

**American College of Physicians - Internal Medicine Meeting 2025  
New Orleans, LA**

**Diagnosis-Driven Physical Examination of the Shoulder**

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# Diagnosis-Driven Physical Examination of the Shoulder

ACP Musculoskeletal Medicine Teaching Group

2025 ACP National Conference



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## ACP Shoulder Exam Clinical Skills Workshop Faculty



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### OBJECTIVES

1. **Inspect/Observe** pertinent shoulder anatomy
2. **Palpate** key anatomical shoulder landmarks (ABC's)
3. Organize Rotator Cuff **Range of Motion/Strength** (SITS)
4. Organize Shoulder **Provocative Tests** (BIAS)
5. **Practice** shoulder exam and cases in small groups

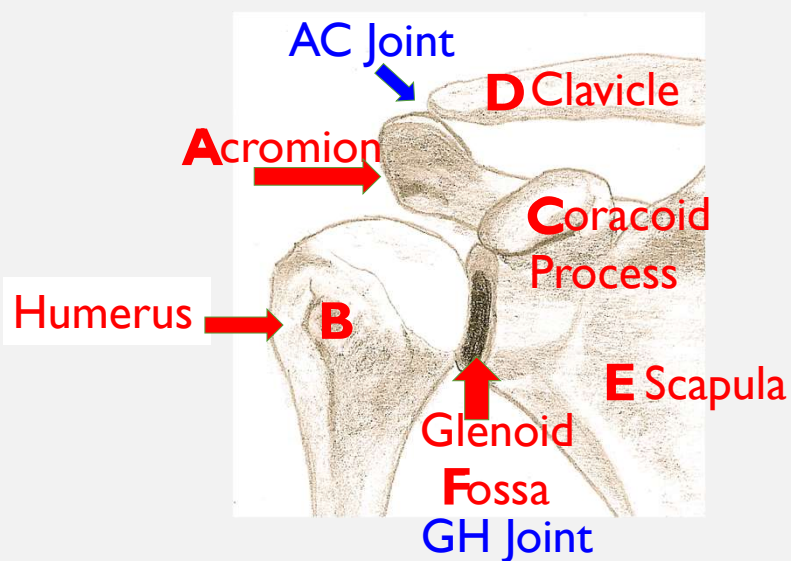
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## PRIMARY CARE SHOULDER EXAM

- Inspection
- Palpation: **ABC'S**
- Range of motion/Strength: **SITS**
- Provocative tests: **BIAS**

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## SHOULDER: BONES & JOINTS



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## PRIMARY CARE SHOULDER EXAM

- Inspection
- Palpation: **ABC'S**
- Range of motion/Strength: **SITS**
- Provocative tests: **BIAS**

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## OBSERVATION: BONY DEFORMITIES PRIOR FRACTURE



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OBSERVATION: BONY DEFORMITIES  
AC JOINT SEPARATION



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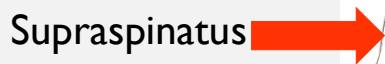
OBSERVATION: MUSCLES  
BICEPS RUPTURE



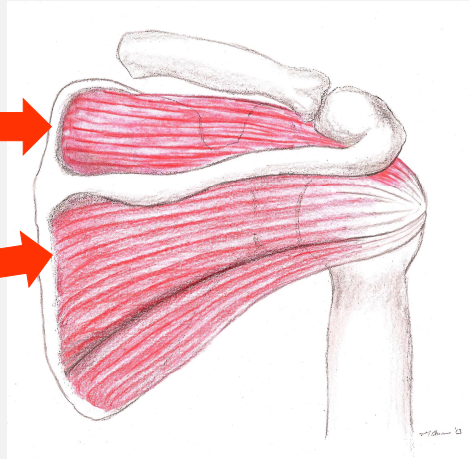
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POSTERIOR  
ROTATOR CUFF MUSCLES

Supraspinatus



Infraspinatus



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OBSERVATION: MUSCLES  
ROTATOR CUFF ATROPHY



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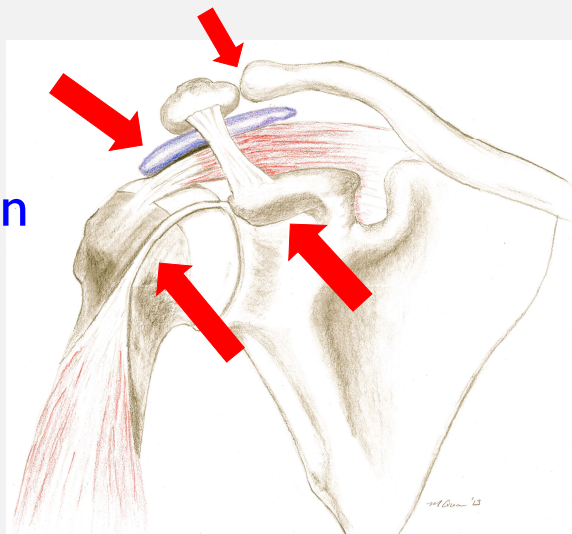
## SHOULDER EXAM

