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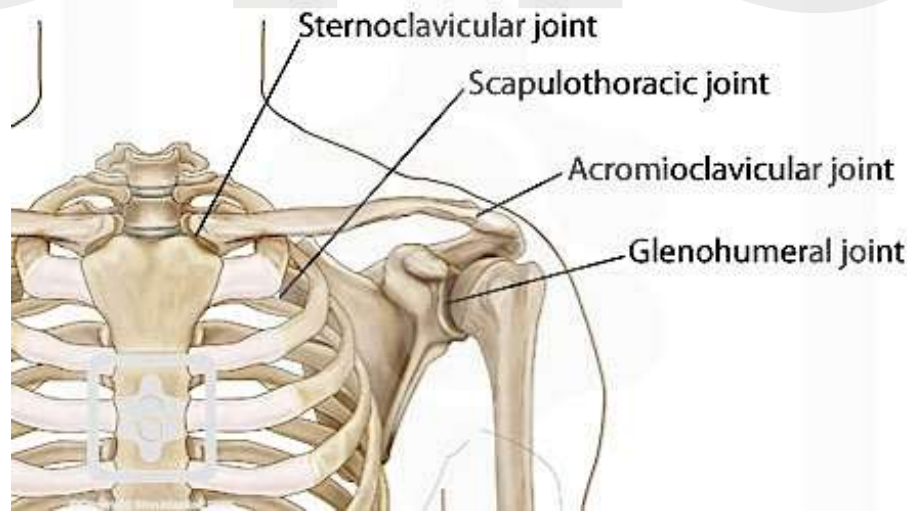
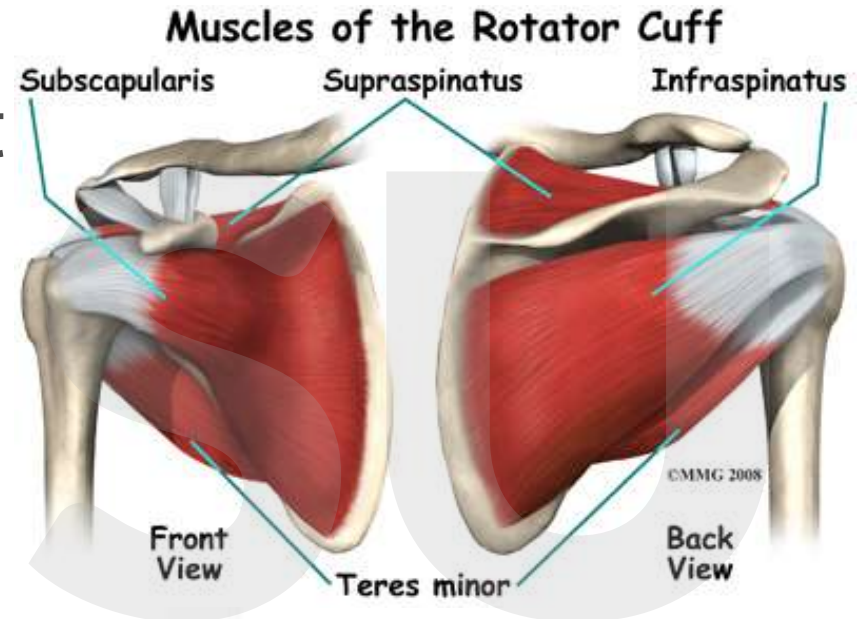
Introduction to Shoulder Injuries

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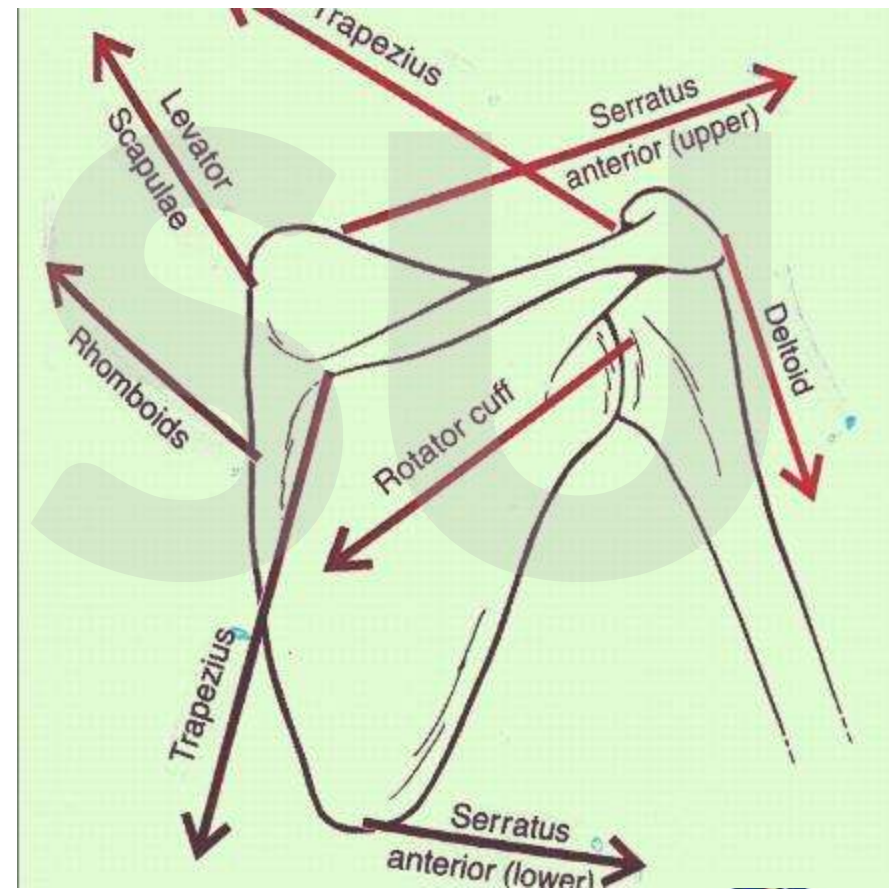
Shoulder

- Acromioclavicular joint
- Sternoclavicular joint
- Subacromial space
- Glenohumeral joint



The Scapula

- The key to comfortable and powerful shoulder range of motion
- How many muscles insert on the scapula?

