

ELBOW EXAMINATION

What's the problem Pain
 Instability
 Stiffness
 Disability

Which hand?
How old?
Occupation
Any history of injury

Assess disability Work and ADL

1. Can you lift heavy weights?
2. Can you reach for things in the cupboard?
3. Can you comb your hair?
4. Can you reach your mouth?
5. Can you take care of bowel hygiene?
6. Can you do hammering?

Sleep: Affected or not

Pain in particular range: terminal extension or flexion

Pin and tingly sensation; any weakness

Any previous treatment?

Medical problem? Diabetes;

A. Inspection

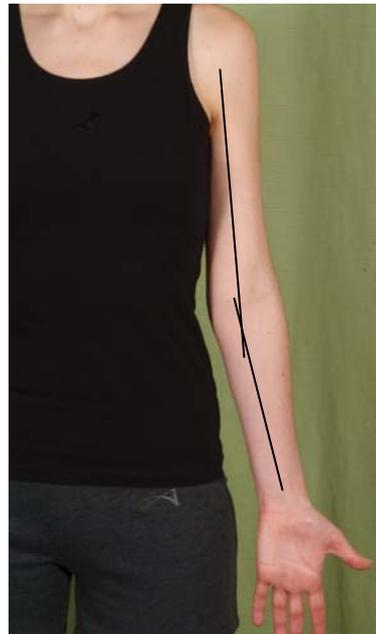
1. Carrying angle

Patient standing with arm closed to the chest with forearm supinated

Angle by the axis arm to the axis of the forearm gives carrying angle

Normal: Males 7°
 Females 14 °

In the presence of a fixed flexion deformity of the elbow, this angle cannot be commented



2. Attitude of the limb:

How limb is placed?

Right side: Shoulder abducted and internal
Rotation and elbow is flexed: Erb's palsy



3. Any deformity of the elbow
 Flexion deformity is common following elbow injury or arthritis
 Valgus deformity: in lateral condylar fracture or sometimes in supracondylar fractures
 Varus or gunstock deformity: is a classical malunion of supracondylar fracture

4. Muscle wasting [Mention about FCU wasting: ulnar nerve]

5. Any surgical scar, sinus

6. **Screening test for elbow movement:**



B. Palpation

1. **Tenderness** Start from Lateral condyle,
 Olecranon,
 Radial head,
 Medial epicondyle,
 Biceps tendon and ulnar nerve

How to feel radial head?

Elbow in flexion
 Feel the lateral condyle
 Below the lateral condyle there is a fossa
 In the fossa feel the radial head
 Confirm it by rotating the forearm



Bony relation

Medial Epicondyle; tip of the
 Olecranon and lateral epicondyle relation

With elbow extended:
 They are at same level

With elbow flexed:
 Isosceles triangle with elbow at 90°



C. Range Of Movement

Elbow flexion and extension

Normal range 0° -140°

Functional range 30° - 130°

[up to 10° hyperextension is normal]



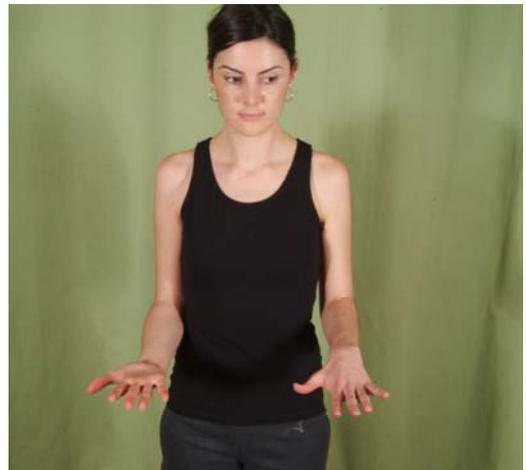
Rotation

Joints involved are radiocapitular joint,
Superior and inferior radioulnar joint.