- Inspection
- Palpation: **ABC'S**
- Range of motion/Strength: **SITS**
- Provocative tests: **BIAS**

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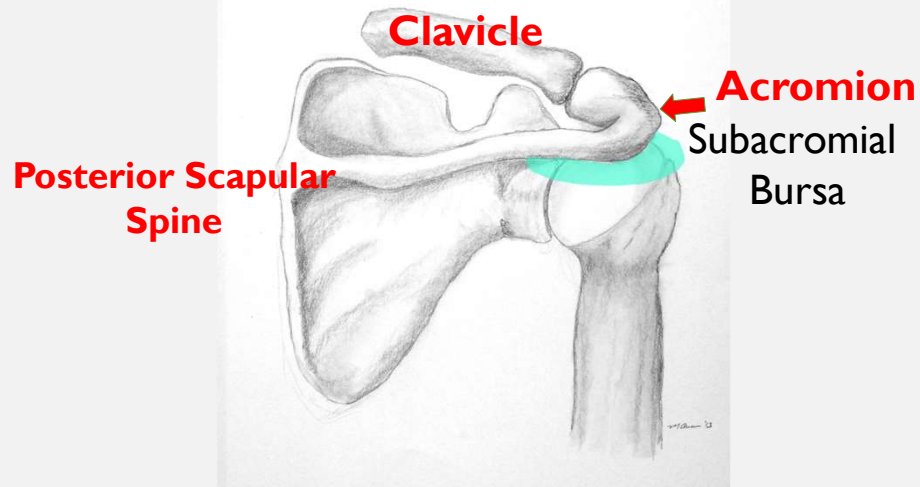
## PALPATION: **ABCS**

- **A**C joint
- **B**iceps Tendon
- **C**oracoid
- **S**ubacromial Space



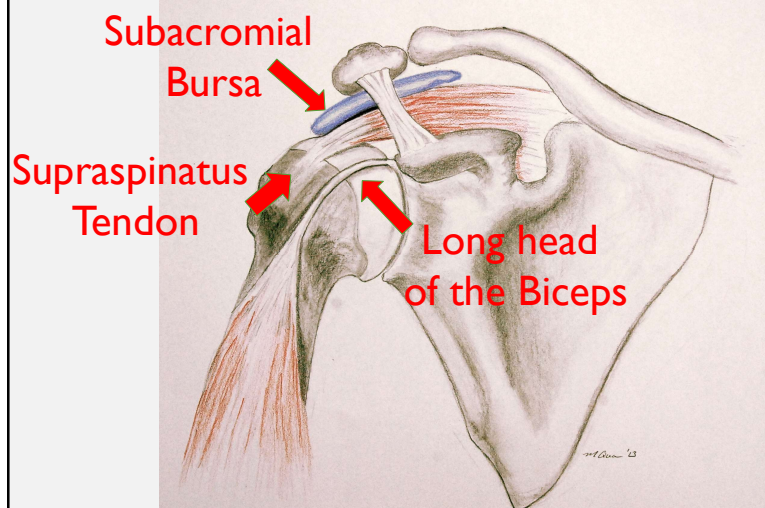
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### SHOULDER BONES: POSTERIOR BONES



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### SUBACROMIAL SPACE: CONTENTS



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## PALPATION: **ABCS**

- **A**C joint                      ➤ AC joint oa/separation
- **B**iceps Tendon              ➤ LH Biceps Tendonitis
- **C**oracoid                    ➤ Frozen Shoulder
- **S**ubacromial Space      ➤ SA Impingement

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## SHOULDER EXAM

- Inspection
- Palpation: **ABC's**
- Range of motion/Strength: **SITS**
- Provocative tests: **BIAS**

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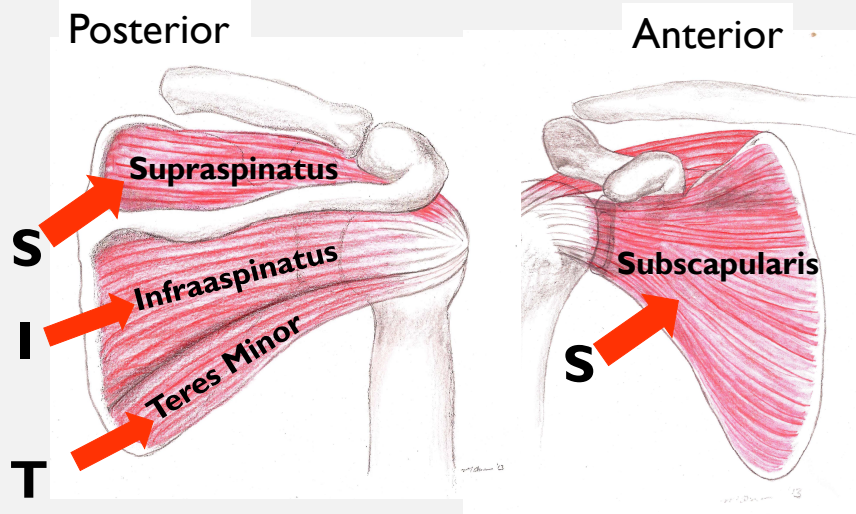
## SHOULDER QUIZ 2: ROTATOR CUFF

