

Upper Extremity

Translate to your native language

Bone	Literal meaning	Translation
Clavicle	Little key	
Scapula	Shoulder blade	
Humerus	Upper arm / shoulder region	
Radius	Ray or wheel spoke	
Ulna	Forearm / elbow	
Scaphoid	Boat-shaped	
Lunate	Crescent moon	
Triquetrum	Three-cornered	
Pisiform	Pea-shaped	
Trapezium	Table-like quadrilateral	
Trapezoid	Resembling a trapezium	
Capitate	Head-shaped / having a head	
Hamate	Hook-shaped	
Metacarpals	Bones beyond the wrist	
Phalanges	Originally, a military battle line	
Proximal	Nearest	
Middle	Intermediate	
Distal	Farthest / distant	
Sesamoid	Sesame-seed-shaped	

Step-by-step Questions

A. Match

- | | | |
|-------------------------------|-------|---|
| 1. Collarbone | _____ | a. eight in number |
| 2. Shoulder blade | _____ | b. the bone of the arm |
| 3. Humerus | _____ | c. the only bony link between limb and trunk |
| 4. Radius | _____ | d. held against the chest wall by muscles alone |
| 5. Bones of the wrist..... | _____ | e. fourteen in number |
| 6. Bones of the fingers | _____ | f. lies on the thumb side of the forearm |

B. Circle the one correct option within the parentheses in each statement.

- The collarbone is shaped like a flat letter (C, S, L, T).
- Hardening of the collarbone begins (first of all the bones, last of all, at birth, at puberty).
- The part of the bone near the breastbone is convex (forward, backward, upward, downward).
- The rough area near the end at the breastbone holds the ligament that binds the bone to the (first rib, second rib, shoulder blade, neck).
- The collarbone usually breaks at the junction of the (inner and middle, middle and outer, two ends, shaft and joint) thirds.

C. Circle the one correct option within the parentheses in each statement.

- The shoulder blade lies over ribs (1 to 4, 2 to 7, 5 to 10, 8 to 12).
- The deep notch lies near the outer end of the (upper, inner, outer, lower) border.
- The front surface of the blade is (raised, slightly hollow, flat, split).
- The socket of the shoulder is shaped like a (circle, pear, square, saddle).
- Compared with the head that fits it, the socket is (larger, equal, far smaller, deeper).

D. Matching

- | | | |
|---|-------|---|
| 1. Anatomical neck..... | _____ | a. the usual place of a break at the upper end |
| 2. Surgical neck..... | _____ | b. receives the beak of the ulna |
| 3. Groove between the raised parts..... | _____ | c. a shallow narrowing around the edge of the head |
| 4. V-shaped rough area | _____ | d. holds a long tendon of the front muscle of the arm |
| 5. Hollow behind the lower end | _____ | e. for the muscle that lifts the arm to the side |
| 6. Groove behind the inner bump | _____ | f. holds the nerve felt in the little finger |

E. Circle the one correct option within the parentheses in each statement.

1. The ulna lies on the (thumb, little finger, front, back) side of the forearm.
2. The upper end of the ulna is (small, large, absent, rounded) compared with its lower end.
3. The half-moon notch grips the (rounded knob, spool, head of the radius, wrist).
4. The shaft of the ulna becomes (thicker, thinner, flatter, rounder) from above downward.
5. Between the head of the ulna and the wrist bones lies a plate of (bone, fiber cartilage, muscle, fat).

F. Circle the one correct option within the parentheses in each statement.

1. The radius lies on the (thumb, little finger, front, back) side of the forearm.
2. The upper end of the radius is (large, small, four-sided, pointed).
3. The bone that carries the hand at the wrist is the (ulna, radius, both equally, neither).
4. The shaft of the radius is bowed (toward the ulna, away from the ulna, forward, backward).
5. The most commonly broken part of the adult skeleton is the (head of the radius, lower end of the radius, point of the elbow, collarbone).

