

Elbow Examination

Introduction

- **W**ash hands, **I**ntroduce self, ask **P**atient's name & DOB & what they like to be called, **E**xplain examination and get consent
- Expose arms. Ask about pain.
- **General inspection**: patient e.g. age, mobility, trauma, risks factors; around bed e.g. mobility aids.

Look

From front, sides and behind.

- **Carrying angle (men 5-10°, women 10-15°)**: cubitus valgus = increased angle; cubitus varus (gunstock deformity) = reversed angle
- **Fixed flexion deformity**
- **Skin**: scars, bruising, sinuses, swelling
- **Rashes**: psoriatic plaques, rheumatoid nodules (feel up extensor surface)
- **Muscles**: wasting

Feel

Check pain first and start on normal side.

- **Skin**: palpate general area for temperature & effusions/swelling (e.g. olecranon bursitis)
- **Bony landmarks**
 - Palpate olecranon tip, medial epicondyle, lateral epicondyle (palpate in extension, where they should form a straight line; and, in flexion, where they should form an isosceles triangle)
 - Palpate radial head with thumb on rotation of forearm
- **Palpate tendons**
 - Common extensor origin – just distal to lateral epicondyle (pain in Tennis elbow)
 - Common flexor origin – just distal to medial epicondyle (pain in Golfer's elbow)

Move

Do movements actively then passively

- **Flexion (150°)**
- **Extension (0°)**
- **Pronation (70°)** while elbow flexed to 90°
- **Supination (80°)** while elbow flexed to 90°
- **SPECIAL TESTS**
 - **Lateral collateral ligament**: flex elbow to 30° and apply varus force while forearm supinated
 - **Medial collateral ligament**: flex elbow to 30° and apply valgus force while forearm pronated
 - **Tennis elbow test**: with forearm pronated and wrist fully flexed, ask patient to extend wrist while applying resistance
 - **Golfer's elbow test**: with forearm pronated and wrist fully extended, ask patient to flex wrist while applying resistance
 - **Posterolateral rotary instability (O'Driscoll pivot shift) test**: with patient supine, flex the elbow and shoulder to 90° and fully supinate wrist. With one hand on distal forearm and one hand on proximal forearm, extend elbow (and flex the shoulder) whilst applying valgus force and axial compression. Positive test = subluxation of radial head.

Function

- N/A

To complete exam

- "To complete my examination I would examine the joint above and joint below, and also do a full neurovascular exam distal to the joint – would you like me to do this now?"
- Summarise and suggest further investigations you would do after a full history

Varus and valgus force application

- To apply a **valgus** force, press on the **lateral** side of the joint
- To apply a **varus** force, press on the **medial** side of the joint

Common pathology

- **Olecranon bursitis**
 - Signs: localised swelling over olecranon tip, overlying erythema, preserved movements
- **Lateral epicondylitis (Tennis elbow)**
 - Inflammation at the common extensor origin on the lateral humeral epicondyle
 - Affects 30-50 year olds due to repetitive use
 - Lateral elbow pain worsens with use of extensor forearm muscles
 - Signs: tenderness over common extensor tendon origin (just distal to lateral epicondyle), pain on resisted wrist extension
 - Treated with avoiding painful activities, splints, NSAIDs, steroid injections, surgery
- **Medial epicondylitis (Golfer's elbow)**
 - Inflammation at the common flexor origin on the medial humeral epicondyle
 - Affects 30-50 year olds due to repetitive use
 - Medial elbow pain worsens with use of flexor forearm muscles
 - Signs: tenderness over common flexor tendon origin (just distal to medial epicondyle), pain on resisted wrist flexion
 - Treated with avoiding painful activities, splints, NSAIDs, steroid injections, surgery
- **Cubital tunnel syndrome**
 - Ulnar nerve entrapment just posterior to the medial humeral epicondyle (within the cubital tunnel)
 - Risk factors include cubitus valgus deformity, elbow OA and regular leaning on forearm with elbow bent