Name 4 Rotator cuff muscles  
and their actions:

- **S** upraspinatus
- **I** nfraspinatus
- **T** eres Minor
- **S** ubscapularis

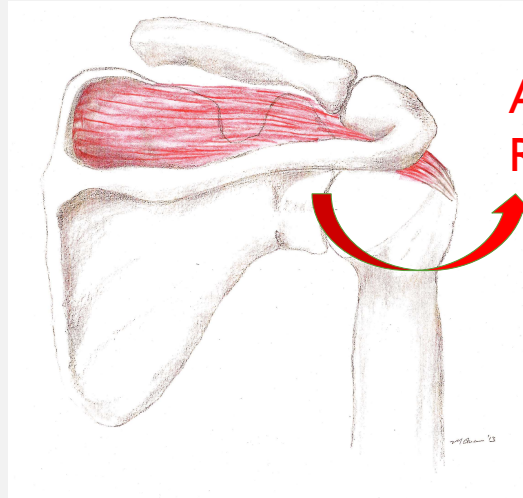
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## ROTATOR CUFF MUSCLES: SITS



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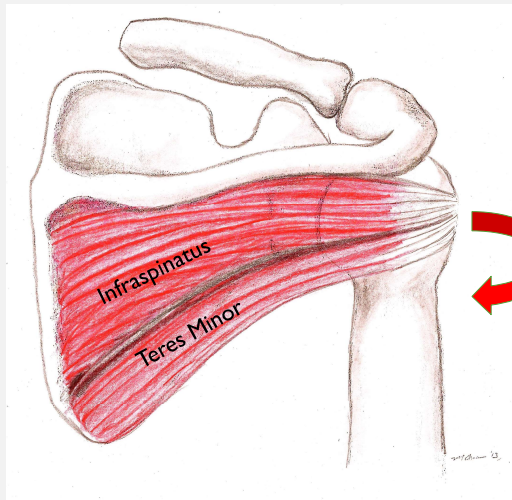
ROTATOR CUFF SITS:  
**SUPRASPINATUS**



Abduction  
Rom: 0-180

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ROTATOR CUFF SITS:  
**INFRASPINATUS/TERES MINOR**

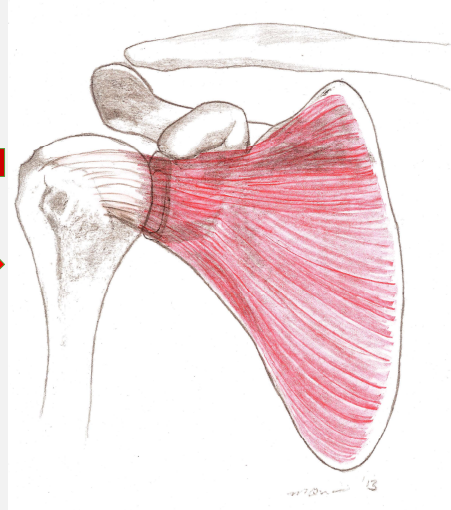


External Rotation  
ROM: 0-90

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## ROTATOR CUFF SITS: SUBSCAPULARIS

