

Updated US of the Elbow

Ultrasound examination of the elbow offers a high-resolution imaging of tendons, ligaments, and nerve structures and enables dynamic evaluation. Thorough knowledge of surface anatomy and bony landmarks is necessary for appropriate positioning of the elbow and correct transducer placement. The elbow can be divided into anterior, medial, lateral, and posterior quadrants for evaluation. A checklist of structures are provided for each quadrant and common pathologies are discussed.

(1) Anterior elbow

- a. Check list: Distal biceps muscle and tendon, brachialis tendon, median nerve and anterior interosseous nerve, anterior synovial recess, and anterior fat pad, radiocapitellar and ulnohumeral joints.
- b. Distal biceps tendon injury.
- c. Bicipitoradial bursitis

(2) Medial elbow

- a. Check list: Common flexor tendon, medial collateral ligament
- b. Medial epicondylitis
 - Overuse syndrome of the common flexor tendons
 - US findings: hypoechoic swelling, loss of fibrillary pattern, intra-tendinous calcifications, tendon fiber discontinuity, spurring or cortical irregularities, increased vascularity
- c. Medial collateral ligament injury.
 - Valgus stress ultrasound

(3) Lateral elbow

- a. Check list: Common extensor tendon, Lateral ulnar collateral ligament and radial

collateral ligament, Radial nerve and posterior interosseous nerve

b. Lateral epicondylitis

- Overuse syndrome of the common extensor tendons
- US finding: hypoechoic swelling, loss of fibrillary pattern, intra-tendinous calcifications, tendon fiber discontinuity, spurring or cortical irregularities, increased vascularity

(4) Posterior elbow

a. Check list: Triceps muscle and tendon, Posterior fossa with the posterior fat pad, Cubital tunnel and the ulnar nerve, Olecranon bursa

b. Olecranon bursitis

c. Cubital tunnel syndrome