Rotator Cuff
Impingement vs
Rotator Cuff Tears
What is Rotator Cuff Impingement?

- Highly occupied space between the roof and the floor.
- Supraspinatus and sub-acromial bursa.
- Repetitive pinching of these structures cause swelling and inflammation.
Causes of Impingement

- Repetitive overhead or cross body motion
- Type 2 or 3 morphologic acromion
- Cuff weakness
- Degenerative changes
- Kyphotic posture
Causes of Impingement

- Supraspinatus outlet narrowing
- AC Joint O/A
  - Spurs
- Acromial morphology
  - Type II or III

Roof can come down
Morphologic Acromion

Lateral view of glenohumeral joint

Type 1 acromion

Type 2 acromion

Type 3 acromion
Causes of Impingement

Floor can go up

- Subacromial Soft Tissue swelling
- R.C. tendonitis
- Bursal swelling
- Calcific Tendonitis
- Greater Tuberosity Fx
- Weak cuff
<table>
<thead>
<tr>
<th><strong>Tendonitis vs Tendinopathy</strong></th>
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<tbody>
<tr>
<td><strong>Acute inflammation with little tendon thickening</strong></td>
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<tr>
<td><strong>Structures affected:</strong></td>
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<tr>
<td>Cuff tendon</td>
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<tr>
<td>Sub-acromial bursa</td>
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<tr>
<td>biceps tendon</td>
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<tr>
<td><strong>Chronic pain with thickening and disorganization of tendon fibers</strong></td>
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<tr>
<td><strong>No acute inflammatory process</strong></td>
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</table>
Management of Tendinitis

- Rest from impingement activities
- NSAIDs
- Iontophoresis
- Ice for pain (acutely)
- Heat for perfusion
- Sub-acromial injection
Management of Tendinopathy

- Re-establish perfusion to the cuff tendon with heat modalities
- Re-align tendon fibers
- Develop high rep. low wt. exercise program in limited range
- Humeral head depression (Hammock Effect)
- Kyphosis reduction
- Be patient!
Signs of Tendinitis/opathy

- Pain with palpation sub-acromial space
- + Neer impingement test.
- + Hawkins-Kennedy test.
- Painful arc.
- P.M. pain when rolling onto shoulder.
- MMT- Flexion, Abd, ER painful.
- Relief with injection.
Proximal Biceps Tendonitis

- R.C. Inhibition and lack of dynamic stability causes humeral head to migrate superiorly.
- This places excessive strain on proximal bicep tendon within bicipital groove
- = Bicep Tendonitis
Distal Bicep Tendon Rupture

- Classic Presentation
  - Excessive load towards extension placed on forearm against forced flexion of elbow.
  - Pt hears and feels “pop”
  - Immediate pain, swelling,
  - Ecchymosis.
- Exam
  - Palpable defect in distal bicep tendon
  - Popeye Deformity of bicep
  - Weakness into flexion
  - **Weakness with supination**
Biceps ruptures
Fix it or forget it?
Rotator Cuff Tears

- Traumatic > degen.
- Male > female.
- > 45y/o
- P.M. pain all positions
- Overcompensation
- Massive=min. pain
- Partial = mod-severe
- Weak ER, abd, flex.
- + Supraspinatus test
Rotator Cuff Tears (cont.)

- Lift-off test
- Drop arm test
- FOOSH, cranking things (outboard motor), awkward lift
Do all rotator cuff tears need to be repaired???
Management of RCTs

- Decrease pain and inflammation
- Immobilize - but not too long
- Diagnostic testing (x-rays, MRI)
- Modify activities (work/sports)
- Refer to orthopedics
- Prevent adhesive capsulitis
Things to remember about rotator cuff tears

- Tears can retract
- Inappropriate G-H motion leads to more impingement and early arthritis
- Develop cervical spine pain
- Scarred up tears decrease post-op healing time