Shoulder Exam: Made Ridiculously Easy

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March 3rd, 2016
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Goals of This Talk
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The Right Way to Use a Stethoscope
Goals of This Talk
Introduction

- **Goals**
  1. Provide a framework for synthesizing PE tests
  2. Review findings with common shoulder pathologies
  3. Use PE to guide initial treatments
Introduction

- Challenges:
  - MRI ≠ Symptoms
    - Rotator cuff tears commonly asymptomatic
    - AC joint arthritis, SLAP tears are present in everyone
  - Shoulder pathology co-exist
    - Challenging to reach the correct diagnosis
  - Physical examination is the key!!!
Keys To Examining Any Joint

- **Area well exposed** - no shirts, pants, etc
  - Gowns – Make sure opposite arm or leg is visible for comparison

- **Understand normal functional anatomy**
  - examine unaffected side first
  - gain confidence, develop sense of their normal

- **Inspect joint(s)**
  - Signs inflammation, injury (swelling, redness, warmth)? Deformity? Compare w/opposite side

- **Palpate**
  - Point tenderness? Over what structure(s)?

- **Range of motion:**
  - active (patient moves it) and passive (you move it).

- **Strength, neuro-vascular assessment**

- **Provocative maneuvers**
Ain't Nobody Got Time for That!

AIN'T NOBODY GOT TIME FOR THAT
Shoulder Exam: Nuts & Bolts

- Use HPI to guide examination
- Learn tests for each common pathology
- Develop a routine
4 Keys to Success

- 4 Anatomical structures
- 4 ?’s HPI
- 4 Physical exam components
4 Key Structures

1. Scapula
2. Subscapularis
3. Supraspinatus
4. Capsular ligament (cut)
1. Where is the most pain: side, front, top?
   - Lateral – rotator cuff
   - Anterior – biceps
   - Superior – AC joint

2. What bothers you most: pain, motion, or weakness?

3. Does the pain wake you up at night?
   - Rotator cuff

4. Any pain or numbness below the elbow?
   - Cervical Spine
1. **ROM** – flexion, IR, ER
   - AROM
   - PROM (ONLY if AROM asymmetric)
   - Scapular symmetry
2. **Strength** x 3
   - Supra, Infra, Subscap
3. **Palpation**
   - AC joint
   - Biceps
4. **Special tests**
   - Biceps/SLAP
   - Cervical radiculopathy
   - Instability
- **< 40 years old**
  - Rarely rotator cuff tears
  - DDX:
    - Dislocations
    - Labral (SLAP) tears
    - AC pain
    - Biceps tendonitis

- **> 40 years old**
  - DDX:
    - Commonly rotator cuff tears
    - Frozen shoulder (Female, Diabetes)
    - Arthritis
1. Range of Motion

- AROM – Symmetric?
- If NOT Symmetric, check PROM
- Make the 3 most common diagnoses just based on motion: RCT, OA, Frozen Shoulder
Terminology

- Flexion
- Extension
- Hyperextension

- Abduction
- Adduction

- External Rotation
- Outward Rotation

- Internal Rotation
- Inward Rotation
Flexion

- View from side
- Hold arms in position to identify asymmetry
Inward Rotation

- 1” inch ~ 1 spinal level
- If PROM > AROM = “lag”
  → Rotator Cuff Tear
    • Usually greatest in 1-2 planes
    • +/- Weakness

- If PROM = AROM
  X-Ray Normal?
  → Adhesive Capsulitis
    • ER first affected
    • All planes in late stages
    • NO weakness
    • Pain at end range of motion

  X-Ray Arthritis?
  → Glenohumeral Arthritis
    • NO weakness
- Subtle vs. Obvious with winging

- Repeat active flexion while inspecting/palpating inferior angle of scapula
Impingement?

