MEDICAL EDUCATION RESOURCE

Arm: Introduction and Surface Landmark

Arm

Introduction

- The **arm** (also called *brachium*) is the part of the upper limb between the **shoulder joint and the elbow joint**.
- It is divided into **anterior (flexor)** and **posterior (extensor)** compartments by **medial and lateral intermuscular septa** extending from the **deep fascia** to the **humerus**.
- Each compartment contains **muscles, nerves, and vessels** with distinct functions.
- The **anterior compartment** mainly performs **flexion at the elbow** and is supplied by the **musculocutaneous nerve**.
- The **posterior compartment** mainly performs **extension at the elbow** and is supplied by the **radial nerve**.
- The **main artery** of the arm is the **brachial artery**, and the **main superficial veins** are the **cephalic, basilic, and median cubital veins**.

Surface Landmarks of the Arm

Anterior Aspect

- **Deltoid muscle** ? forms rounded contour of shoulder.
- **Biceps brachii** ? visible when flexed; its tendon palpable in front of elbow.
- **Bicipital groove** (between biceps and triceps) ? indicates position of brachial artery and median nerve.
- **Medial epicondyle of humerus** ? easily palpable; ulnar nerve lies behind it.
- **Lateral epicondyle** ? gives origin to common extensor muscles.

Posterior Aspect

- **Triceps muscle** ? forms the bulk of posterior arm.
- **Olecranon process** of ulna ? prominent at back of elbow.
- **Posterior groove of arm** ? corresponds to course of radial nerve and profunda brachii artery (radial/spiral groove).

Bony Landmarks (Palpable Points)

- **Acromion process** of scapula – lateral end of shoulder.
- **Greater and lesser tubercles** of humerus – felt with rotation of arm.
- **Medial and lateral epicondyles** – at distal humerus.
- **Head of radius** – palpable on lateral aspect just below lateral epicondyle (moves during supination/pronation).
- **Olecranon process** – posterior tip of elbow.

Lines & Triangles

- **Three bony points** – medial epicondyle, lateral epicondyle, and olecranon process – are in a **straight line** when the elbow is extended and form a **triangle** when flexed.

- This relationship is clinically important to detect **supracondylar or dislocation injuries**