Hands-On Differential: Shoulder to Digit Specialized Examination

Sarah Bolander, DMSc, PA-C, DFAAPA

Objectives

- Review components of a comprehensive musculoskeletal physical exam.
- Identify specialized musculoskeletal exams for the upper extremity.
- Demonstrate appropriate specialized musculoskeletal exam techniques.
- Recognize positive findings.
- Correlate physical exam findings with differential diagnosis.

Components of Musculoskeletal Physical Examination

- Inspection
- Palpation
- Range of motion
  - Active typically followed by passive
- Neurologic
  - Sensory and motor
- Peripheral vascular
- **Specialized Exams**

Shoulder

Impingement Tests

Pain Provocation Test: Painful Arc Test

Patient actively abducts arm from side to overhead; observe for pain during arc of motion

- Positive: Pain between 60-120° of abduction
- Indications: Rotator cuff disease, subacromial impingement

Neer Sign

Examiner stabilizes scapula and passively forward flexes arm overhead

- Positive: Pain with forced forward flexion
- Indication: Subacromial impingement

- Amount of impingement correlates with degree of flexion:
  - 90°: mild
  - 60-70°: moderate
  - 45°: severe

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Hawkins

Arm at 90° forward flexion, elbow at 90°; passively internally rotate shoulder

- Positive: Pain with internal rotation
- Indications: Subacromial impingement

Cross-Body Adduction Test

Passively adduct arm across body toward with should at 90°

- Positive: pain elicited and localized to the AC joint
- Indications: Chronic AC joint conditions, subacromial impingement syndrome

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Rotator Cuff Tear

Drop Arm

Patient actively abducts arm to 90°; slowly lower arm to side

- Positive: Inability to control descent or arm drops suddenly
- Indications: Full-thickness rotator cuff tears

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Empty Can (Jobe Test)

Arm at 90° abduction, 30° forward flexion, full internal rotation (thumb down); resist downward pressure

- Positive: Pain and/or weakness with resistance
- Indications: Supraspinatus tears

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External Lag Sign

Arm at side with elbow at 90°; examiner passively externally rotates the shoulder maximally, then releases

- Positive: Arm drops into internal rotation when released
- Indications: Infraspinatus/supraspinatus tears

Gerber Lift Off

- Patient places the dorsum of the hand against the lower back; examiner then asks the patient to actively lift the hand away from the back while maintaining the arm position.
- Positive Test: unable to lift or maintain the hand away from the back
- Indication: subscapularis weakness or tear.

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Biceps Tendonitis and/or SLAP tears

Speeds

Extend elbow with full supination, 30 ° shoulder flexion and ask patient to resist downward pressure

- Positive: pain along the biceps tendon
- Indication: biceps tendonitis

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Yergason Test

Elbow at 90° flexion at side; resist supination and external rotation

- Positive: Pain in bicipital groove
- Indication: Biceps tendon pathology, SLAP lesions

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O’Brien Test

Arm at 90° forward flexion, 10-15° adduction, full internal rotation; resist downward force.

Repeat with supination

- Positive: Pain with pronation that decreases with supination; pain deep in shoulder

- Indications: primarily SLAP lesions

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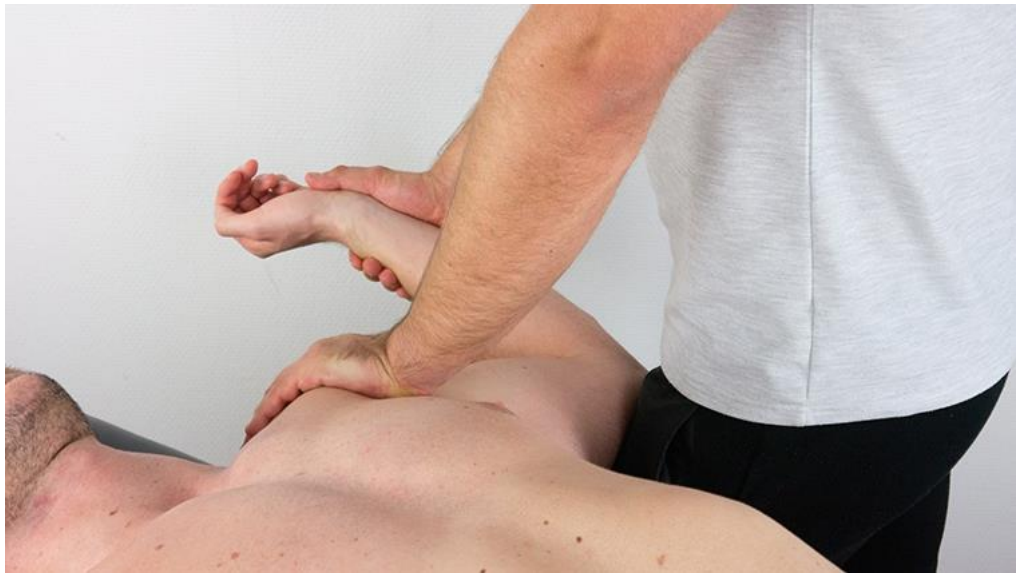
Shoulder Instability

Apprehension-Relocation Test

Apprehension: Patient supine with elbow flexed and arm abducted at 90 degrees. Gently apply external rotation at the shoulder while observing for apprehension.

