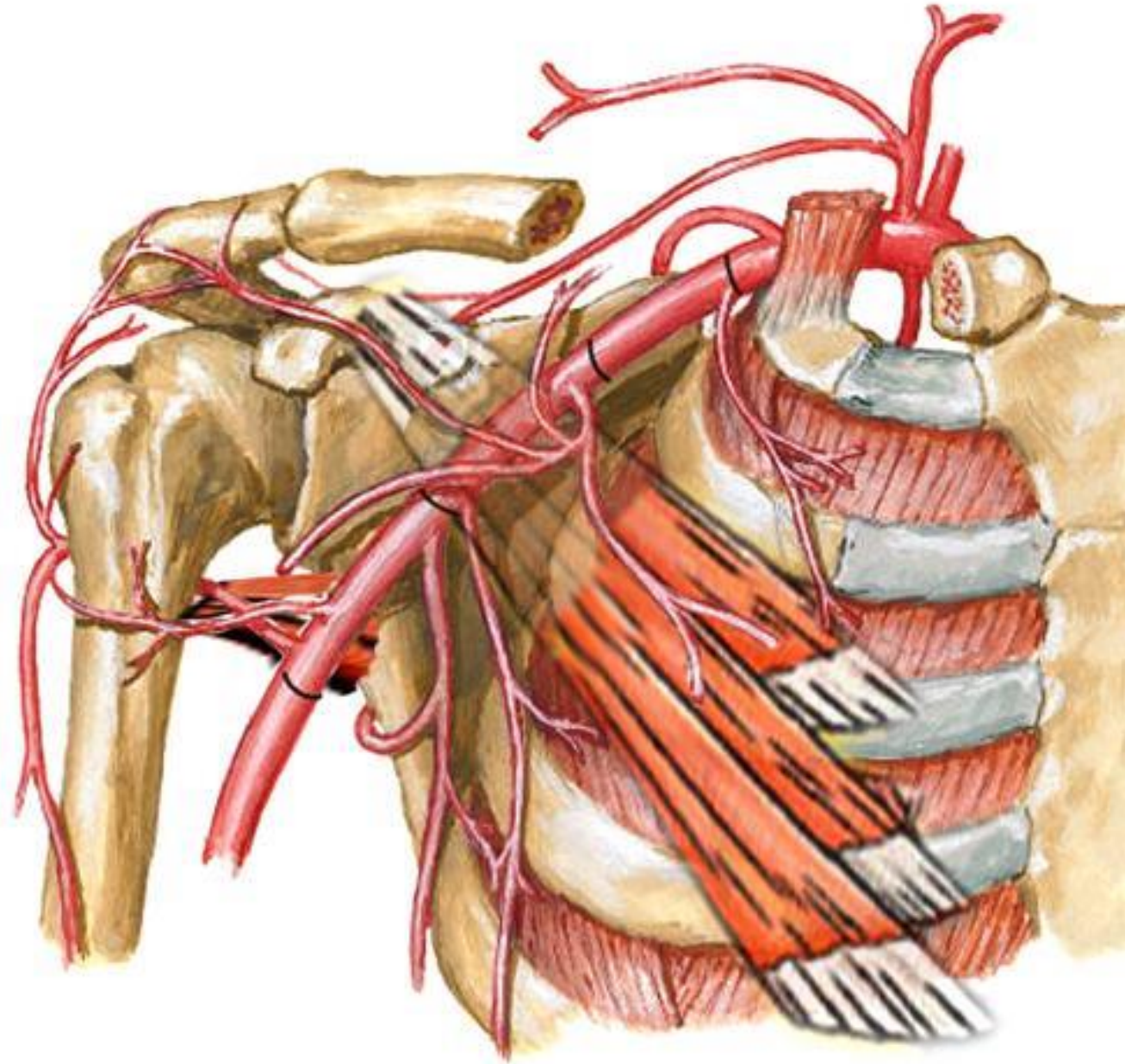
Anterior dislocation is the most common type of dislocation of shoulder joint

- Anterio-inferior
- Axillary nerve injury
- Glenoid labrum tear
- Recurrent dislocations



