

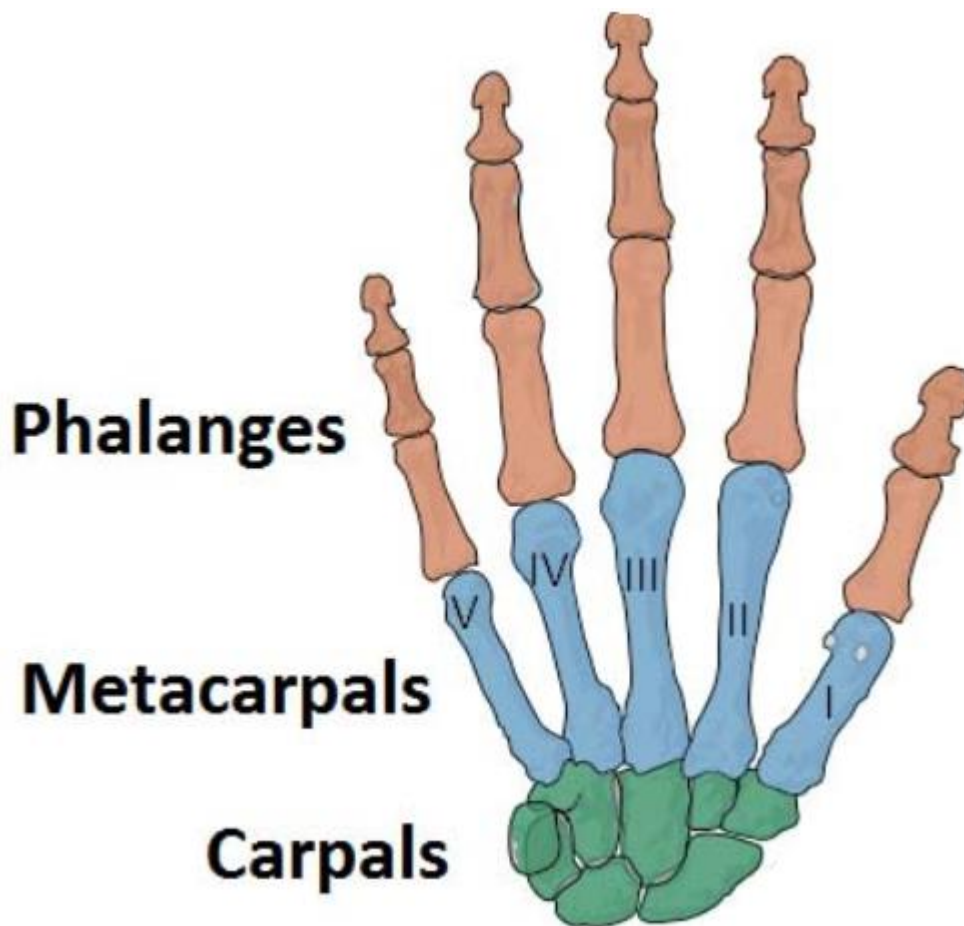
Carpal bones

The carpus is (Greek *Karpos*, wrist) made up of 8 carpal bones, irregularly shaped bones.

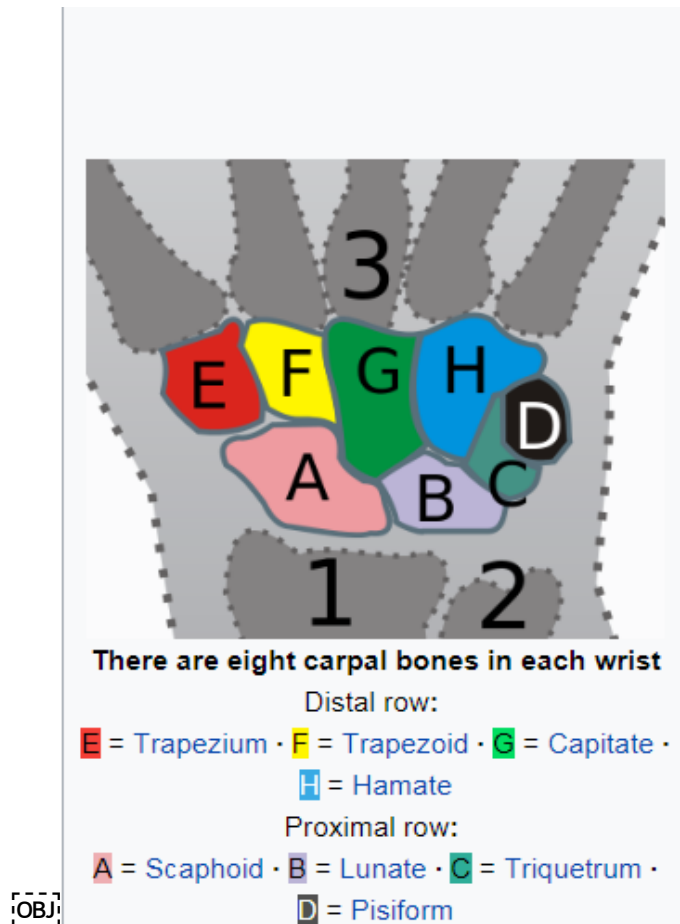
They are organized into two rows; proximal

Distal

These are located in the wrist area.