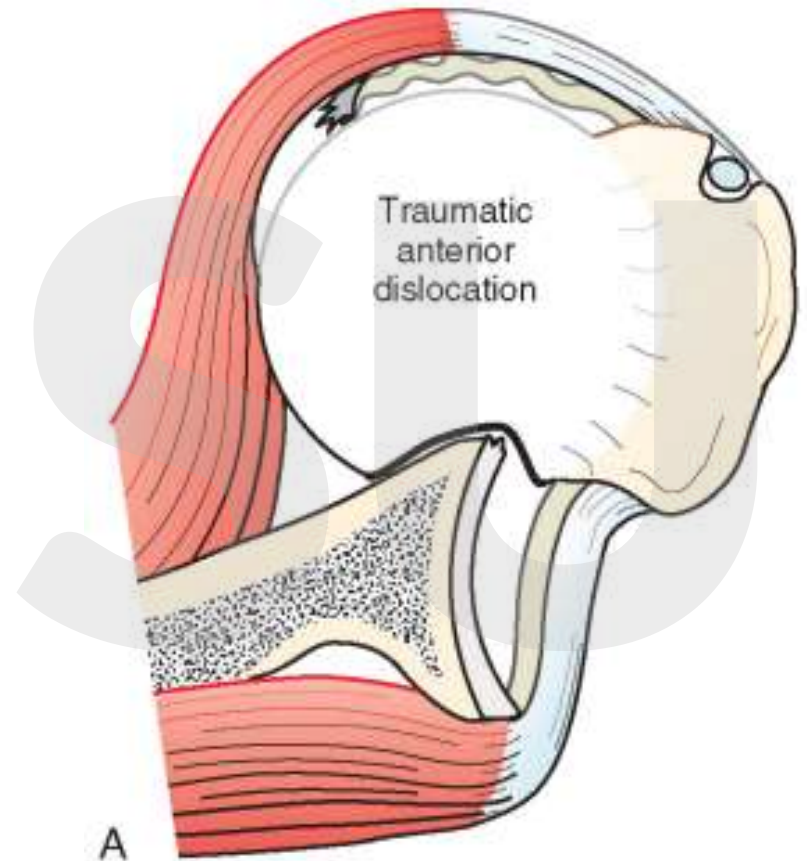


Musculoskeletal anatomy

- Key = history!
 - Where does it hurt?
 - When does it hurt?
 - With use?
 - Night pain?
 - Positional pain?
 - Any injury? (Instability?)
 - Is it improving/worsening?

Musculoskeletal anatomy

- “Trauma”
 - Higher energy, acute
 - Lower energy, overuse



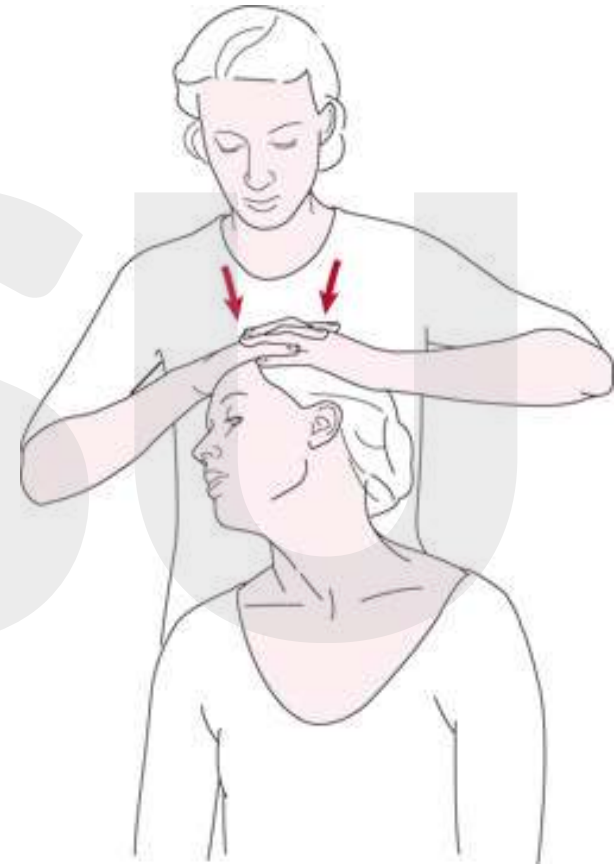
Musculoskeletal anatomy

- “Degeneration”
 - Cartilage
 - Labrum
 - Articular cartilage
 - Tendons
 - How does glenohumeral arthritis present?