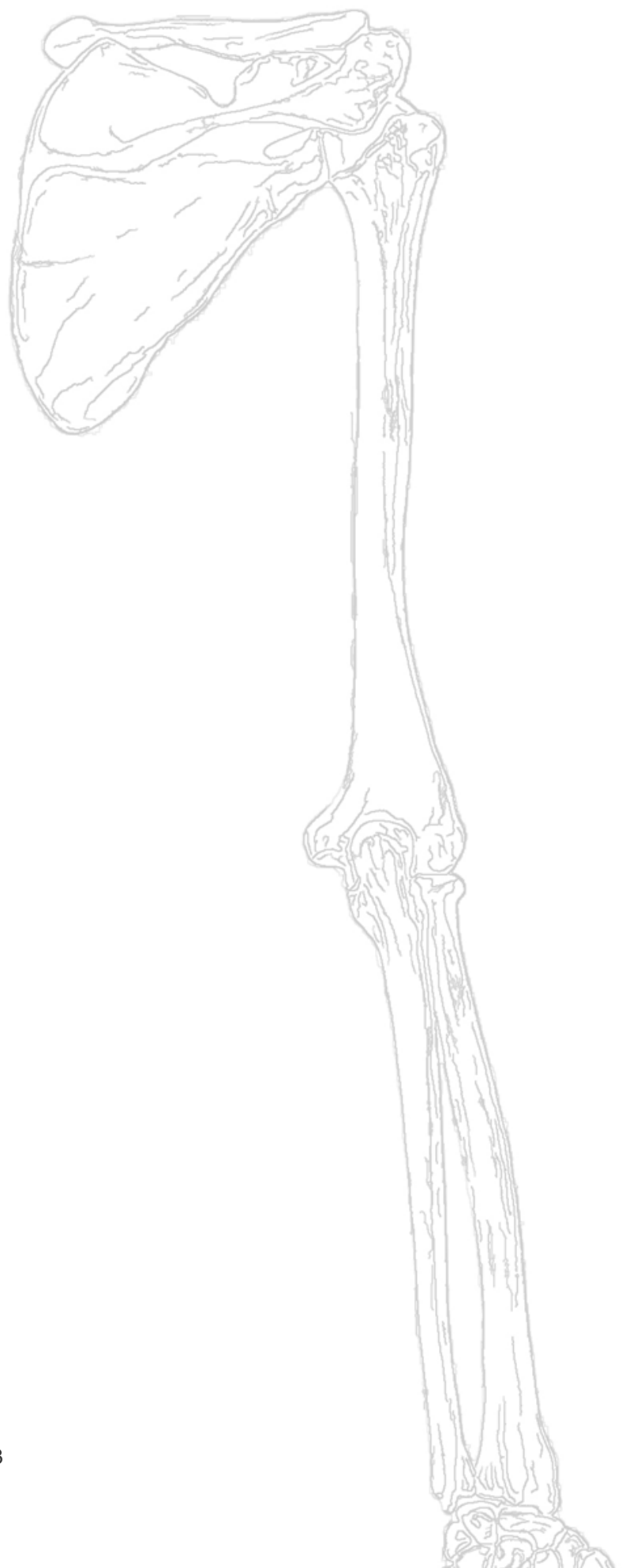
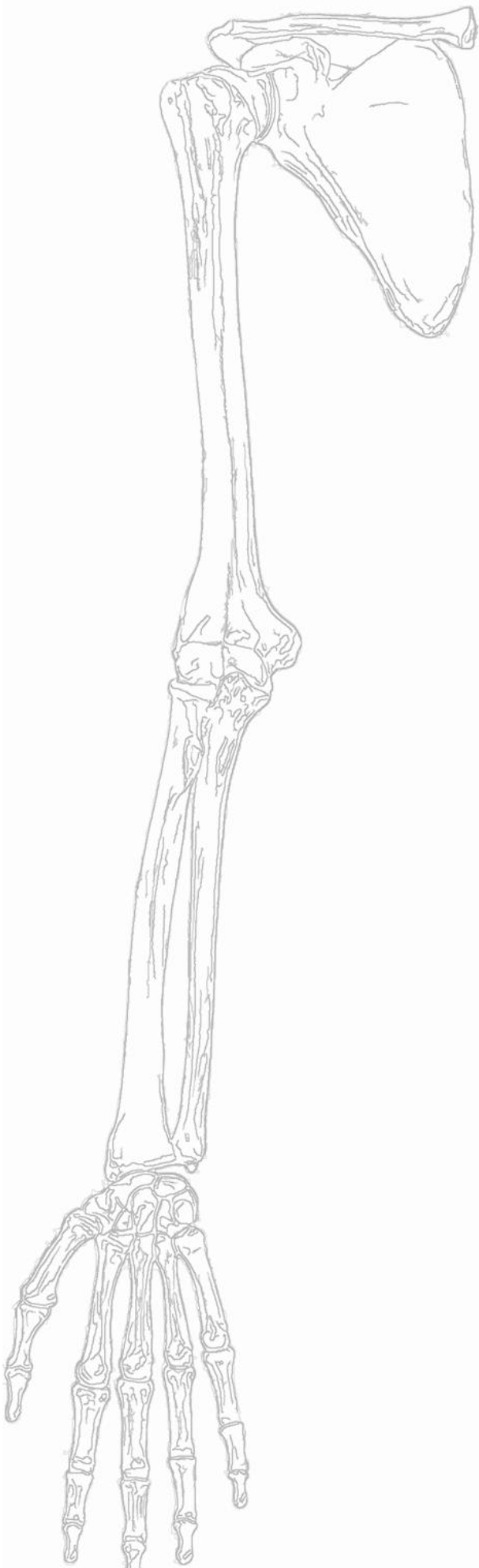
G. Matching.