# Blood & nerve supply

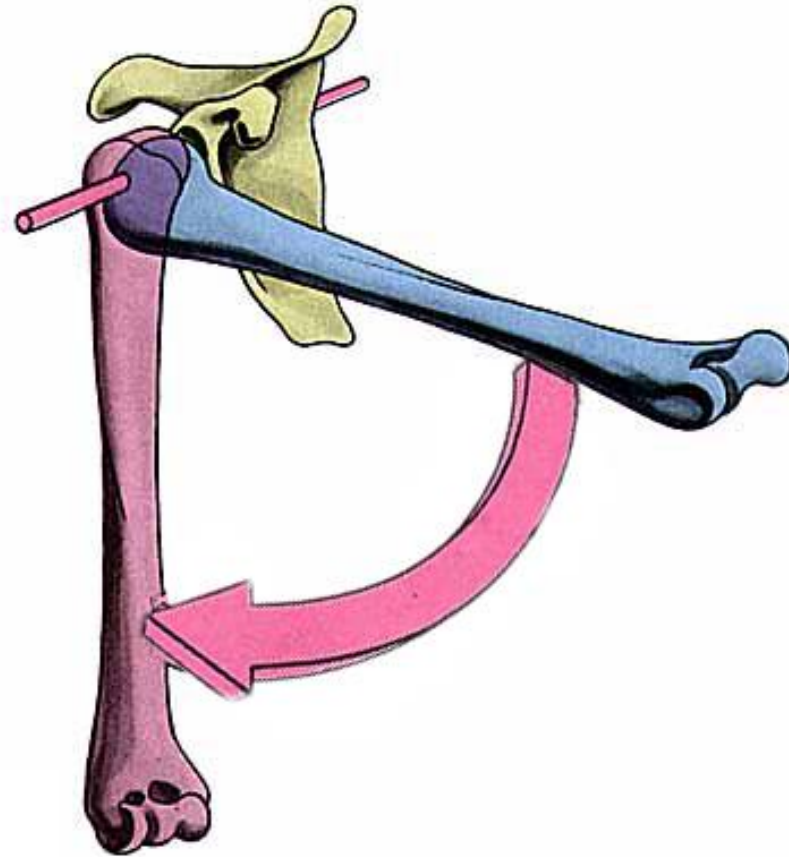
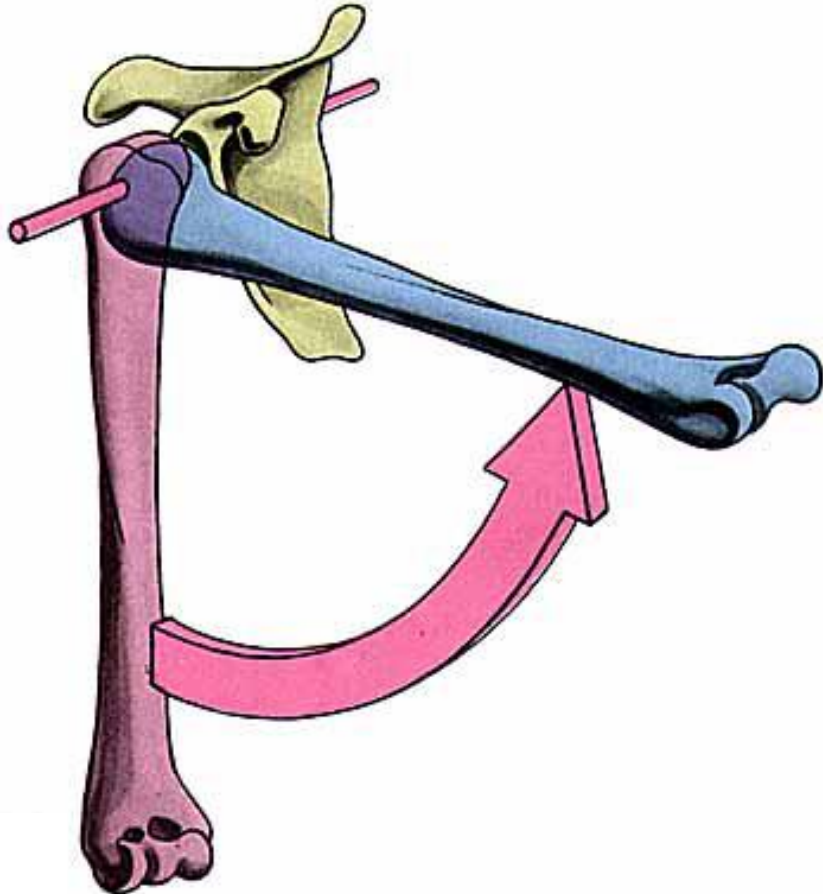
- Ant. & Post. Circumflex humeral arts
- Suprascapular arts.
- Innervated by branches from posterior cord of the brachial plexus, and from the suprascapular, axillary, and lateral pectoral nerve