Proximal row (lateral to medial)	Distal row (lateral to medial)
(A) Scaphoid (Greek boat, wrist)	(E) Trapezium (Greek four sided geometric figure)
(B) Lunate. (Latin moon shaped)	(F) Trapezoid (Greek baby's shoe)
(C) Triquetrum (<i>Latin</i> three cornered)	(G) Capitate (latin head)
(D) Pisiform (a sesamoid bone, formed within the tendon of the flexor carpi ulnaris)	(H) Hamate (has a projection on its palmar surface, known as the 'hook of hamate') (Latin hook)



✓Collectively, the carpal bones form an arch in the coronal plane. A membranous band, the flexor retinaculum, spans between the medial and lateral edges of the arch, forming the carpal tunnel

✓Proximally, the scaphoid and lunate articulate with the radius to form the wrist joint (also known as the 'radio-carpal joint'). In the distal row, all of the carpal bones articulate with the metacarpals.

General points

- 1.) The proximal row is convex proximally, and concave distally.
- 2.) The distal row is convex proximally and flat distally.
- 3.) Each bone has 6 surfaces.
 - i. The palmar and dorsal surfaces are nonarticular, except for the triquetral and pisiform.
 - ii. The lateral surfaces of the two lateral bones (scaphoid and trapezium) are nonarticular.
 - iii. The medial surfaces of the three medial bones (triquetral, pisiform and hamate) are nonarticular.
- 4.) The dorsal(back) nonarticular surface is always larger than The palmar nonarticular surface, except for the lunate, in which the palmar surface is larger than the dorsal.

◆ The superior or proximal, and inferior or distal surfaces are articular, the superior generally convex, the inferior concave; the medial and lateral surfaces are also articular where they are in contact with contiguous bones, otherwise they are rough and tuberculated.

1.Scaphoid

- largest carpal bone of the proximal row
- It lies beneath the anatomical snuff box
- It surrounded on the proximal side by the radius
- On the distomedial side by the trapezoid bone

- On the distolateral side by the trapezium bone
- It articulates with the lunate bone and inferomedially with the capitate bone.
- The blood vessels that supply the carpal bones enter the wrist along the lateral roughened surface of the scaphoid bone.

2.Lunate

- Crescent shaped / half-moon shaped
- That has a large proximal articular surface which relates to the radial bone and its articular disk.
- It sits medially to the scaphoid bone
- superior to the capitate bone and lateral to the triquetral bone.
- It may also sometimes come into contact with the hamate bone at its inferomedial angle.

3.Triquetral bone

- shaped like a pyramid
- from a palmar perspective, its apex points disto-medially towards the pisiform bone, which is positioned upon its palmar facet.

- It sits upon the hamate bone, which is in the distal row of carpal bones and its base faces laterally and communicates with the lunate bone.

4.Pisiform bone

- The most medial proximal carpal bone from a palmar stance.
- The smallest of all the carpal bones
- Classified as a sesamoid bone.
- The pisiform articulates only with the triquetral

5.Trapezium bone

- the first and most lateral of the distal row of carpal bones when the hand is viewed from its palmar surface.
- The trapezium bone is bordered medially by the trapezoid bone
- superiorly by the scaphoid bone.
- Inferolaterally, its main articulation is with the first metacarpal bone via a saddle shaped facet.
- it sometimes also articulates with the second metacarpal bone.

6.Trapezoid bone

- The trapezoid bone may look very small in comparison to the other bones from a palmar aspect
- it is much wider on its dorsal side.
- It communicates via its proximal facet with the scaphoid bone,
- laterally with the trapezium bone,
- medially with the capitate bone
- its distal facet allows it to articulate with the second metacarpal bone.

7.Capitate

- largest of all the carpal bones, both proximally and distally.
- It is surrounded by the lunate bone proximally,
- The third metacarpal bone distally,
- The trapezoid bone laterally
- The hamate bone medially.

8.Hamate bone

- The last of the eight carpal bones and the distal row is the hamate bone.

- It is subcutaneously palpable, due to the hamulus, which is a bony notch on its palmar aspect and curves laterally .

- The hamate bone is surrounded from a proximolateral direction by the lunate bone

- And a proximomedial direction by the triquetral bone.

- Laterally, it communicates with the capitate bone

- it articulates with both the fourth and fifth metacarpal bones.