

Clinical Anatomy of Carpal Bones

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Carpal Bones (Proximal ? Distal, Lateral ? Medial)

Scaphoid, Lunate, Triquetral, Pisiform, Trapezium, Trapezoid, Capitate, Hamate

Mnemonics

1. “Some Lovers Try Positions That They Can’t Handle”

- Scaphoid
- Lunate
- Triquetral
- Pisiform
- TrapeziUM
- Trapezoid
- Capitate
- Hamate

2. “She Looks Too Pretty; Try To Catch Her”

- S ? Scaphoid
- L ? Lunate

- T ? Triquetral
- P ? Pisiform
- T ? Trapezium
- T ? Trapezoid
- C ? Capitate
- H ? Hamate

3. For **proximal vs distal rows**:

- **Proximal (SLTP) ? “Some Lovers Try Positions”**
- **Distal (TTCH) ? “That They Can’t Handle”**

- **Scaphoid**

- Most **commonly fractured carpal bone**.
- Fracture usually at the waist.
- Blood supply enters distally ? proximal fragment prone to **avascular necrosis**.
- Pain and tenderness in the **anatomical snuffbox**.

- **Lunate**

- Most **commonly dislocated carpal bone**.
- May compress **median nerve** in carpal tunnel ? produces symptoms similar to carpal tunnel syndrome.

- **Pisiform**

- Sesamoid bone within tendon of flexor carpi ulnaris.

- Occasionally mistaken for fracture on X-ray.

- **Capitate**

- Largest carpal bone.
- Rarely fractured, but forms important central pivot of carpal movement.

- **Hamate**

- Hook (hamulus) may fracture.
- Fracture may injure **ulnar nerve and artery** in Guyon's canal ? sensory and motor deficits in hand.

- **Carpal Instability**

- Results from ligamentous injury between carpal bones.
- Common cause of chronic wrist pain.

- **Congenital Variations**

- **Carpal coalition** ? fusion of carpal bones (e.g., lunate and triquetral).
- Often asymptomatic, but may cause restricted movement.

Ossification of Carpal Bones

- Each carpal bone ossifies from **a single center**.
- No carpal bone is ossified at birth.
- Sequence of appearance (helpful for **age estimation in children**):

1. **Capitate** – 2nd to 3rd month after birth.

2. **Hamate** – 3rd to 4th month after birth.
 3. **Triquetral** – 3rd year.
 4. **Lunate** – 4th year.
 5. **Scaphoid** – 5th year.
 6. **Trapezium** – 6th year.
 7. **Trapezoid** – 7th year.
 8. **Pisiform** – last, appears around 10–12 years (puberty).
- Complete ossification by about **20 years**.