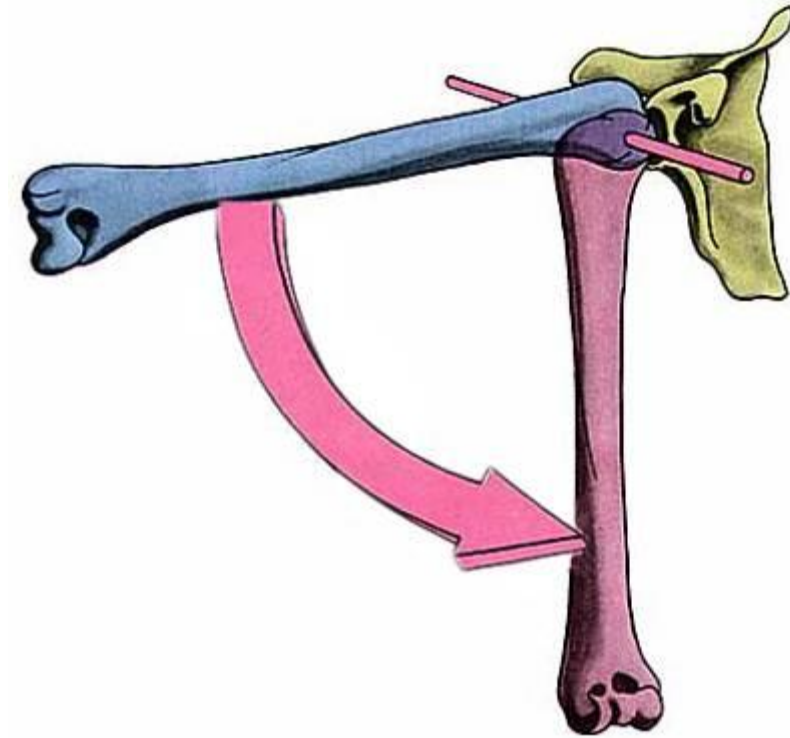
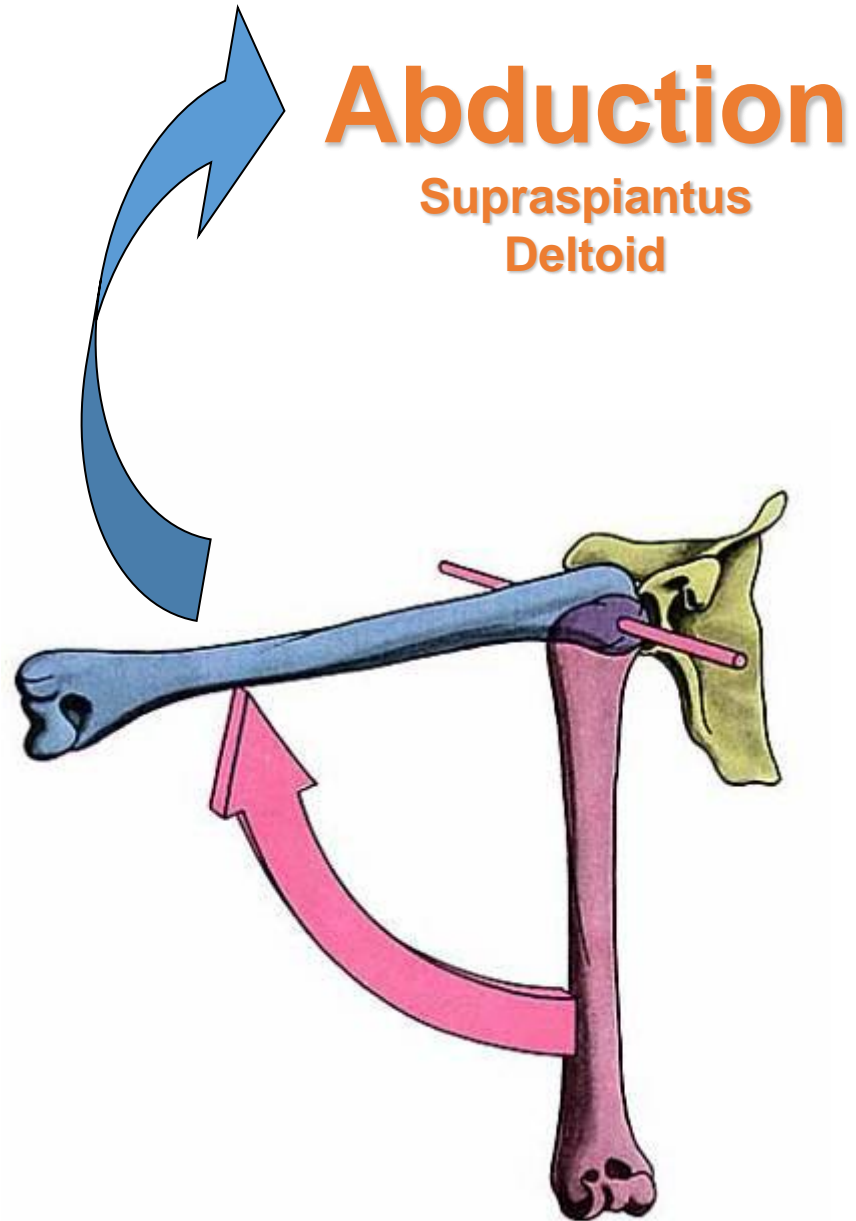
# Flexion

