7.6C: Carpals, Metacarpals, and Phalanges (The Hand)

Each hand consists of 27 bones, divided between the wrist bones (carpals), the palm bones (metacarpals), and the finger bones (phalanges).

Learning Objectives

• Describe the types of bones in the hand

Key Points

• There are eight carpal bones in each wrist.
• There are five metacarpal bones in each hand.
• There are proximal, intermediate, and distal phalanges in each digit except for the thumb, which lacks an intermediate phalange.

Key Terms

• metacarpal: Any of the bones of the palm.
• carpal: Any of the eight bones of the wrist.
• phalange: One of the bones of the digits.
Carpals of the left hand: There are eight carpal bones in each wrist: scaphoid, lunate, triquetral, pisiform, trapezium, trapezoid, capitate, and hamate.

The hand contains 27 bones. Each one belongs to one of three regions: the carpals, (wrist), the metacarpals, (the palm), and the phalanges (the digits).

Carpals

The eight, irregularly shaped carpals are the most proximal bones of the hand. The carpals are often split into two rows, the proximal row containing the scaphoid, lunate, triquetrum, and pisiform, moving lateral to medial.

The scaphoid and lunate articulate with the radius, and the lunate and triquetrum articulate with the articular disk of the wrist. The pisiform carpal is a sesamoid bone, located within a tendon and is not involved in movement at the wrist.

The distal row contains the trapezium, trapezoid, capitate, and hamate, moving lateral to medial. The trapezium articulates with the scaphoid proximally and the first, thumb, and second metacarpal distally. The trapezoid articulates with the scaphoid proximally and the second metacarpal distally.
**Metacarpal bones of the left hand:** The metacarpals connect the carpal bones of the wrist with the phalanges (finger bones).

The capitate articulates with the scaphoid and lunate proximally and the third and fourth metacarpal. Finally, the hamate articulates with the lunate and triquetral proximally and the fourth and fifth, little finger, metacarpals distally.

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**Metacarpals**

The hand contains five metacarpal bones that articulate proximally with the carpals and distally with the proximal phalanges. They are numbered moving lateral to medial, and start with the thumb, which is metacarpal I, and end with metacarpal V, the little finger.

Each metacarpal consists of a base, shaft, and head, with the concave lateral and medial borders of the shaft allowing attachment of the interossei muscles.

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**Phalanges**

The digits are named in a similar fashion to the metacarpals, moving lateral to medial, and starting at the thumb. With the exception of the thumb, each digit contains a proximal, intermediate, and distal phalange; the thumb lacks an intermediate phalange. The length of the phalanges decreases distally.
Human hand bones: Fingers are made up of proximal, intermediate, and distal phalanges. The thumb lacks an intermediate phalange.

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