Supination 90°

Pronation 90°

Functional range: 50° each direction



Impingement:

Presence of loose body or osteophytes in the olecranon fossa pain on hyperextension and
osteophytes in the radial fossa pain on flexion

D. Ulnar Nerve test:

Gently palpate the nerve between

Medial epicondyle and Olecranon.

Now flex and extend.

On flexion, there is subluxation of the
nerve anteriorly with a palpable snap

15% of population ulnar nerve subluxates



Ulnar stretch test:

Elbow flexion; forearm
Supination and wrist in dorsiflexion
Provocative test for ulnar entrapment
At the elbow joint



E. Instability signs

Valgus and Varus with elbow in 30 ° and 0 °
With shoulder in internal rotation for varus test
and external rotation for valgus test

Varus or valgus force is given with in 30° joint
open out if there is any laxity

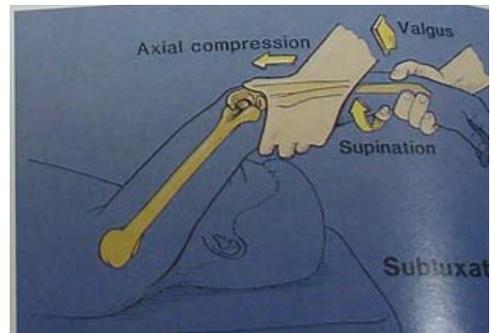


Driscoll's sign

Only performed if there is any instability,
Mainly for postero-lateral subluxation

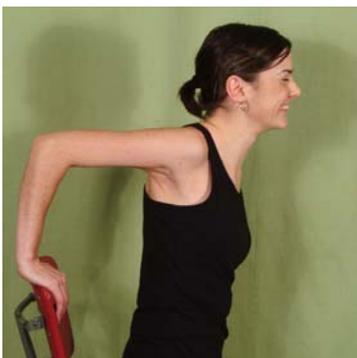
Technique:

Patient supine and arm overhead
Supination and valgus with axial compression
Elbow is now flexed; at 40-70 ° , the radial head is
maximally subluxated
Additional flexion caused a visible clunk of reduction



Chair test for Posterolateral instability:

Reluctant to full extend the elbow when rising from
a chair



F. Tests for Tennis elbow

Cozens sign (Active):

Elbow 90° ; Forearm pronate,
Now dorsiflex wrist against resistance
Positive when pain at lateral epicondyle



Mills sign (Passive)

While palpating the lateral epicondyle
The examiner pronates the patient's forearm
Passive flexion of the wrist fully and then extends
the elbow



Resisted extension of the middle finger

Resistance just distal to PIP joint of the middle finger
with forearm in pronation.
Positive in tennis elbow with pain at lateral epicondyle
In radial tunnel syndrome: pain is 4 cm distal to
epicondyle



Golfer's elbow:

Resisted wrist flexion
Pain near medial epicondyle

G. Ulnar nerve screening

Wasting : Interossei, FCU
Sensation in little ring finger
Tinel's sign at elbow
Subluxation of the ulnar nerve



Intrinsic examination:

1. Test for dorsal interossei
2. Test for palmar interossei
3. Test for abductor pollicis brevis



Median Nerve

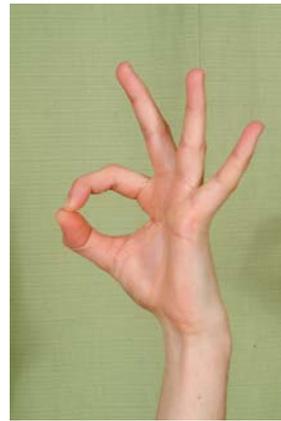
Anterior interosseous Nerve palsy

Common nerve involved in supracondylar fracture
"O" sign

Ask the patient to make zero with thumb and
Index finger

If present means FDP and FPL are intact

If there is no flexion: means involvement of anterior
interosseous nerve



Median nerve entrapments

1. Tinel's test
2. Resisted pronation of forearm with elbow extended: Pronator teres
3. Resisted Supination elbow flexion and supination: lacertus fibrosus
4. Pain on resisted flexion of PIP joint middle finger: FDS arch