Musculoskeletal anatomy

- Don't forget referred pain!
 - Shoulder → arm
 - Cervical spine → shoulder/UE



Physical Examination

- Visualization
 - Comfortable environment
 - Exposure of both shoulders
 - Scars
 - Asymmetry
 - Stigmata of steroid use

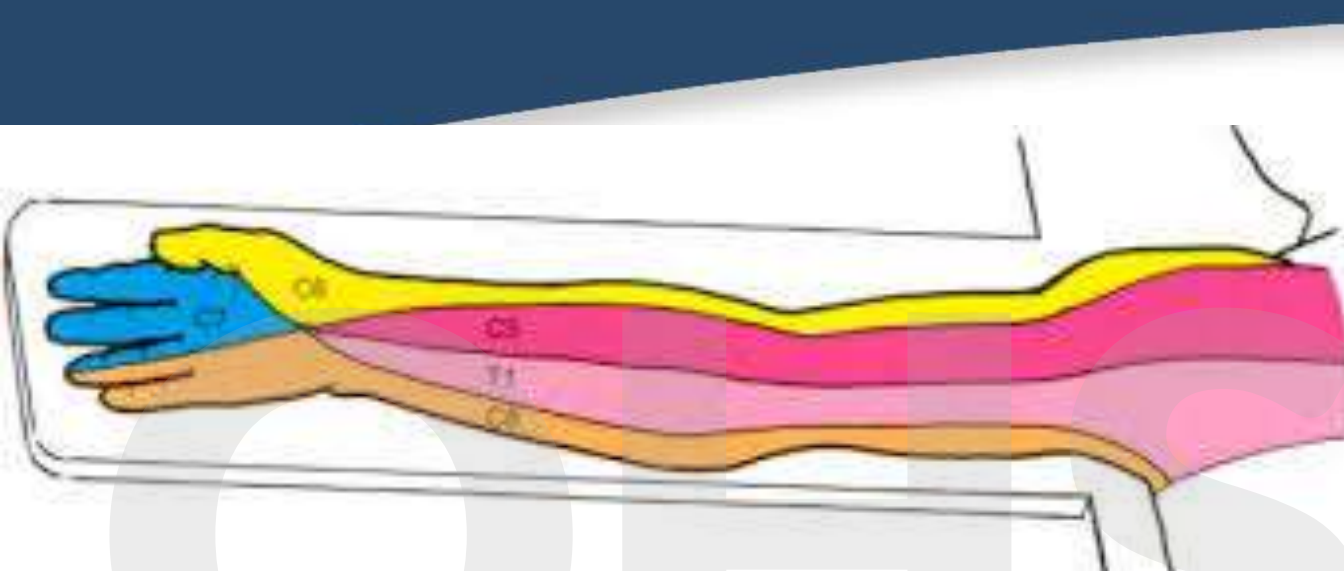


Neck Exam

- Range of motion
- Spurling's sign
- Distal sensation and strength
- Reflexes



Sensory Exam



Suprascapular
Nerve & Artery

Suprascapular
Notch & Ligament

Spinoglenoid
Notch

Supraspinatus

Scapula Spine

Axillary
Nerve

Infraspinatus

Teres Minor

Observation

- Posture
- Symmetry
 - Atrophy
 - SC and AC joints, clavicle
 - Muscular contour
- Scapular kinetics
 - Winging
 - Subtypes?



