

AIUM Practice Guideline for the Performance of the Musculoskeletal Ultrasound Examination

ELBOW EXAMINATION

Elbow Exam

- The patient is seated with the arm extended and the hand in supination, resting on a table, and the examiner sitting in front of the patient.
- The elbow may also be examined with the patient supine and the examiner on the same side.
- The exam is divided into 4 quadrants: ant, med, lat, and post.
- The exam may be tailored to a specific site depending on the clinical presentation.

Anterior

- The ant joint space and other recesses of the elbow are assessed for effusion, synovial proliferation, and loose bodies. Longitudinal and axial scanning of the anterior humeroradial and humeroulnar joints and coronoid and radial fossae is performed to assess the articular cartilage and cortical bone.
- The annular recess of the neck of the radius is scanned dynamically with the patient alternatively supinating and pronating the forearm.
- The same dynamic assessment can be made for the biceps tendon and its attachment to the radial bicipital tuberosity.
- The brachialis muscle, the adjacent radial and brachial vessels, and the median and radial nerves complete the anterior scan.

Lateral

- The patient extends the arm and places both palms together, or if the patient is supine, the forearm is placed across the abdomen.
- Assessment of the lateral epicondyle and the attachments of the CET as well as the more proximal attachments of the ECRL and brachioradialis.
- The hand is then pronated with the transducer on the posterolateral aspect of the elbow to scan the radial collateral ligament.

Medial

- The hand is placed in supination, and the medial epicondyle, CFT, and UCL are scanned in both planes.
- The ulnar nerve is visualized in the cubital tunnel between the olecranon process and medial epicondyle.
- Dynamic examination with flexion and extension of the elbow is performed to assess dynamic subluxation of the ulnar nerve.
- Dynamic examination with valgus stress is performed to assess integrity of the UCL.
- During stress testing, the elbow must be slightly flexed to disengage the olecranon from the olecranon fossa.

Posterior

- The palm is placed down on the table, or if the patient is supine, the forearm is placed across the abdomen, with the elbow flexed to 90°.
- The posterior joint space, triceps tendon, olecranon process, and olecranon bursa are assessed.