- Low Specificities
- Neer
  - 72% sensitive
  - 60% specific
- Hawkins
  - 79% sensitive
  - 59% specific
2. Strength Testing
2. Strength Testing

- **Supraspinatous**
  - “Empty Can”
  - Pain or Weakness
    - Pain = small RCT/tendinitis
    - Weakness = RCT

- **Infraspinatous**
  - Elbow at side; 90° flexion

- **Subscapularis**
  - Elbow at side; 90° flexion
  - Lift off test
3. Palpation
3. Palpation

- **AC joint**
  - Follow clavicle to joint
  - Confirm with adduction

- **Biceps Tendon**
  - Often tender
  - Compare to other side
4. Special Tests – Biceps/Labrum

- **O’Brien**
  - High Sensitivity

- **Speed**
  - High Specificity
4. Special Tests – Radiculopathy

- **Spurling’s**
  - Extend, rotate, and laterally bend head to one side
  - Allow a few seconds to see if this reproduces symptoms alone
  - Apply cervical compressive force
  - Positive if pain or radiculopathy reproduced
4. Special Tests – Instability

- Apprehension/Relocation
<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>AROM</th>
<th>PROM</th>
<th>Strength</th>
<th>AC TTP</th>
<th>Adduction</th>
<th>Biceps TTP</th>
<th>O'Briens Apprehension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotator Cuff</td>
<td>↓</td>
<td>full</td>
<td>↓ / pain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen Shoulder</td>
<td>↓</td>
<td>↓</td>
<td>preserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arthritis</td>
<td>↓</td>
<td>↓</td>
<td>preserved</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC pain</td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biceps</td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td>Positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labrum</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>SLAP</td>
<td>Dislocation</td>
</tr>
</tbody>
</table>
Shoulder:

Skin: The patient's skin was intact without ecchymosis induration or swelling.

ROM: *** FF/ *** ER/ T*** IR on the affected side vs. *** FF/ *** ER/ T*** IR on the unaffected side

Passive ROM is {symmetric asymmetric} to active range of motion.

There {is/is no} evidence of Adhesive Capsulitis

There {is/is no} evidence of crepitus with ROM testing to suggest glenohumeral arthritis.

RTC Strength Testing:

{Cuff Strength}

Pain with testing was found in the {JTBRTCMUSCLES}

AC joint: There is {DESC; NO/LITTLE/MODERATE/SIGNIFICANT} tenderness with palpation of the AC joint. {POSITIVE OR NEGATIVE} painful cross body adduction

Biceps/Labrum: There is {DESC; NO/LITTLE/MODERATE/SIGNIFICANT} tenderness with palpation of the Long Head of the Biceps. {POSITIVE OR NEGATIVE} O'Brien's, {POSITIVE OR NEGATIVE} Speed's,

Instability Exam:

{POSITIVE OR NEGATIVE} Apprehension {POSITIVE OR NEGATIVE} Relocation.
Initial Treatments

- **Full AROM, good strength**
  - ➔ Physical Therapy +/- injection
  - ➔ Refer for AC injection if localized pain

- **PROM < AROM**
  - Acute injury? Age < 65
    - ➔ MRI, ultrasound
  - Chronic, Degenerative > 65
    - ➔ Physical Therapy +/- injection

- **Decreased PROM + AROM**
  - No arthritis
    - ➔ Treat for frozen shoulder – PT +/- injection
  - Arthritis
    - ➔ Refer for intra-articular injection
Clinical Scenarios

- **45 year fall with dislocation, unable to elevate arm still, now 3 weeks after injury**
  - PROM < AROM → Acute rotator cuff tear → Surgery
- **55 yo DM2 woman with pain reaching and lifting for months. First noticed it reaching into back seat of car**
  - PROM + AROM decreased → frozen shoulder → PT
- **35 yo manual laborer with anterior shoulder pain at work**
  - + O’Briens, Speeds (Biceps Tendinitis) → PT +/- injection
- **35 yo man with superior shoulder pain, started with bench pressing**
  - + AC tenderness, Pain with cross arm adduction → Injection
- **65 year old woman with lateral shoulder pain with overhead lifting, wakes her up at night**
  - Pain +/- Weakness with thumbs down elevation → PT +/- injection
Thank you!