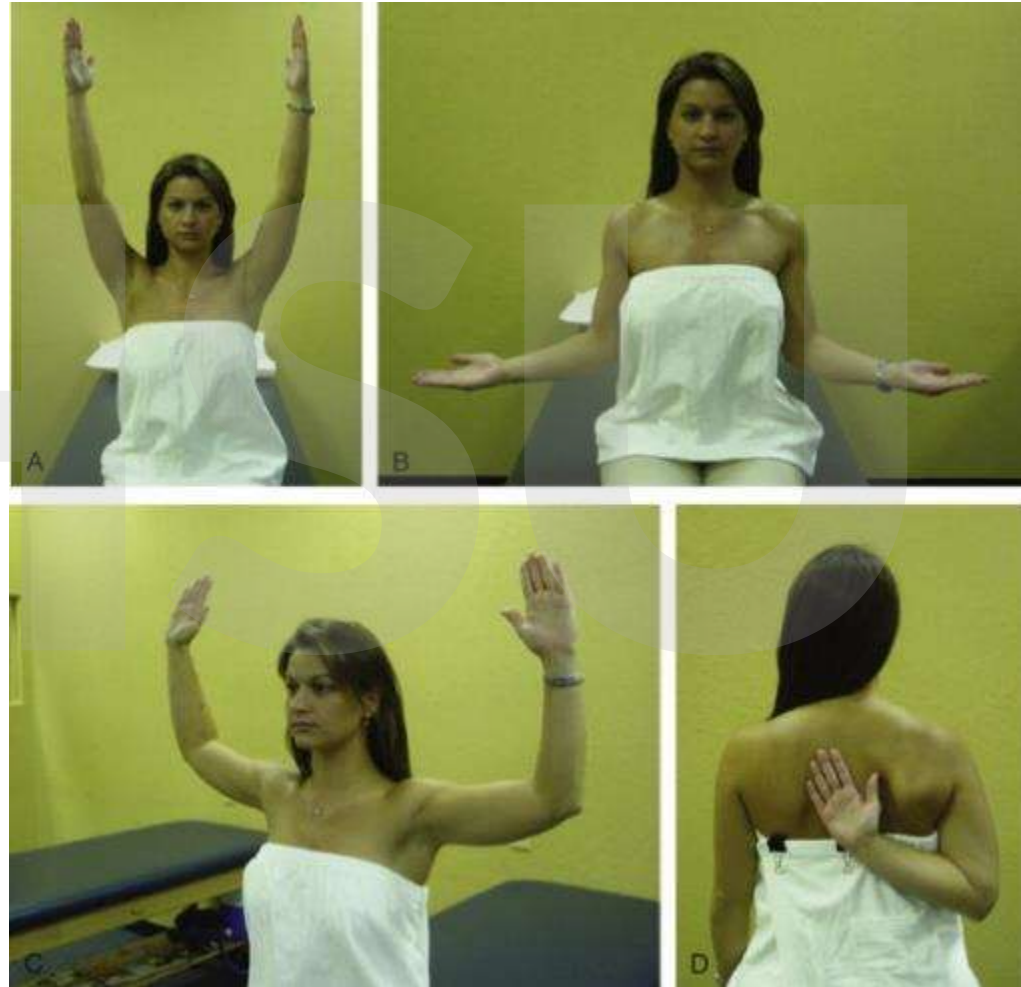
Palpation

- SC joint
- Clavicle
- AC joint
- Acromion
- Biceps tendon
- Greater tuberosity
- Axilla (pectoralis major)



Range of Motion

- Scapular plane*
 - Forward flexion
 - Abduction
- External rotation
 - Neutral/90
- Internal rotation
 - Neutral/90



Passive Range of Motion

- Supine examination



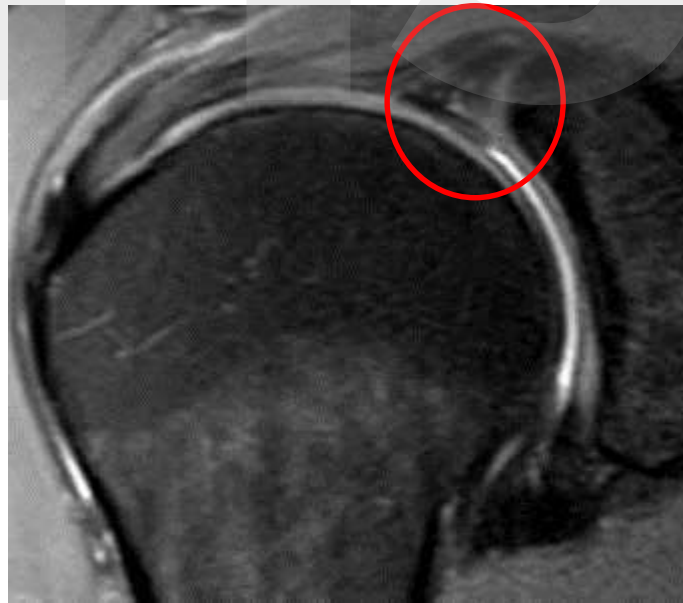
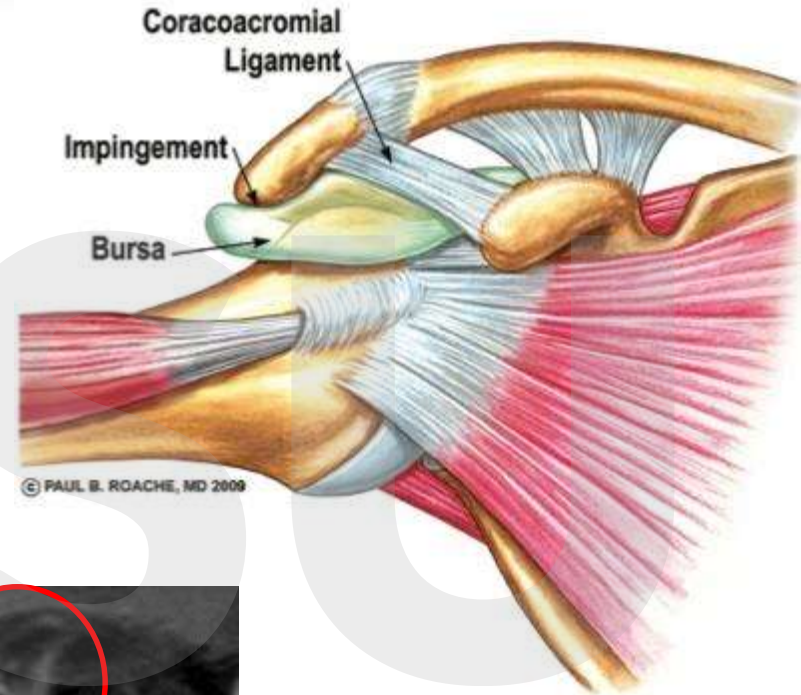
Signs and Symptoms

- Crepitus
 - Think arthritis



Signs and symptoms

- Positional pain
 - Shoulder:
 - Subacromial impingement
 - Labral pathology



Signs and symptoms

- Stiffness

- Passive motion vs. active motion in the shoulder

- Passive better? Think rotator cuff
 - Active better? Anxiety, Instability, Voluntary
 - Both affected? “Frozen shoulder” = adhesive capsulitis



Adhesive capsulitis/Frozen shoulder

- Chronic inflammation of the capsule subsynovial layer
- Associated conditions:
 - Diabetes
 - Thyroid disease
 - Heart disease, CVA
 - Prolonged immobilization
 - Previous surgery