Internal Rotation  
ROM: spinous  
level

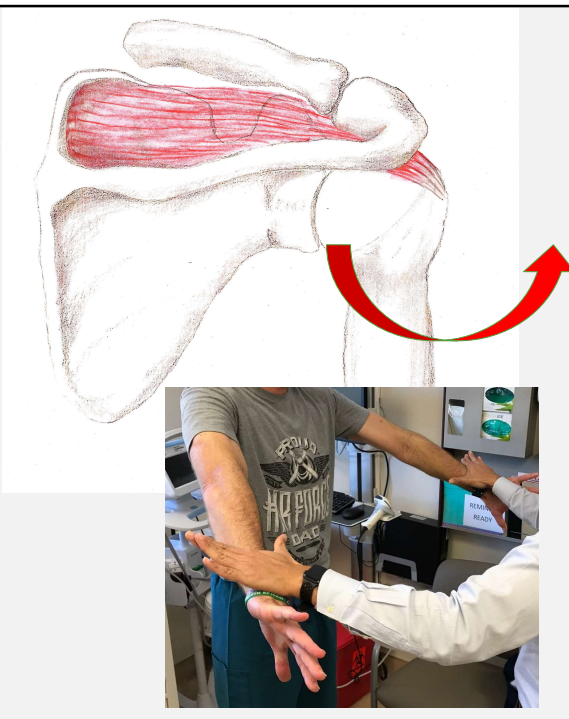


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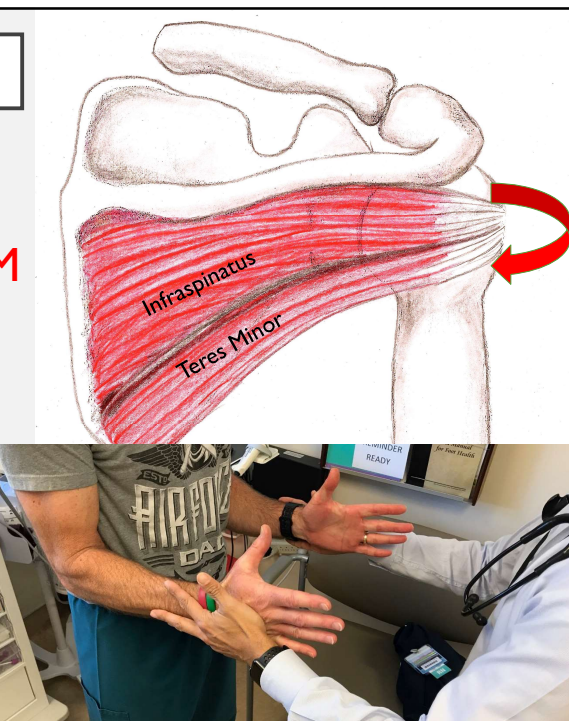
## SHOULDER EXAM TIP: ROM/STRENGTH BY SITS

SITS ROM	Full Tear Test	Strength Test:
SITS:Abd	Drop Arm	Empty Can
SITS: ER	ER Lag	Resisted ER
SITS IR	IR Lag	Lift Off/ Belly Press

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<p><b>SITS</b></p>	 <p>The diagram shows the supraspinatus muscle originating from the supraspinous fossa of the scapula and inserting into the greater tuberosity of the humerus. A red arrow indicates abduction. The photo shows a clinician performing a drop arm test on a patient's right arm.</p>
<p><b>Muscle:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Supraspinatus</b></li> </ul> <p><b>Motion:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Abduction</b></li> </ul> <p><b>Full tear test:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Drop Arm</b></li> </ul> <p><b>Strength test:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Empty Can</b></li> </ul>	

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<p><b>SITS</b></p>	 <p>The diagram shows the infraspinatus muscle originating from the infraspinous fossa of the scapula and inserting into the greater tuberosity of the humerus. The teres minor muscle is also shown, originating from the anterior surface of the acromion and inserting into the greater tuberosity. A red arrow indicates external rotation. The photo shows a clinician performing a resisted external rotation test on a patient's right arm.</p>
<p><b>Muscle:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Infraspinatus/TM</b></li> </ul> <p><b>Motion:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Ext Rotation</b></li> </ul> <p><b>Full tear test:</b></p> <ul style="list-style-type: none"> <li>➤ <b>ER Lag</b></li> </ul> <p><b>Strength test:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Resisted ER</b></li> </ul>	

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### IS/TM FULL TEAR TEST: EXT ROTATION LAG