Deltoid  
P major  
Coracobrachialis  
Short biceps



# Extension

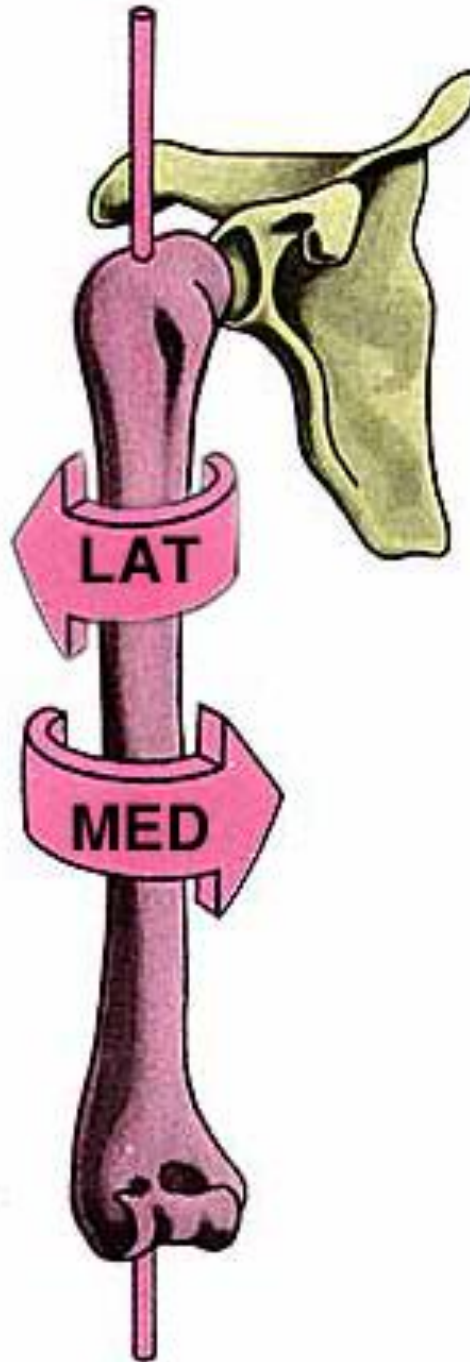
Deltoid  
Latissims dorsi  
Teres major



**Adduction**  
P major  
Latissimus dorsi  
Teres major

# Lateral Rotation

Deltoid  
infraspinatus  
Teres minor



# Medial Rotation

Deltoid  
P major  
latissimus dorsi  
Teres major  
Subscapularis

# Movements of shoulder joint

Movements	Main muscles (prime movers)	Accessory muscles (synergists)
Flexion	<ul style="list-style-type: none"><li>• Pectoralis major (clavicular part)</li><li>• Deltoid (anterior fibres)</li></ul>	<ul style="list-style-type: none"><li>• Biceps brachii (short head)</li><li>• Coracobrachialis</li><li>• Sternocostal head of pectoralis major</li></ul>
Extension	<ul style="list-style-type: none"><li>• Deltoid (posterior fibres)</li><li>• Latissimus dorsi</li></ul>	<ul style="list-style-type: none"><li>• Teres major</li><li>• Long head of triceps</li></ul>
Adduction	<ul style="list-style-type: none"><li>• Pectoralis major (sternocostal part)</li><li>• Latissimus dorsi</li></ul>	<ul style="list-style-type: none"><li>• Teres major</li><li>• Coracobrachialis</li><li>• Short head of biceps</li><li>• Long head of triceps</li></ul>
Abduction	<ul style="list-style-type: none"><li>• Deltoid (lateral fibres)</li><li>• Supraspinatus</li></ul>	<ul style="list-style-type: none"><li>• Serratus anterior</li><li>• Upper and lower fibres of trapezius</li></ul>
Medial rotation	<ul style="list-style-type: none"><li>• Subscapularis</li></ul>	<ul style="list-style-type: none"><li>• Pectoralis major</li><li>• Latissimus dorsi</li><li>• Deltoid (anterior fibres)</li><li>• Teres major</li></ul>
Lateral rotation	<ul style="list-style-type: none"><li>• Deltoid (posterior fibres)</li></ul>	<ul style="list-style-type: none"><li>• Infraspinatus</li><li>• Teres minor</li></ul>