Relocation: Apply posterior pressure to the humerus (relocation), can also abruptly remove pressure from the humerus (release)

- Positive: Pain and apprehension with ROM testing AND pain is relieved with relaxation/relocation
- Indication: Shoulder instability



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Elbow

Cozen Test: Resisted Forearm Extension

Patient makes fist and extends wrist against resistance while examiner stabilizes elbow

- Positive: Pain at lateral epicondyle with resisted wrist extension

- Indication: Lateral epicondylitis

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Resisted Forearm Flexion

Resist wrist flexion and pronation with elbow extended

- Positive: Pain at medial epicondyle
- Indication: Medial epicondylitis

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Valgus Stress Test

Elbow at 20-30° flexion; apply valgus force to elbow while stabilizing humerus

- Positive: Pain, laxity, or apprehension at medial elbow
- Indication: UCL injury

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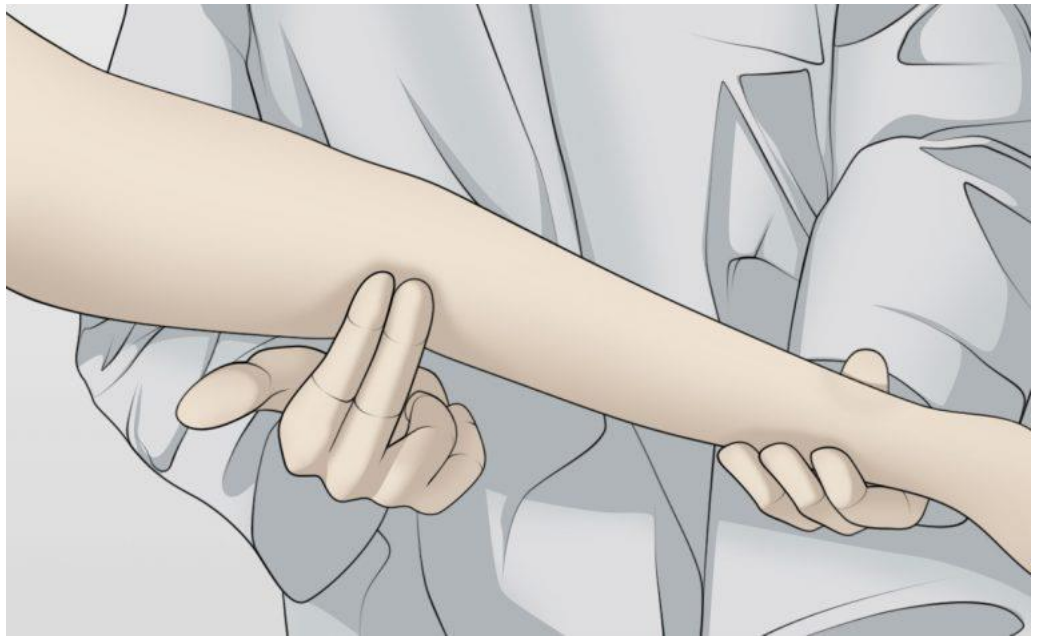
Tinel's Sign at Elbow:

Tap over ulnar nerve at cubital tunnel

- Positive: Tingling in ulnar distribution (ring and small fingers)
- Indication: Ulnar neuropathy at elbow (Cubital Tunnel Syndrome)



Wrist/Hand

Carpal Tunnel

Hand Elevation Test (HET)

Patient elevates both hands overhead for 60 seconds

- Positive: Reproduction of paresthesias in median nerve distribution
- Indication: Carpal tunnel syndrome

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Tinels Sign at the Wrist

Firmly and repeatedly tap over carpal tunnel at wrist

- Positive: Tingling in median nerve distribution (thumb, index, middle, radial ring finger)

- Indication: Carpal tunnel syndrome

Phalens Test

Hold wrist in 90° flexion for 20-30 seconds (or 60 seconds)