- | | | |
|---------------------------------|-------|--|
| 1. Boat-shaped bone..... | _____ | a. lies in the middle and is the largest |
| 2. Pea-shaped bone..... | _____ | b. carries a curved projection on the palm side |
| 3. Head-shaped bone..... | _____ | c. the most often broken of the eight |
| 4. Hook-shaped bone..... | _____ | d. turns the gutter into a tunnel |
| 5. Band across the gutter | _____ | e. formed inside a tendon |
| 6. First row..... | _____ | f. meets the radius and the plate of fiber cartilage |

H. Circle the one correct option within the parentheses in each statement.

1. The palm contains (four, five, six, eight) bones.
2. The fingers contain (ten, twelve, fourteen, sixteen) bones.
3. The thumb has (one, two, three, four) bones in its finger part.
4. The base of the first bone of the palm carries a (flat, saddle-shaped, spool-shaped, round) surface.
5. The bones of the palm become shorter toward the (thumb, little finger, wrist, back) side.

Draw and label



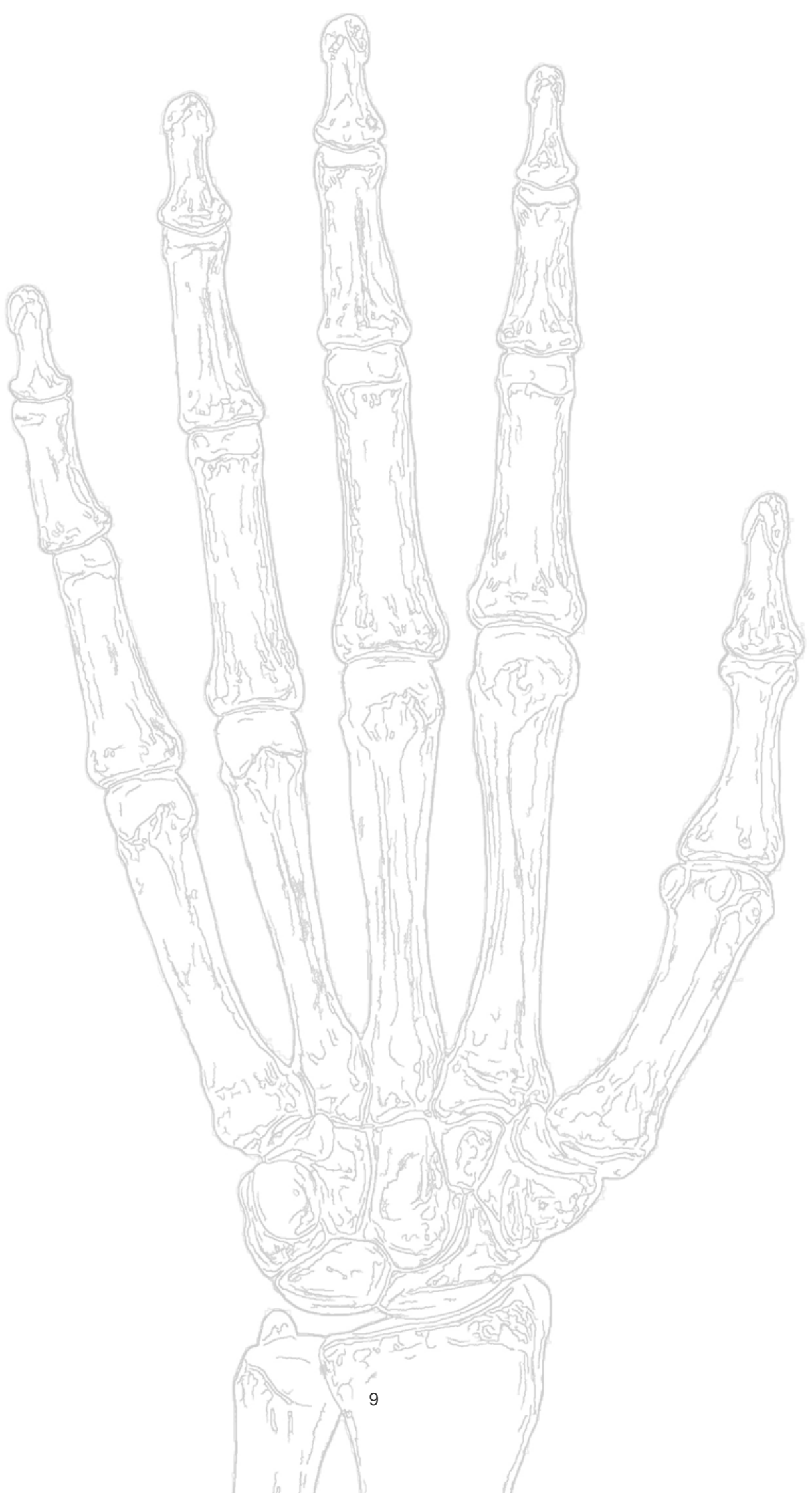












Comparison

Bone	Function	Related landmarks	Notes
Clavicle	Strut that holds the upper limb away from the trunk; transmits forces from the limb to the axial skeleton; the only bony link between upper limb and trunk; shields the subclavian vessels and brachial plexus	Sternal end, acromial end, shaft (body), conoid tubercle, trapezoid line, impression for costoclavicular ligament, groove for subclavius	First bone to ossify (5th–6th fetal week); sternal epiphysis fuses last (~25 years). Palpable along its whole length. Cleidocranial dysostosis; obstetric fractures in newborns
Scapula	Mobile base for the arm: carries the glenoid cavity and gives attachment to 17 muscles; gliding on the thoracic wall (scapulothoracic) adds about one third of arm elevation (scapulohumeral rhythm 2 : 1)	Spine, acromion, acromial angle, coracoid process, glenoid cavity, supra- and infraglenoid tubercles, neck, suprascapular notch, supraspinous / infraspinous / subscapular fossae, medial / lateral / superior borders, superior / inferior / lateral angles	Lies over ribs 2–7; inferior angle at the level of the T VII spinous process, root of the spine at T III. Scapular plane ~30° to the coronal plane
