

Unit 3:

Bones and joints of the upper limb: forearm and hand

GENERAL OBJECTIVES:

- recognize, name and correctly orient forearm and hand bones
- understand movements in elbow, wrist and hand joints

SPECIFIC OBJECTIVES:

Bones of the forearm and hand

Identify the bony features on each part of the following bones:

RADIUS - Upper End

- Shaft

- Lower End

ULNA - Upper End

- Shaft

- Lower End

Deduce (from the shape of the articular surfaces) the movements at (i) the elbow joint and (ii) the radioulnar joints.

Indicate the bony attachments of the major ligaments which help to maintain the stability of these joints (while allowing their mobility).

Identify the following bones

CARPALS - Proximal Row

- Distal Row

METACARPALS

PHALANGES

Identify the attachments of the Flexor Retinaculum and define the "Carpal Tunnel".

Deduce (from the shape of the articular surfaces) the movements at

- the wrist joint
- the carpometacarpal joint of the thumb
- metacarpophalangeal joints
- interphalangeal joints

Indicate the bony attachments of the major ligaments which help to maintain the stability of these joints (while allowing their mobility).

Joints of the forearm and hand

Elbow Joint

Articular Surfaces (Humeroulnar & Humeroradial)

Fibrous Capsule & Joint Cavity

Synovial Membrane

Collateral Ligaments (Medial & Lateral)

Special Structures:

Olecranon Bursa

Other Bursae, Pads of Fat

Movements at the Elbow Joint:

Flexion/Extension

Stability

Carrying Angle

Radioulnar Joints

Proximal Radioulnar Joint

Annular Ligament

Distal Radioulnar Joint

Articular Disc

Movements at the Radioulnar Joints:

Pronation/Supination

Wrist Joint

Articular Surfaces

Capsule & Ligaments

Synovial membrane

Movements at the Wrist Joint:

Flexion/Extension

Adduction/Abduction

Stability

Joints of Hand

Intercarpal Joints (+ “Midcarpal” Joint)

Carpometacarpal & Intermetacarpal Joints

Carpometacarpal Joint of the Thumb

Metacarpophalangeal (M.P.) Joints

Palmar Ligaments (Plates)

Interphalangeal (I.P.) Joints

Collateral Ligaments, Palmar Plates

Movements of the Thumb:

Flexion/Extension

Abduction/Adduction/Opposition

Movements of the Fingers:

Flexion/Extension

Abduction/Adduction