“Impingement” Testing

- Subacromial impingement
 - Hawkins
 - Neer
- AC joint



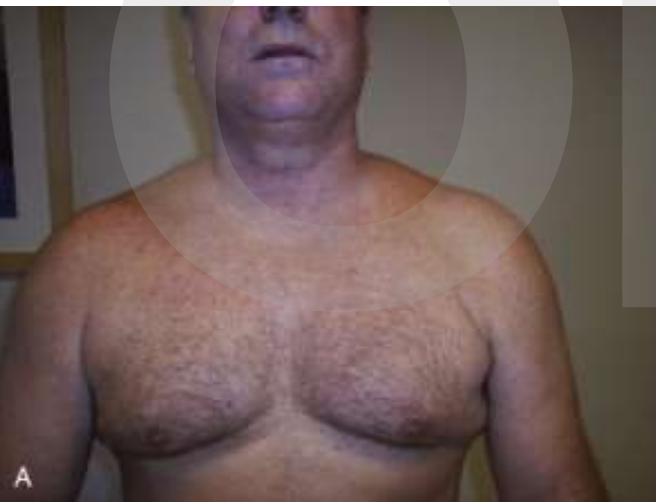
Strength

- Deltoid
- Pectoralis major
- Rotator cuff
 - Subscapularis
 - Supraspinatus
 - Infraspinatus
 - Teres minor

Strength: Deltoid



Strength: Pectoralis Major

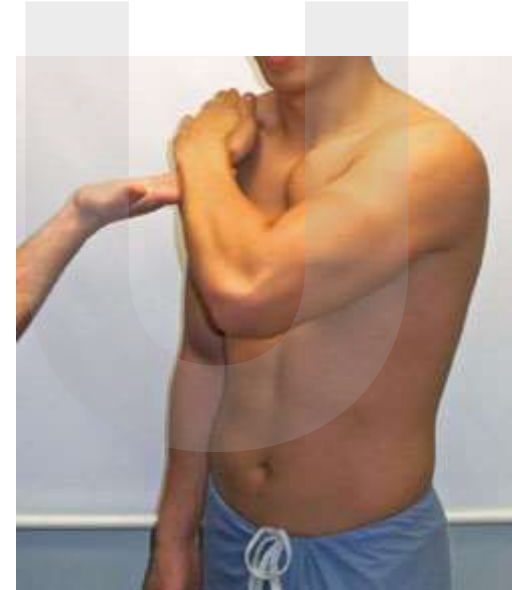


Strength: Rotator Cuff

- Subscapularis



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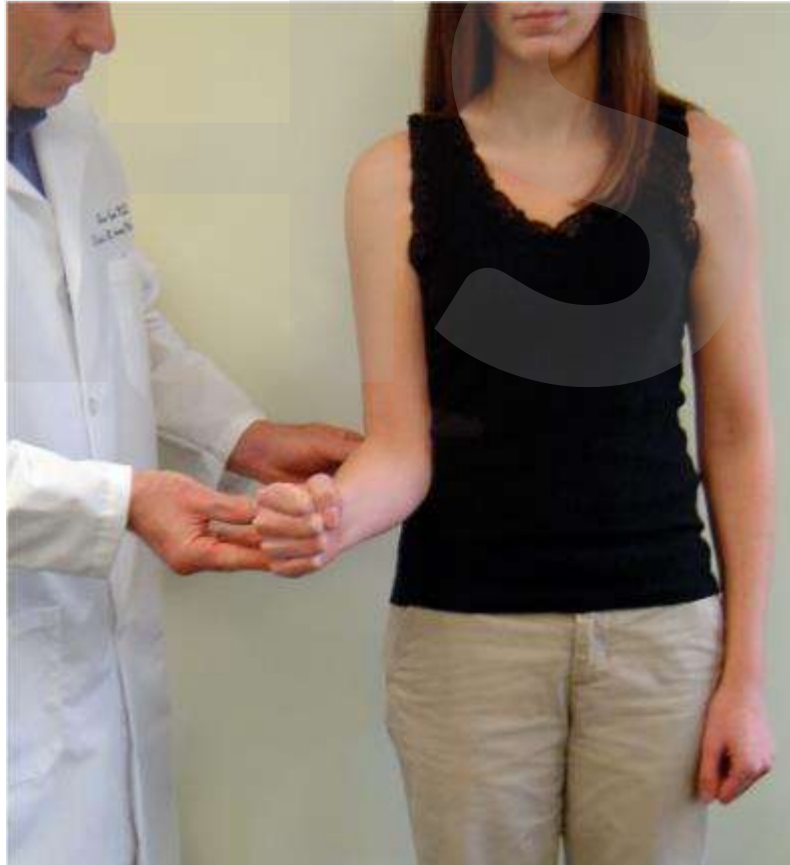
Strength: Rotator Cuff

- Supraspinatus:



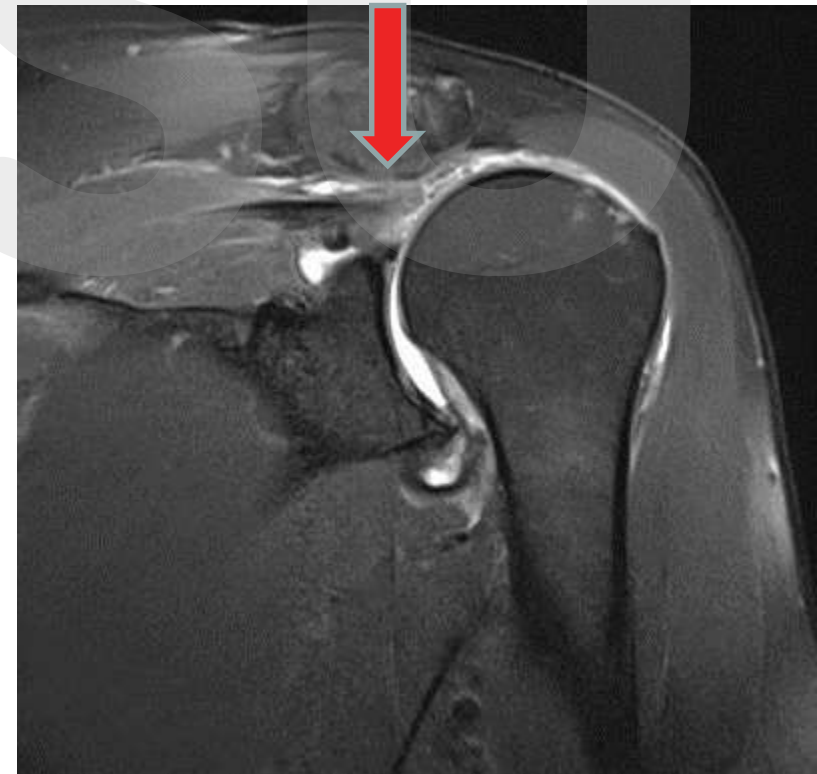
Strength: Rotator Cuff

- Infraspinatus and Teres Minor



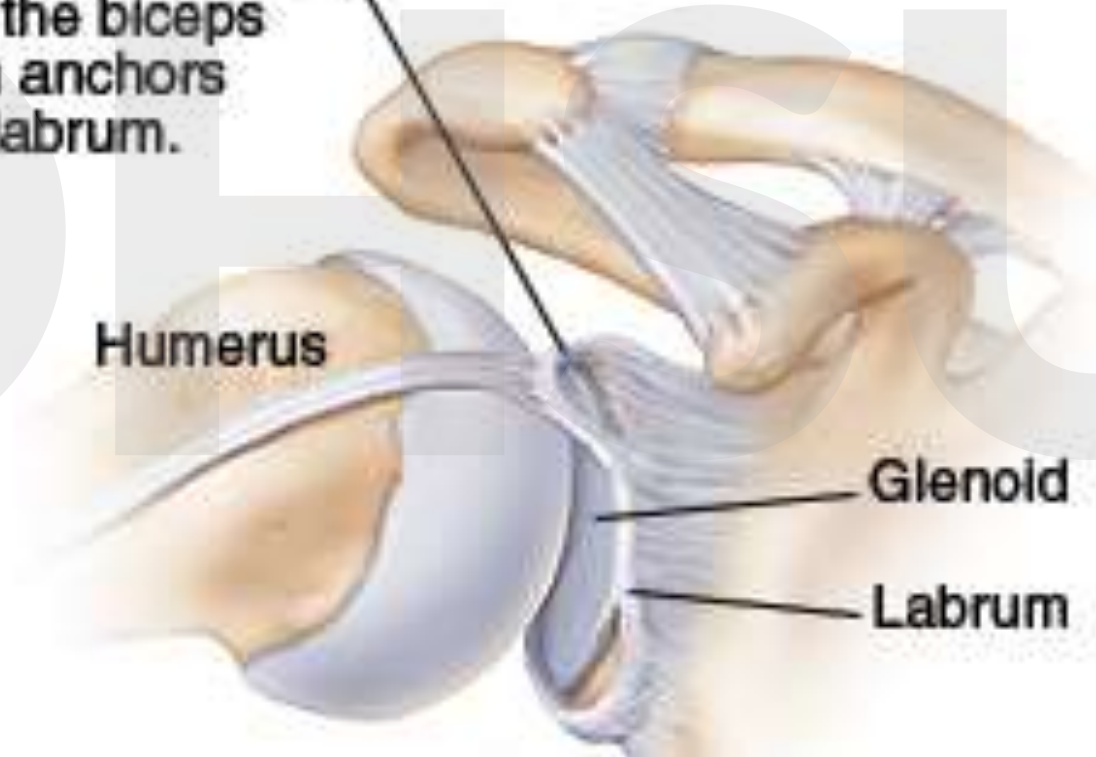
Tendon injuries

- The rotator cuff
 - 60% of patients over 60 years old!



Biceps/Superior Labrum

A **SLAP** tear occurs where the biceps tendon anchors to the labrum.