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### SITS

**Muscle:**

➤ **Subscapularis**

**Motion:**

➤ **Int Rotation**

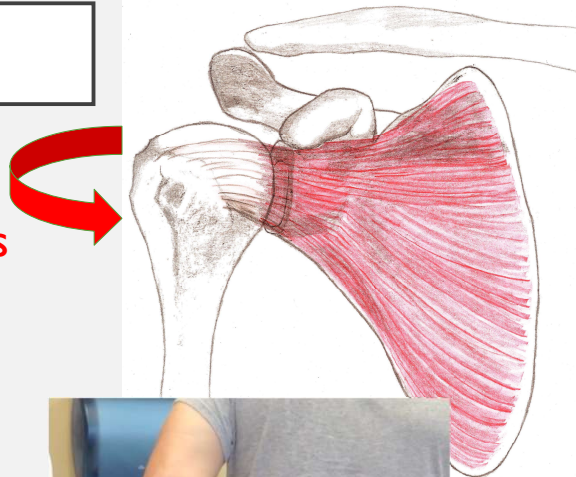
**Full tear test:**

➤ **IR Lag**

**Strength test:**

➤ **Gerber Lift off**

➤ **Belly Press**

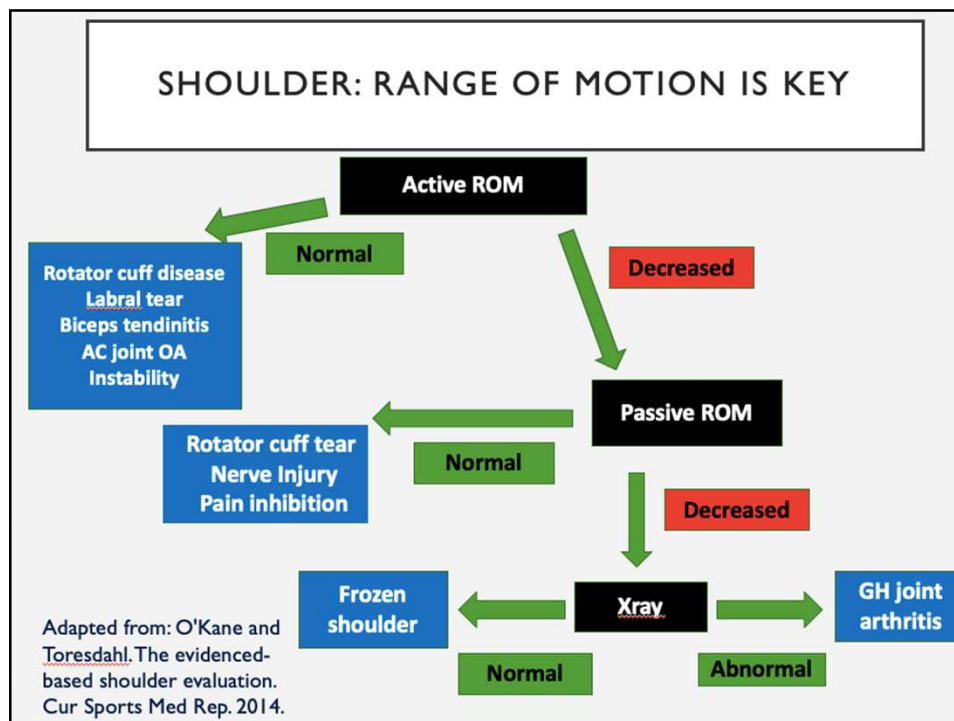


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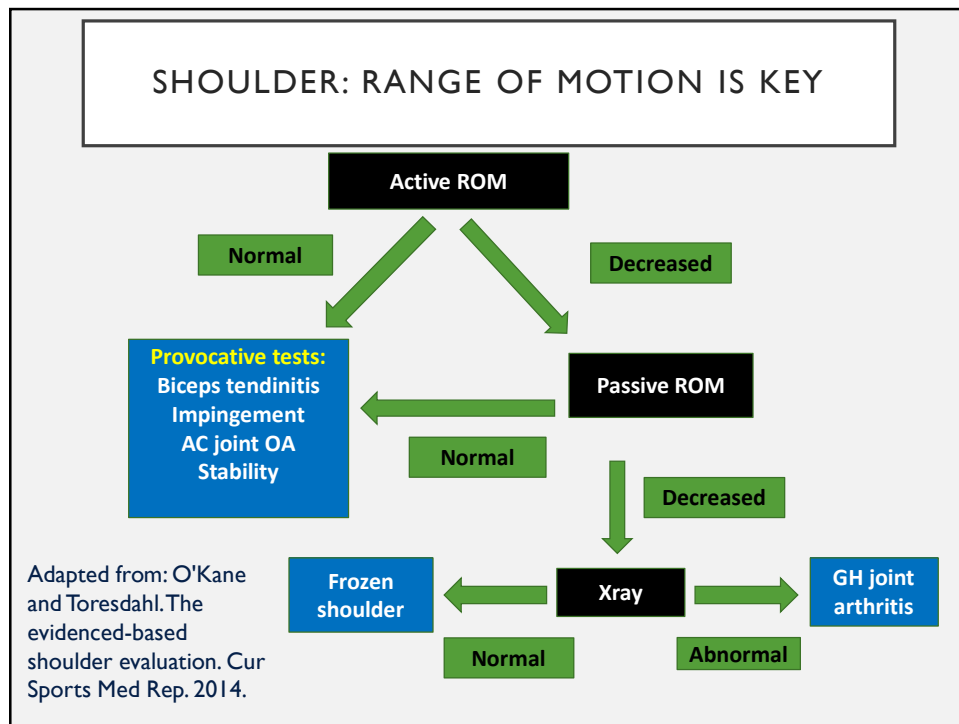
## SHOULDER EXAM: ROM/STRENGTH SITS

- **Supraspinatus**
  - ROM: Abduction Active/Passive (if limited)
  - Strength: Empty Can
  - Full tear test: Drop Arm
- **Infraspinatus/Teres Minor**
  - ROM: External Rotation Active/Passive (if limited)
  - Strength: ER Strength
  - Full tear test: ER Lag test
- **Subscapularis**
  - ROM: Internal Rotation Spinous process level Active/Passive (if limited)
  - Strength: Gerber lift off
  - Full tear test: IR Lag

