The Elbow and Radioulnar Joint

Bone and Actions

Chapter 6
Terminology

- Condyle – large round projection
- Epicondyle – a projection located above a condyle
- Fossa - hollow, depression or flattened surface
- Tubercle - small round projection
- *Supination – external rotation of the radius
- *Pronation – internal rotation of the radius
Radius

Radial Tuberosity

Interosseous Crest

Lower Articular Surface

Anterior View

Head

Neck

Shaft

Ulnar Notch

Styloid Process

Posterior View

Dorsal Tubercles (Lister's Tubercle)

cradial tuberosity

head
Radius

- Head
- Radial tuberosity
Ulna

- coronoid process
- trochlear (semilunar) notch
- olecranon process
Ulna

1. olecranon process
2. trochlear (semilunar) notch
3. coronoid process
Humerus

- medial epicondyle
- lateral epicondyle
- trochlea
- capitulum
- olecranon fossa
- head
Humerus

- Greater tubercle
- Lesser tubercle
- Intertubercular groove
- Head of humerus
- Deltoid tuberosity
- Medial epicondyle
- Capitulum
- Coronoid fossa
- Trochlea
- Olecranon fossa
Humerus

2. lateral epicondyle
3. capitulum
4. trochlea
5. medial epicondyle
7. olecranon fossa
Scapula

- glenoid fossa
- coracoid process
Scapula

2. glenoid fossa
1. coracoid process
Joints

- **Humeroulnar (elbow)**
  - humerus (trochlea) and ulna (trochlear notch)
  - hinge joint
- **Radioulnar**
  - radius (head) and ulna
  - pivot joint
- **Radiohumeral**
Ligaments

- Radial collateral
- Ulnar collateral
- Annular
Ligaments

Medial View

ulnar collateral ligament
Actions

- Flexion and Extension
  - Elbow or Humeroulnar Joint
  - Sagittal plane
- Supination and Pronation
  - Radioulnar
  - Transverse plane
Actions

ELBOW FLEXION

ELBOW EXTENSION
Actions

- What is the action when an anterior muscle contracts?
- What is the action when a posterior muscle contracts?
Actions

Pronation & Supination
Pronation

Radius moves medially

Ends up crossing the ulna
Supination

Radius moves laterally

Ends up parallel to the ulna
Neutral Position

- Neutral
- Full Pronation
- Full Supination
Actions
Synergy between joints

- Tightening a screw: supination and flexion
- Loosening a screw: pronation and extension
What position is his right elbow in? His right forearm? His left elbow?

What position is his right forearm in? What is his name?

What position is his left elbow in?
What positions are her right elbow and forearm in?

What positions are her left elbow and forearm in?