

Phalanges

Phalanges

General Features

- Skeleton of the **digits (fingers and thumb)**.
- Each finger has **3 phalanges** (proximal, middle, distal), except the **thumb**, which has **2** (proximal and distal).
- Total = **14 phalanges** in one hand.
- Structure:
 - **Base (proximal end)** ? articulates with metacarpal or phalanx.
 - **Shaft** ? cylindrical, tapering distally.
 - **Head (distal end)** ? rounded in proximal/middle phalanges; distal phalanx has expanded tuft (supports pulp of finger and nail bed).

Clinical Anatomy of Phalanges

- **Fractures**
 - Very common due to crushing or direct trauma.
 - Can lead to stiffness and deformity because of close relation to tendons.
- **Mallet finger**
 - Avulsion fracture at base of distal phalanx ? extensor tendon pulled off, fingertip droops.

- **Jersey finger**

- Avulsion of flexor digitorum profundus tendon from distal phalanx? inability to flex fingertip.

- **Tuft fractures**

- Common in distal phalanx (from crush injuries).

- **Congenital anomalies**

- Clinodactyly (curved finger).
- Brachydactyly (short phalanges).

- **Clinical landmark**

- Tufts of distal phalanges important for finger pad and nail attachment.

Ossification of Phalanges

- Each phalanx ossifies from **two centers**:

1. **Primary center** ? for shaft, appears in **8th–12th week intrauterine life**.
2. **Secondary center** ? for base, appears around **2 years of age**.

- **Fusion** ? by 18 years.

- Special note:

- Distal phalanges ossify **earlier** than proximal ones (reverse of normal long bone order).
- Distal phalanges start ossifying by **8th week IUL**, others follow later.