

## Evaluation and the Clinical Decision Process for the Shoulder

What not to miss and when to refer

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## Differential Diagnosis

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- Mechanism of injury
  - Acute or chronic

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- Patient age
- Mechanism of injury
  - Acute or chronic
- Location of the pain
- Associated symptoms
  - Swelling/bruising/deformity
  - Numbness/tingling
  - Popping
  - Feelings of instability

## Age

- The most important factor
- 50% incidence of rotator cuff tear in asymptomatic shoulder age >66 years<sup>1</sup>
- Scapula dyskinesia as the primary diagnosis is more likely in younger (<20 years) age groups.

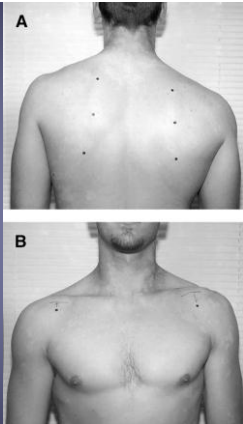
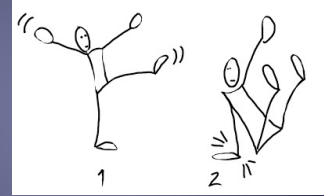


Figure 2

## Mechanism of Injury

- Chronic
- Acute
  - Fall
  - Traction
  - Direct impact
  - Timing of pain



## Location of Pain

“One finger, one spot”

- Anterior
  - Biceps, labrum, glenohumeral joint, subscapularis, coracoid, AC joint, nerve
- Posterior
  - Labrum, supraspinatus/infraspinatus, scapula dyskinesia, nerve
- Lateral
  - Supraspinatus/infraspinatus, capsulitis, nerve
- Vague
  - Scapula dyskinesia, nerve
- Radiates to hand
  - Nerve, biceps, labrum



## Associated Symptoms

- Swelling/bruising/deformity
- Numbness/tingling
- Popping
- Feelings of instability
- Aggravating factors
  - Reaching, throwing
  - Constant



## History is 95% of the Diagnosis

- Age: 16
- Mechanism: Chronic
- Location: Posterior
- Associated symptoms: Increased with reaching and overhead use, occasional popping

## 16yo Posterior Pain

- Differential
  - Scapula dyskinesia
  - Labral tear
  - Instability

## History is 95% of the Diagnosis

- Age: 66
- Mechanism: Chronic
- Location: Posterior
- Associated symptoms: Increased with reaching and overhead use, occasional popping

## 66yo Posterior Pain

- Differential
  - Rotator cuff tear
    - Degenerative labral tear
    - Glenohumeral arthritis
    - Instability
    - Primary scapula dyskinesia

## Physical Exam

- Inspection
- Palpation
- Range of Motion
- Strength
- Other tests as needed: stability, special shoulder tests, sensation, cervical spine evaluation

## Inspection

- Abrasions, edema, ecchymosis
- Deformity
- Scapula positioning
- Men: shirt off
- Women: "tube top" exam gown



## Palpation

- Codman's point - supraspinatus



## Palpation

- Biceps



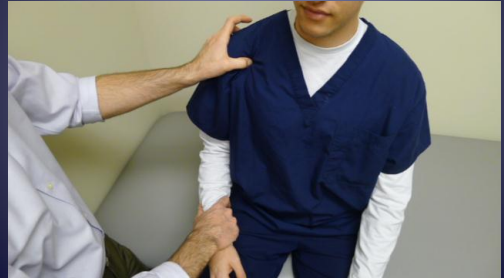
### Palpation

- Glenohumeral joint



### Palpation

- Coracoid



### Palpation

- Acromioclavicular joint



### Range of Motion

- Elevation/Flexion



### Range of Motion

- External rotation



### Range of Motion

- Internal rotation



## Strength

- Supraspinatus – about 30 degrees elevation



## Strength

- Infraspinatus – near maximum external rotation



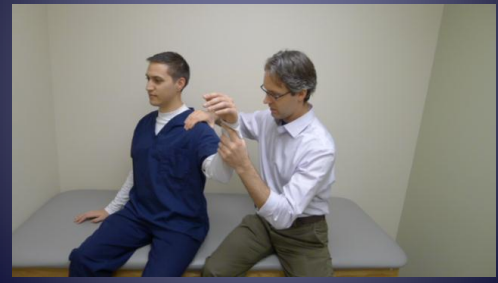
## Strength

- Subscapularis



## Stability

- Anterior



## Stability

- Posterior



## Stability

- Inferior



## Neer Impingement Sign



## Speed's



## SLAP-rehension



## Posterior Scapula Stabilization



## Exam Video

## Primary Scapula Dyskinesia

- Typically chronic, athlete
- Rule out other pathology
- More common in younger age group (<20 years)
- Treated with physical therapy, posture modification



## Primary Scapula Dyskinesia

- Decreased pain with posterior scapula stabilization

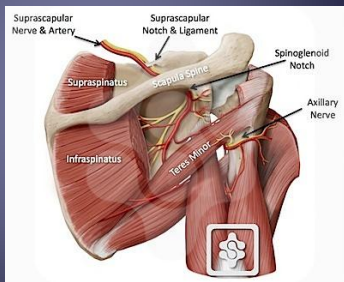


## Primary Scapula Dyskinesia



## Suprascapular Neuropathy

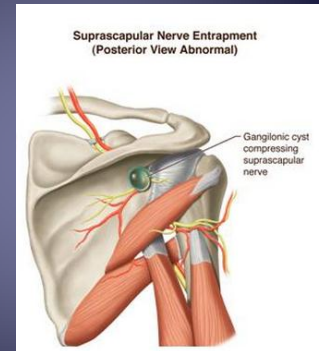
- Rarely acute injury
- Usually chronic
  - Baseball, volleyball tennis, weightlifting



Figure<sup>3</sup>

## Suprascapular Neuropathy

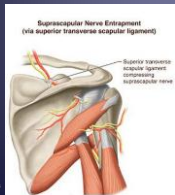
- Spinoglenoid ganglion cyst



Figure<sup>4</sup>

## Suprascapular Neuropathy

- Supraspinatus and infraspinatus weakness
- Vague posterior/lateral pain
- Tenderness at the suprascapular notch
- Muscle wasting may be noted



Figure<sup>4</sup>



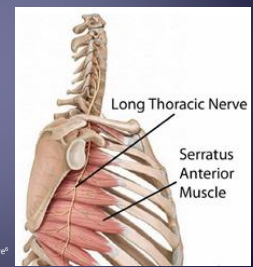
Figure<sup>5</sup>

## Long Thoracic Nerve Injury

- Travels 10 to 20cm to reach the Serratus anterior
- Medial winging



Figure<sup>5</sup>



Figure<sup>6</sup>

## Parsonage-Turner Syndrome<sup>7</sup>

- Inflammatory or immune etiology
- May follow viral illness, immunization, pregnancy, extreme exercise or surgery
- Acute periscapular pain for several weeks followed by sensory changes and motor weakness
- Variable presentation
- Generally favorable prognosis; however, recovery may take years

Thank you!

## References

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- 7. Rockwood, CA et al. *The Shoulder*. 4<sup>th</sup> Ed. Saunders, 2009: 1376-77.