### Red Flags

- Aching, cramp-like, poorly localized, possibly referred
- With movement
- At night
- Lying on affected shoulder
- Worse at extremes of movement
- No Movement

### Diagnosis Assistant

<table>
<thead>
<tr>
<th>Location</th>
<th>Duration</th>
<th>Character</th>
<th>Aggravators</th>
<th>Relievers</th>
</tr>
</thead>
</table>
| Adhesive Capsulitis | Anterolateral | Stiffness worsening with time | Generalized, hard to localize | • With movement  
- • At night  
- • Lying on affected shoulder  
- • Worse at extremes of movement | • No Movement |
| Arthritis      | Anterior | Chronic | Deep ache | Vague & diffuse | • Crossing arm in front of body | • Rest (20 min without activity) |
| Bicep Tendonitis | Anterior | Slow onset | • Carrying objects like a shopping bag |
| Impingement Syndrome | Anterolateral | Chronic | • Reaching overhead  
- • Arm-length activity  
- • Throwing | |
| Rotator Cuff Tear | Lateral/Deltoid | Intermittent | Dull aching localized  
- • Popping, catching sensation | • At right  
- • Aster abduction |
| Nerve/Radicular | Posterior | Slow onset | Weakness/parasthesias in upper extremity  
- • Weakness s pain | |
| Bone / Tendon  | Variable | Deep, boring, localized | |
| Vascular       | Variable | • Aching, cramp-like, poorly localized, possibly referred  
- • Heavyness | |

### General Information on Shoulder Exams

All exams should include:
- Active & passive range of motion
- Strength testing of muscle groups
- Neurologic status

Normals for range of motion:<br>
* Abduction 70° - 180°
* Adduction 30° - 45°
* Flexion 160° - 180°
* Extension 45° - 50° (50° - 60° (°))
* External rotation 80° - 90°
* Internal rotation 90° - 110° (60° - 80° (°))

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Adhesive Capsulitis (Frozen Shoulder)

**Notes**
- Most common cause is rotator cuff tendinopathy and immobilization.
- Three phases: Painful freezing (10-36 Months); Adhesive phase (4-12 months); Resolution/thawing phase (12-42 months).
- Rare under 40yo.
- Associated with Diabetes (10-36%).
- If bilateral think possible polymyalgia rheumatica/RA.
- Reversible.

**Physical Exam**
1. Significant (>50%) reduction in PROM & AROM (but equal).
2. Palpable joint line tenderness.
3. Pain in all planes.
4. Significant reduction in external rotation or abduction.
5. If PROM normal then more likely RC tendinopathy.

**Tests**
- Lidocaine injection test: + = persistent pain (66% accurate).

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Impingement Syndrome (Subacromial Bursitis, Tendonitis)

**Notes**
- A continuum of disease from acute bursitis to chronic bursitis to partial rotator cuff tear to full RCT.
- Other common causes include calcified coracoacromial ligament & structural abnormalities of acromion.

**Physical Exam**
1. +/- crepitus with adduction >60º.
2. Poor muscular development/rounded shoulder = inc risk.
3. Ultrasound has sensitivity 100% specificity 85%.
4. Subacromial and/or anterolateral acromion tenderness.
5. Normal PROM with tendonitis; pain with impingement.
6. Tendonitis = pain without weakness.

**Tests**
1. Impingement test: Lidocaine injection. + if pain better with movement.
Rotator Cuff Tear

**Notes**
- Important to distinguish true weakness from weakness due to pain/guarding
- Supraspinatus + subscapularis + Neer + Hawkins Kennedy tests = 98% probability a tear

**Physical Exam**
1. Decreased strength external rotation/abduction
2. PROM > AROM
3. Normal strength, but pain with testing mid-arc abduction and/or external rotation
4. Pain + weakness = tear (no true weakness then a tendinopathy)
5. Tender to palpation of greater tuberosity
6. Supraspinatus most common injured tendon

- **Jobe’s / Empty beer can:** Pt resists downward push. (Supraspinatus. External rotation)
- **Gerber Lift-off:** Pt moves arm off back against resistance. (Internal rotation & adduction. Subscapularis)
- **Neer’s:** Stabilize shoulder, flex arm forward
- **Hawkin’s:** Hold elbow and move forearm down. (Internal rotation)
- **Drop Arm:** Pt attempts to lower arm. If drops then + for tear
- **Spurling’s:** With neck extended and lateral tilt, apply downward pressure. Rule out cervical pathology.
- **Painful Arc:** Passive adduction. Positive with pain >60°

Bicipital Tendonitis (Tenosynovitis)

**Physical Exam**
1. Bicipital groove tenderness with arm at 10° internal rotation
2. Rupture rarely associated with significant weakness as brachioradialis & short head of biceps account for 80-85% of elbow flexion strength
3. Popeye sign. Bulging muscle when long head of biceps tears

- **Yergason’s:** Pt supinates arm against resistance
- **Speeds:** Palm up, patient resists forward flexion

Arthritis

**Notes** — Arthritis of shoulders very rare — think metabolic disorders

**Physical Exam**
1. Palpable joint line tenderness either AC or glenohumeral
2. AROM = PROM but both decreased
3. + crepitus with motion