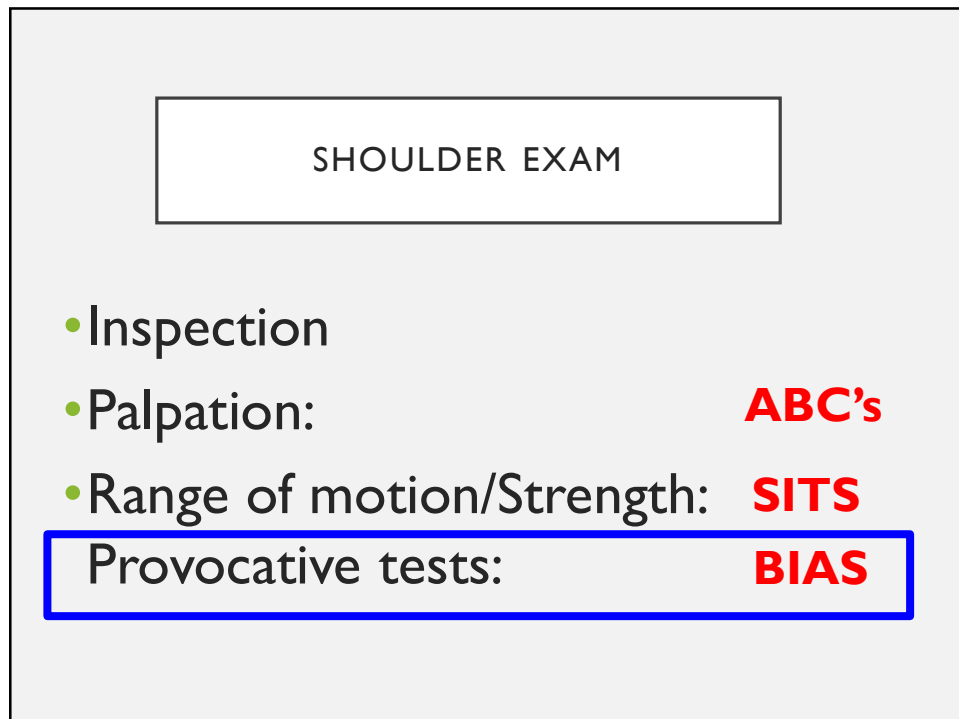
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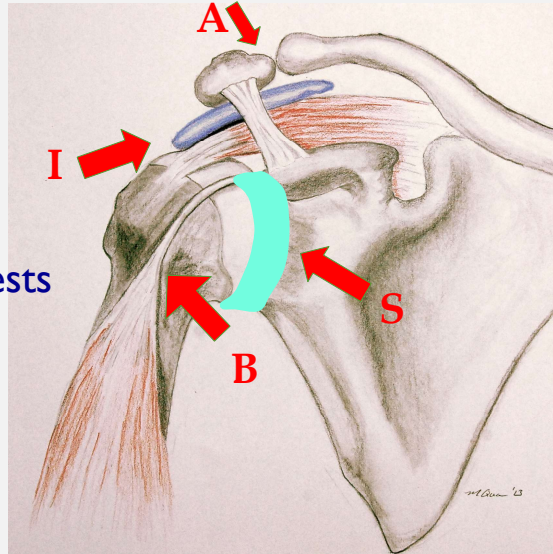
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### SHOULDER PROVOCATIVE SIGNS: **BIAS**

- **Biceps Tests**
- **Impingement Tests**
- **Acromioclavicular Tests**
- **Stability Tests**



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### SHOULDER EXAM: PROVOCATIVE SIGNS: **BIAS**

- **Biceps tests**
  - Yergason's
  - Speed's
- **Impingement Tests:**
  - Neer's
  - Hawkin's
- **Acromioclavicular tests**
  - Scarf test
  - Cross arm
- **Stability Tests:**
  - Apprehension
  - Relocation
  - Load & Shift
  - Sulcus
  - O'Briens

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## BIAS: BICEPS TESTS

### Yergason's Test

- Resisted  
**SUPINATION**



### Speed's Test

- Resisted Biceps  
**FLEXION**

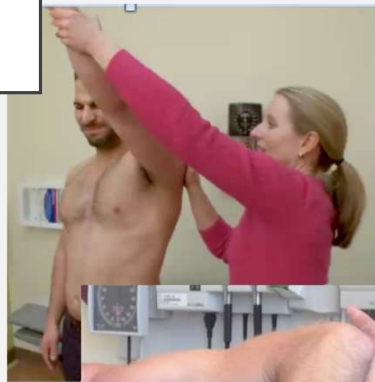


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## BIAS: IMPINGEMENT

### Neer's Test

- Elbow extended
- Internally rotated
- Forward flexion,



### Hawkin's Test

- 90° forward flexion,  
elbow flexed,
- internal rotation



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## BIAS: AC JOINT TESTS

### Scarf test

- Active adduction



### Cross arm test

- Resisted adduction



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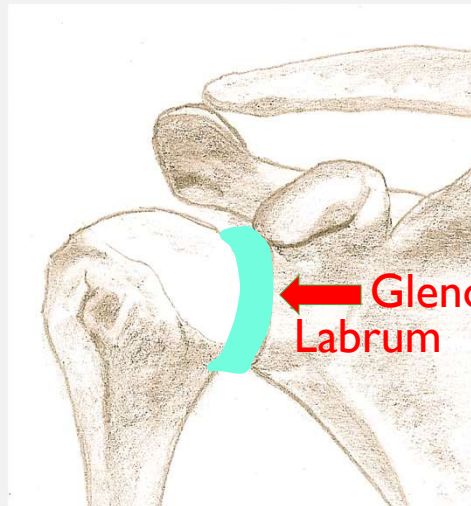
## BIAS: STABILITY