Humerus

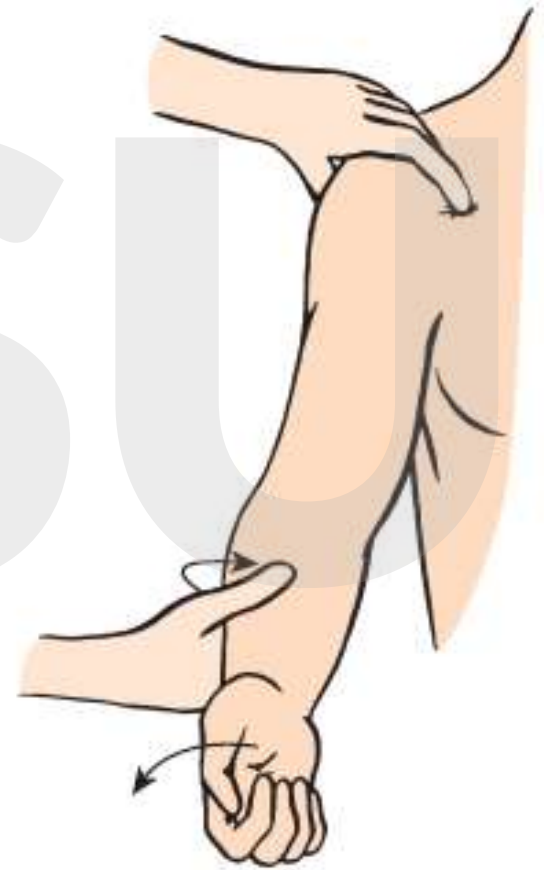
Glenoid

Labrum

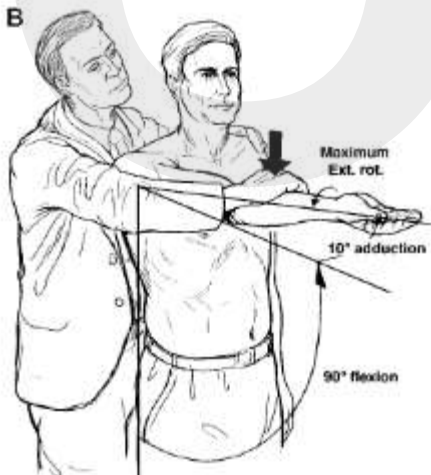
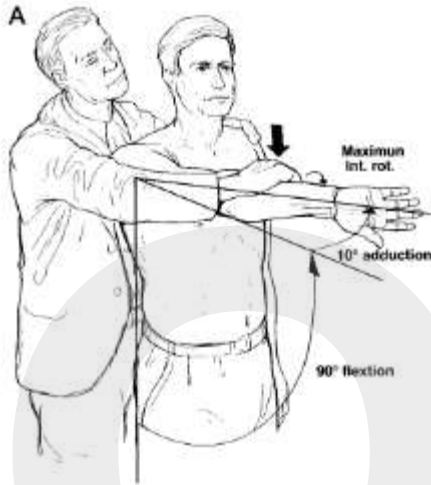
Speed's Test



Yergason's Sign



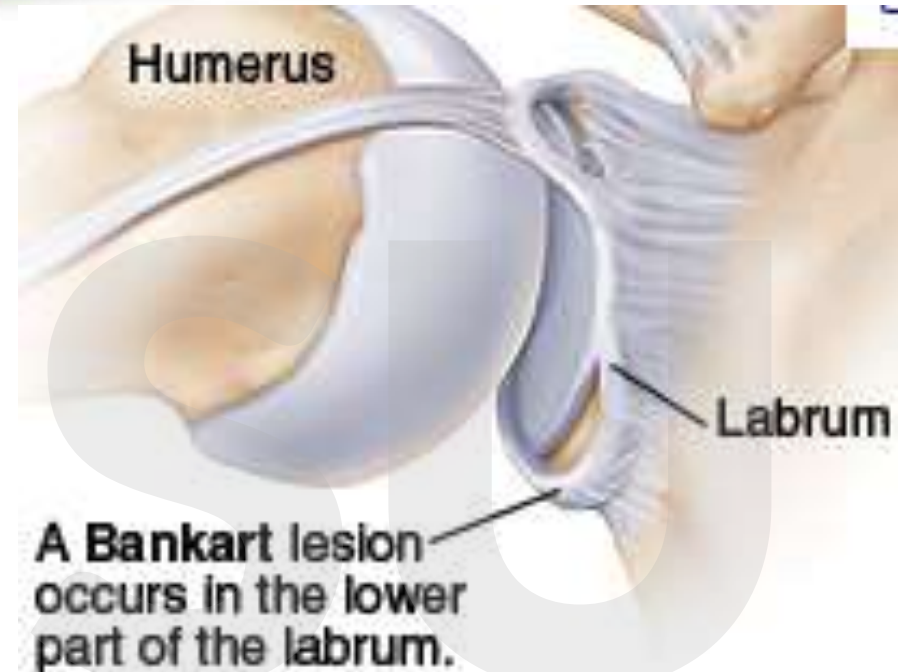
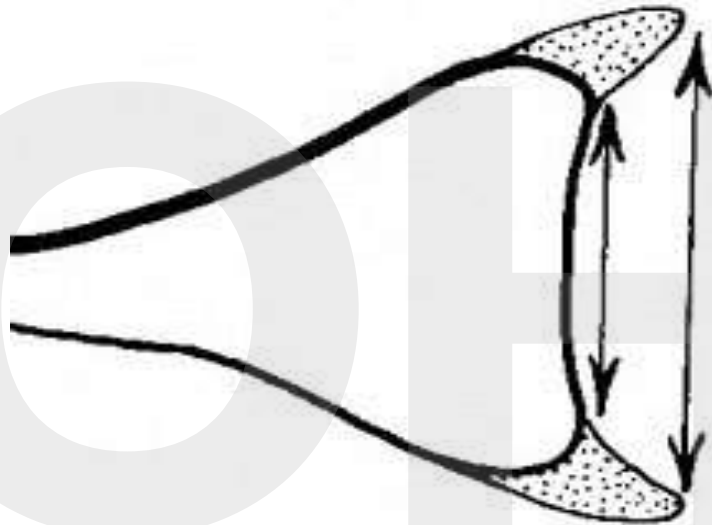
O'Brien Sign