Humerus	Lever of the arm; forms the shoulder joint above and the elbow joint below; attachment for the shoulder and arm muscles	Head, anatomical neck, surgical neck, greater and lesser tubercles, intertubercular groove, deltoid tuberosity, groove for radial nerve, medial and lateral supracondylar ridges, medial and lateral epicondyles, capitulum, trochlea, olecranon / coronoid / radial fossae, groove for ulnar nerve	Humeral torsion ~16° in adults vs ~60° in the newborn. Variants: supracondylar process (can compress the median nerve), supratrochlear foramen
Radius	Carries the hand: articulates with the carpus and transmits ~80% of the axial load at the wrist; rotates around the ulna in pronation and supination	Head with articular fovea and articular circumference, neck, radial tuberosity, interosseous border, ulnar notch, styloid process, dorsal (Lister's) tubercle, carpal articular surface	Radial styloid lies ~1 cm distal to the ulnar styloid. Lister's tubercle is a landmark for dorsal wrist approaches; radial pulse is taken over the distal radius
Ulna	Stable bone of the forearm: forms the main hinge of the elbow with the trochlea; the radius rotates around it	Olecranon, coronoid process, trochlear notch, radial notch, ulnar tuberosity, supinator crest, interosseous border, head, styloid process	Olecranon and both epicondyles lie in a line in extension and form a triangle in 90° flexion: preserved in supracondylar fracture, disturbed in elbow dislocation
Scaphoid	Bridges the proximal and distal carpal rows and stabilises the wrist; main articulation with the radius; part of the radial (scaphoid) column	Tubercle of scaphoid, waist, proximal and distal poles; floor of the anatomical snuffbox	Snuffbox tenderness is the key clinical sign.
Lunate	Keystone of the proximal row and the central (lunate) column; articulates with the radius and the articular disk	Felt dorsally just distal to Lister's tubercle with the wrist flexed	Together with the trapezoid, the least palpable bone of the upper limb
Triquetrum	Ulnar (triquetral) column of the wrist; carries the pisiform; articulates with the articular disk	Palpable just distal to the ulnar styloid process in radial deviation	Triangular
Pisiform	Increases the lever arm of flexor carpi ulnaris; anchors the flexor retinaculum and hypothenar muscles; medial wall of the ulnar canal (Guyon's canal)	Palpable at the base of the hypothenar eminence, at the distal wrist crease	Last carpal bone to ossify (~9–12 years). In the column model it is regarded as a sesamoid, not part of a carpal column