- Anterior
  - Apprehension/relocation
  - Load & Shift
- Posterior
  - Load & Shift
- Inferior
  - Sulcus sign
  - Labrum
  - O'Brien's Test



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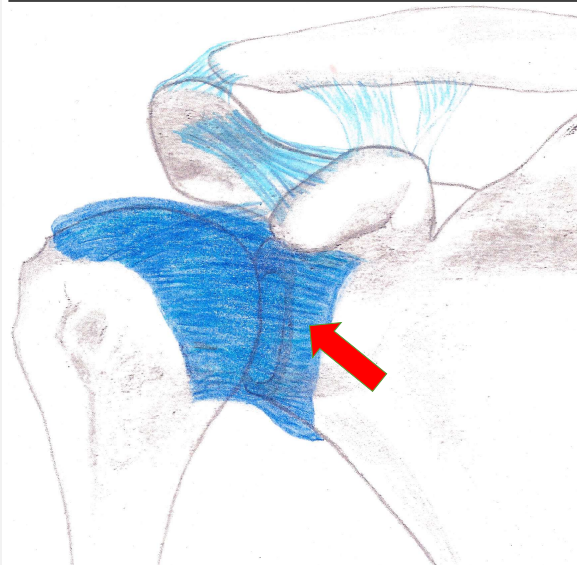
## SHOULDER GLENOHUMERAL STABILIZERS: **LABRUM**



← Glenoid Fossa  
Labrum

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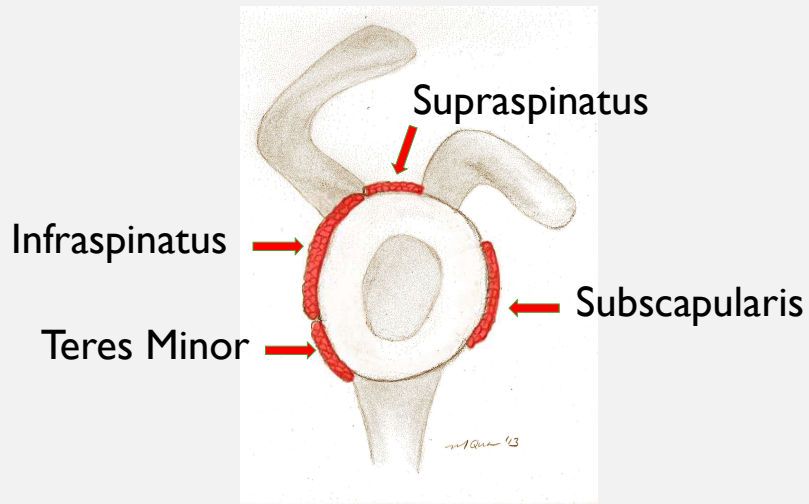
## SHOULDER GLENOHUMERAL STABILIZERS: **CAPSULE**



- Prevents anterior, inferior and posterior displacement

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SHOULDER GLENOHUMERAL STABILIZERS:  
**ROTATOR CUFF: DYNAMIC STABILIZERS**



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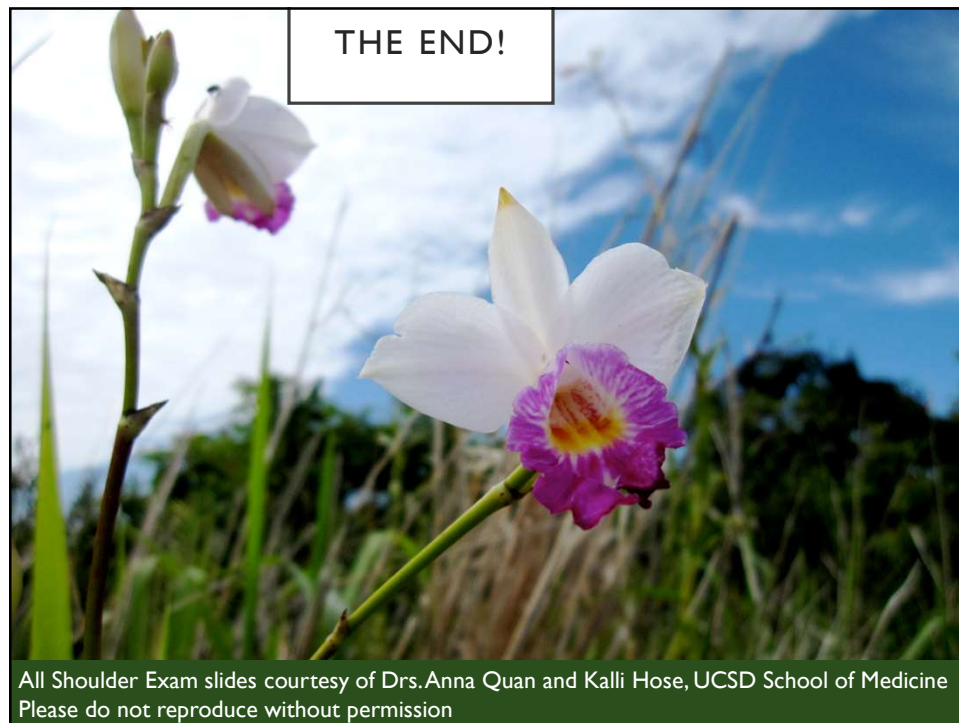
SHOULDER EXAM

