LECTURE ON ELBOW JOINT

Dr Kaweri Dande
Senior Resident
Department Of Anatomy
King Georges Medical University
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Learning Objectives

• By the end of this teaching session all the students must be able to correctly:
  • Describe the type, articular surface, capsule of elbow joint
  • Describe the synovial membrane, ligaments, relations of elbow joint
  • Describe the movements, vascular supply, nerve supply of elbow joint
  • Describe the applied anatomy of the elbow joint
Elbow joint

• Preface
• Articular surface
• Ligaments
• Relations
• Vascular supply
• Innervation
• Movements
• Carrying angle
• Clinical anatomy
Preface

• Hinge variety of synovial joint

• Location: between

lower end of humerus
upper ends of radius & ulna
Articular surfaces

- Upper: capitulum & trochlea of humerus

- Lower: upper surface of head of radius: capitulum
trochlear notch of ulna: trochlea

Note: continues with superior radioulnar joint
Cubital articulation

- *Cubital articulation:*

Collaboration of
Humeroradial
Humeroulnar
Superior radioulnar
ligaments

- **Capsular ligament:**

  Superiorly: lower end of humerus

  Inferomedially: trochlear notch of ulna

  Inferolaterally: annular ligament of superior radioulnar

  Synovial membrane lines capsule & fossae

**Intracapsular:**

Capitulum, trochlea, radial fossa, coronoid fossa, olecranon fossa
Synovial membrane lines capsule & fossae

**Intracapsular:**
Capitulum,
trochlea, radial fossa,
coronoid fossa, olecranon fossa

• *Thickening of capsule*

Anterior ligament & Posterior ligament
Ulnar collateral ligament

• Triangular
  Apex: medial epicondyle of humerus
  Base: ulna

Parts: Anterior band
  Posterior band
  Oblique band

NOTE
Crossed by ulnar nerve
Origin: flexor digitorum superficialis
Radial collateral/ lateral ligament

- Fan shaped:

- Extension
  lateral epicondyle to annular ligament

NOTE
Origin: supinator
  extensor carpi radialis
Relations

• Anteriorly: brachialis, median nerve, brachial artery, biceps tendon

• Posteriorly: triceps & anconeus

• Medially: ulnar nerve, flexor carpi ulnaris, common flexors

• Laterally: supinator, extensor carpi radialis brevis, common extensors
• **Vascular supply**: anastomosis around elbow joint

• **Innervation**: receives branches 
  ulnar, median, radial, musculocutaneous
Movements

- *Flexion*: brachialis, biceps, brachioradialis
- *Extension*: triceps, anconeus
Carrying angle

- Transverse axis of elbow directed medially & downwards
- Extended forearm makes angle of $163^0$ with arm

Factors
Medial flange of trochlea 6mm deeper
Superior articular surface of coronoid process is oblique to long axis of bone
Clinical anatomy

- Distension of elbow
- Dislocation of elbow
- Subluxation of elbow
- Tennis elbow
- Miner’s (or student elbow)
- Optimum position of elbow
never never never give up

(winston churchill)

Thank you