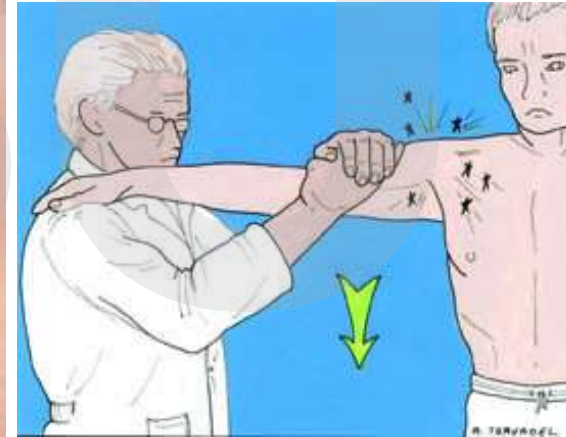
Thrower's Test



Shoulder instability

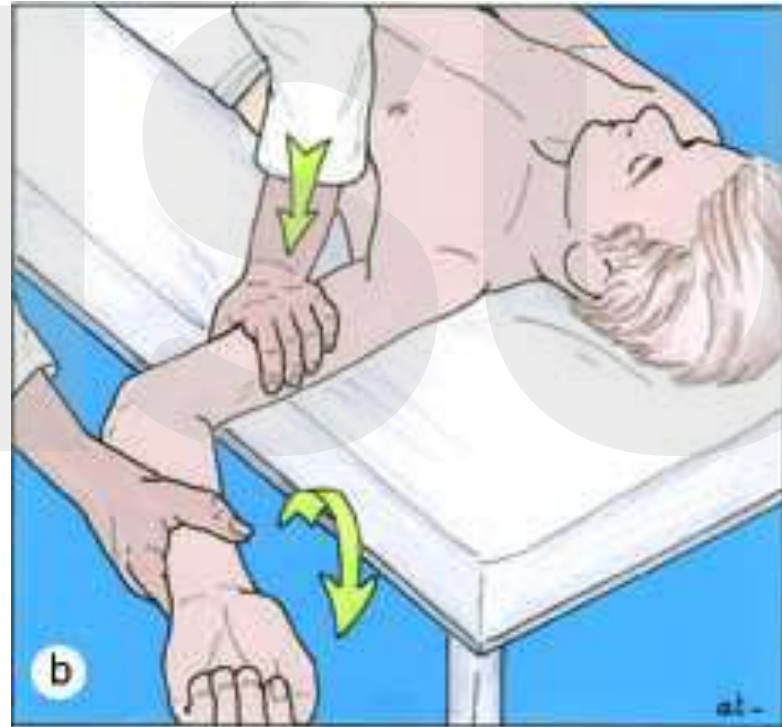


Multidirectional Instability



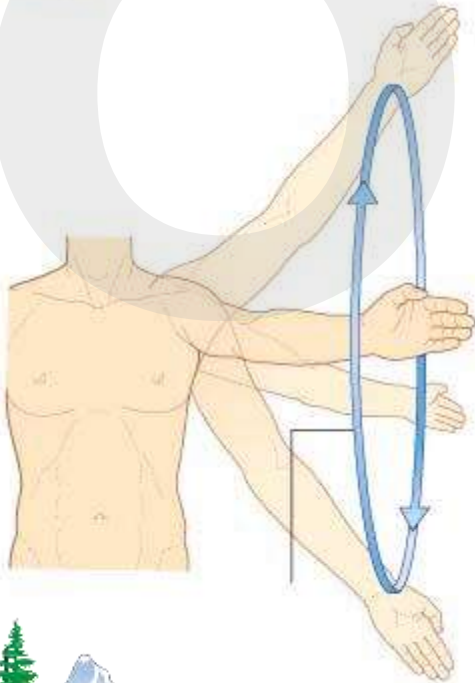
Anterior Instability

- Apprehension/relocation tests



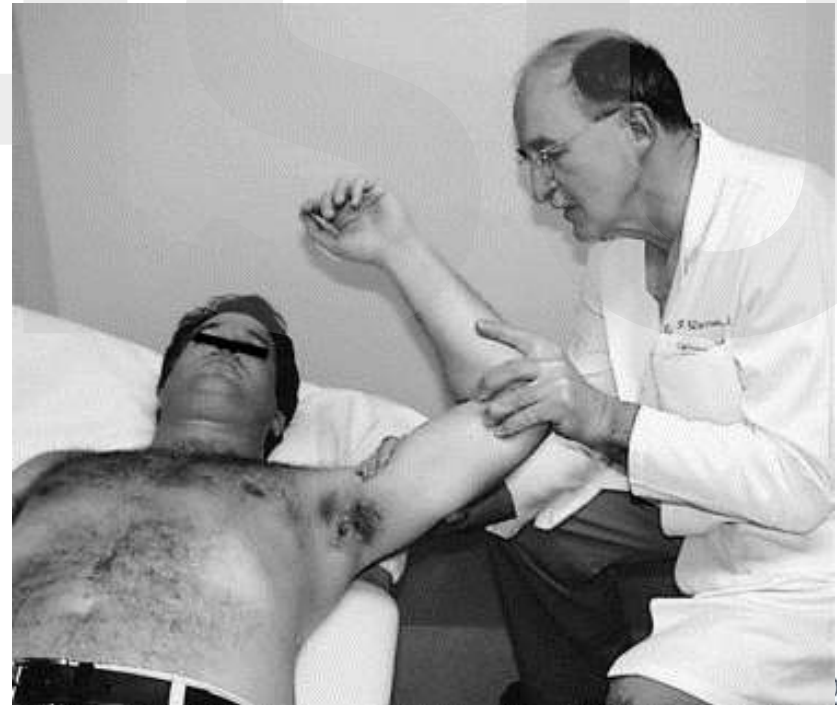
Posterior Instability

- Circumduction test
- Posterior apprehension/Jerk test



Evaluate Humeral Head Excursion

- Seated examination
- Load and shift



Putting It All Together

- Take a thorough history
 - **Posterior** pain:
 - Scapulothoracic dyskinesia
 - Posterior instability
 - Cuff pathology/impingement
 - **Anterior** pain:
 - Anterior instability
 - Biceps pathology
 - (Subcoracoid impingement)
 - **Lateral** pain:
 - AC separation
 - Cuff pathology/impingement
- Scapular plane = home base!



Thank you!

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