Trapezium	Saddle-shaped surface for the first metacarpal → carpometacarpal joint of the thumb and thumb opposition	Tubercle of trapezium, groove for flexor carpi radialis	Tubercles of trapezium and scaphoid = radial attachment of the flexor retinaculum
Trapezoid	Firm base for the 2nd metacarpal; part of the radial (scaphoid) column	Not palpable	Unremarkable
Capitate	Central pillar of the wrist and axis of wrist motion; carries the 3rd metacarpal; forms the midcarpal joint with scaphoid and lunate	Felt dorsally in the depression proximal to the base of the 3rd metacarpal with the wrist flexed	First carpal bone to ossify (1–3 months)
Hamate	Carries the 4th and 5th metacarpals; the hook forms the ulnar wall of the carpal tunnel and the lateral wall of Guyon's canal	Hook of hamate (palpable deep in the hypothenar eminence, distal and radial to the pisiform)	Deep branch of the ulnar nerve curves around the hook

Bone	Function	Related landmarks	Notes
1st metacarpal (thumb)	Most mobile metacarpal; with the saddle joint it allows opposition, the key movement of grasping	Base, shaft (body), head; two sesamoid bones over the palmar head	Growth plate at the base (in the other metacarpals it is at the head)
2nd–5th metacarpals 4 per limb	Skeleton of the palm; form the longitudinal and transverse arches; 2nd–3rd are rigid (stable central unit), 4th–5th mobile (cupping of the hand)	Base, shaft (body), head (knuckles); styloid process of the 3rd metacarpal	2nd metacarpal is the longest; growth plates at the heads
Proximal phalanges 5 per limb	Base segment of each digit; flexion–extension at the metacarpophalangeal and proximal interphalangeal joints	Base, shaft (body), head (trochlea)	Thumb has only two phalanges (proximal and distal)
Middle phalanges 4 per limb	Middle segment of the 2nd–5th fingers	Base, shaft (body), head	Absent in the thumb
Distal phalanges 5 per limb	Support the fingertip pulp and nail; fine touch and precision grip	Base, shaft (body), tuberosity of distal phalanx	Heberden nodes (osteoarthritis) at the distal interphalangeal joints
Sesamoid bones of the thumb 2 (variable) per limb	Lie in the tendons of flexor pollicis brevis and adductor pollicis at the metacarpophalangeal joint; improve leverage and protect the tendons	Palmar surface of the head of the 1st metacarpal	Further sesamoids occur variably at other metacarpophalangeal joints; the pisiform is the largest sesamoid of the hand