- Positive: Reproduction of paresthesias in median nerve distribution

- Indication: Carpal tunnel syndrome

Durkan Test

Apply firm pressure directly over carpal tunnel for 30 seconds

- Positive: Reproduction of paresthesias in median nerve distribution

- Indication: Carpal tunnel syndrome

de Quervains Tenosynovitis

Finkelstein Test

Patient makes fist with thumb tucked inside; examiner deviates wrist ulnarly

- Positive: Pain over radial styloid and first dorsal compartment

- Indication: De Quervain tenosynovitis

Neurologic Check

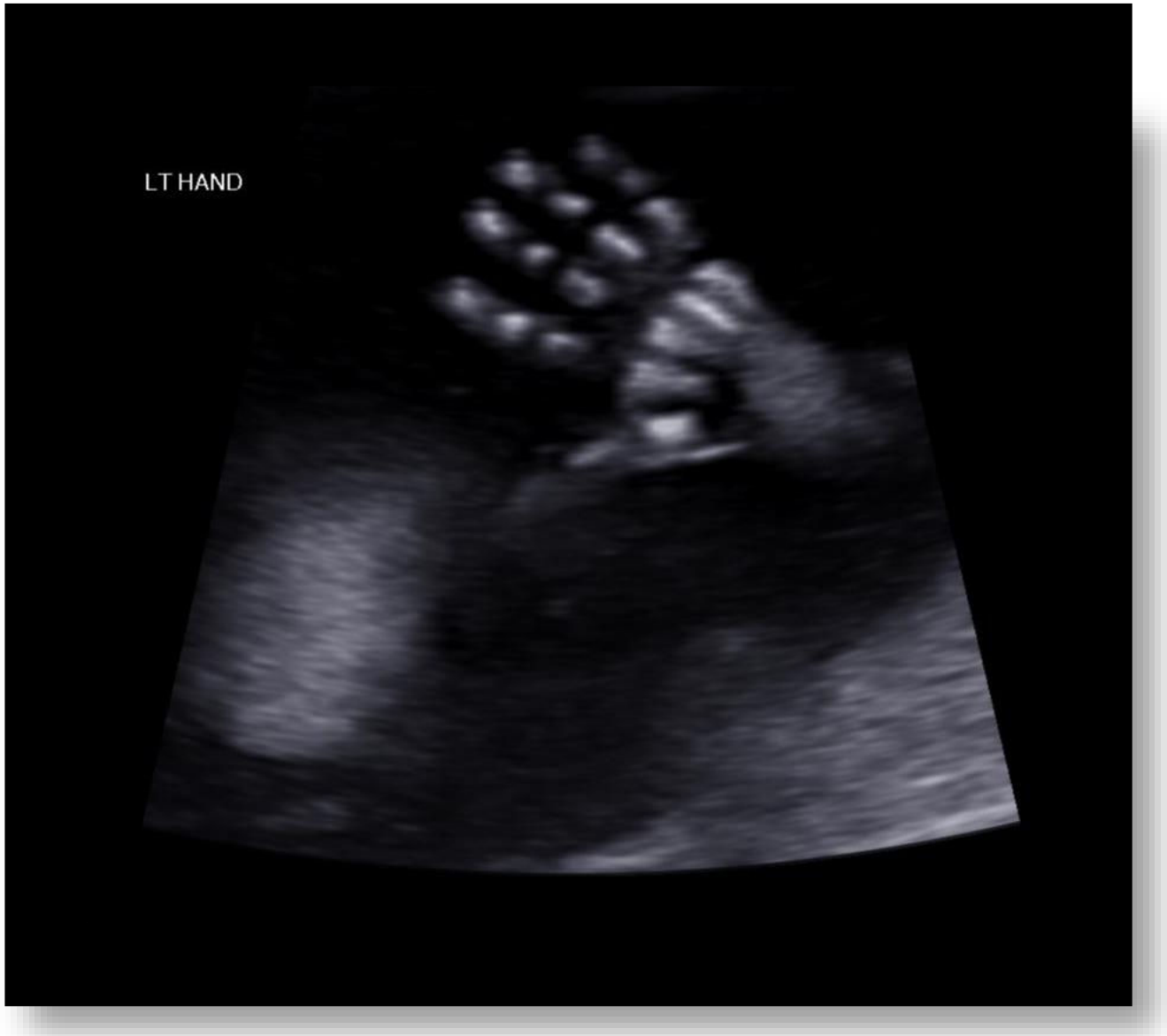
<u>Motor</u> examination of the hand:

Rock: Median nerve	*OK*
Paper: Radial nerve	*Stop*
Scissors: Ulnar nerve	*Spread 'em*

***OK:** Anterior Interosseus Nerve (AIN)

- Branch of the Median Nerve

Questions?



Resources

- AAOS: http://www.aaos.org/
- POSNA: https://posna.org/
- AAFP: http://www.aafp.org/

- Radiopaedia: http://radiopaedia.org/
- OrthoBullets: https://www.orthobullets.com

- Physiotutors. Images used with permission. Accessed December 5, 2025. https://www.physiotutors.com/

- Books:
  - *Bates' Guide to Physical Examination and History Taking*
  - *Mosby's Guide to Physical Examination*
  - Essentials of Musculoskeletal Care by the American Academy of Orthopedic Surgeons.

References

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