- Inspection
- Palpation: **ABCS**
- Range of motion/Strength: **SITS**
- Provocative tests: **BIAS**

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THE ESSENTIAL SHOULDER EXAM FOR INTERNISTS	
<ul style="list-style-type: none"> <li>• <b>Inspection</b> – Bony abnormalities, muscle atrophy</li> <li>• <b>Palpation ABC's:</b> AC joint, Biceps tendon, Coracoid, Subacromial space</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>ROM/Strength: SITS</b> <ul style="list-style-type: none"> <li>• <b>Supraspinatus</b> <ul style="list-style-type: none"> <li>• Abduction</li> <li>• Drop Arm/Empty Can</li> </ul> </li> <li>• <b>Infraspinatus/Teres Minor</b> <ul style="list-style-type: none"> <li>• External Rotation</li> <li>• ER Lag test/ Resisted ER</li> </ul> </li> <li>• <b>Subscapularis</b> <ul style="list-style-type: none"> <li>• Internal Rotation Spinous process level</li> <li>• IR Lag/Gerber lift off</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Provocative Tests: BIAS</b> <ul style="list-style-type: none"> <li>• <b>Biceps</b> <ul style="list-style-type: none"> <li>• Yergason's</li> <li>• Speeds</li> </ul> </li> <li>• <b>Impingement</b> <ul style="list-style-type: none"> <li>• Neer's</li> <li>• Hawkins</li> </ul> </li> <li>• <b>AC Joint</b> <ul style="list-style-type: none"> <li>• Scarf</li> <li>• Cross Arm</li> </ul> </li> <li>• <b>Stability</b>—Next layer</li> </ul> </li> </ul>

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## Key Features of Top Shoulder Problems

Diagnosis	History	Exam	Workup	Treatment
<b>Glenohumeral (GH) OA</b>	Older patient Insidious onset, <b>diffuse pain, limited ROM</b>	<b>Decreased AROM + PROM</b> Cuff testing: strength intact, minimal discomfort	Xray: loss of GH joint space, flat humeral head, osteophytes, sclerosis	Non-op including GH CSI Surgery referral when fails
<b>Adhesive Capsulitis</b>	Similar to GH OA, age 40-60, ♀ > ♂	<b>Same as GH OA</b>	<b>Normal xray</b>	Good results w/ non-op including GH CSI but may take 1-2 years
<b>RTC: suspected partial thickness tear/ tendinopathy/ subacromial bursitis</b>	<b>Pain w/ overhead reach, night pain,</b> radiation to elbow (but not beyond)	Full ROM (active may be limited by pain), + Neers and Hawkins, <b>pain with cuff testing but strength intact</b>	•Clinical dx •xray if trauma/concern for fx •MRI (xray prior) only if fails non-op measures	Non-operative rx: •activity mod •analgesics • PT • 1-2 subacromial corticosteroid injections (CSI)
<b>RTC: suspected full thickness tear</b>	As above + weakness	AROM may be limited by pain/weakness. Full PROM. Cuff testing w/ pain + <b>weakness</b>	•Xray + MRI for acute suspected FTT, or acute on chronic in young patient	Urgent surgery for acute traumatic FTT; expedited for acute on chronic

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Diagnosis	History	Exam	Workup	Treatment
<b>Biceps Tendonitis</b>	Ant/medial shoulder pain, <b>worse w/ elbow flexion/supination</b> (e.g. turning door knob)	TTP over long head of biceps + Speeds, Yergasons	Clinical dx	•Non-op, biceps tendon CSI •Surgery referral if fails
<b>Labral Tear</b>	<b>Young, active patients clicking/catching</b>	+ O'Briens	•Xray for trauma or r/o other causes •MRI vs MR arthrogram	•Non-op trial for most •< 35, acute injury: surgery referral for SLAP repair
<b>AC Joint OA/Sprain</b>	Hx shoulder injury; weight lifting (sprain). <b>Anterior shoulder pain</b>	TTP AC joint + Cross arm test	Xray shows AC OA or joint separation	•Non-op •AC joint CSI •Surgery referral if fails
<b>GH Instability</b>	<b>Young, active patients, dislocation, subluxation,</b> "dead/numb" feeling deltoid	+ Apprehension, relocation	Xray: Hill Sachs lesion	•Non-op •Surgery referral if fails

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