

Frequently Asked Questions – Forearm and Hand

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1. What are the compartments of the forearm and their main functions?

- **Anterior (flexor-pronator) compartment** ? flexes wrist & fingers, pronates forearm.
- **Posterior (extensor-supinator) compartment** ? extends wrist & fingers, supinates forearm.

2. Name the main nerves supplying the forearm.

- **Median nerve** ? main nerve of anterior compartment.
- **Ulnar nerve** ? supplies FCU + medial ½ of FDP.
- **Radial nerve** (and posterior interosseous) ? supplies all extensors.

3. Which muscles are called “work-horse flexors” and “work-horse extensors” of wrist?

- **Flexor carpi radialis** ? work-horse flexor.
- **Extensor carpi radialis longus** ? work-horse extensor.

4. Why is pronator teres called a landmark of cubital fossa?

Because the **median nerve passes between its two heads**, dividing the fossa and serving as an important surface landmark during dissections.

5. Which muscles are responsible for pronation and supination of forearm?

- **Pronation:** Pronator teres & pronator quadratus.
- **Supination:** Biceps brachii & supinator.

6. Name the contents of the carpal tunnel.

- **Nine tendons:** FDS (4) + FDP (4) + FPL (1).
- **One nerve:** Median nerve.

7. What are the boundaries and contents of the anatomical snuffbox?

- **Anterior:** Abductor pollicis longus & Extensor pollicis brevis.
- **Posterior:** Extensor pollicis longus.
- **Floor:** Scaphoid & trapezium.
- **Contents:** Radial artery, cephalic vein, superficial branch of radial nerve.

8. Why is the scaphoid bone clinically important?

- Commonly fractured on fall on outstretched hand.
- **Radial artery crosses its waist ?** risk of **avascular necrosis** of proximal fragment.

9. What structures pass superficial and deep to the flexor retinaculum?

- **Superficial:** Palmaris longus, ulnar nerve & artery, palmar cutaneous branches.
- **Deep:** Median nerve + tendons of FDS, FDP, and FPL.

10. What is the difference between ulnar and radial bursae?

- **Ulnar bursa:** Common synovial sheath for FDS & FDP tendons ? continues into little finger.
- **Radial bursa:** Sheath for FPL tendon ? continues into thumb.
- Both may communicate with **Parona's space** in forearm.

11. How do you test the integrity of flexor digitorum superficialis (FDS)?

Hold all other fingers extended; ask patient to flex one finger at PIP joint ? if normal, that finger flexes alone.

12. How do you test the flexor digitorum profundus (FDP)?

Immobilize middle phalanx; ask patient to flex DIP joint ? movement confirms FDP function.

13. What are the clinical signs of ulnar nerve lesion at wrist?

- Clawing of ring & little fingers.
- **Froment's sign** positive.
- Flattened hypothenar eminence.

14. What are the effects of median nerve injury at wrist?

- Loss of thumb opposition.
- Wasting of thenar eminence ? *Ape-hand deformity*.
- Sensory loss in lateral 3½ fingers.

15. What causes wrist drop?

- **Radial nerve palsy** above elbow or in spiral groove ? paralysis of wrist & finger extensors.

16. What is De Quervain's tenosynovitis?

Inflammation of 1st dorsal compartment tendons (**APL & EPB**) ? pain on lateral wrist; Finkelstein's test positive.

17. What are the major arteries forming the palmar arches?

- **Superficial arch:** Ulnar artery + superficial branch of radial.
- **Deep arch:** Radial artery + deep branch of ulnar.

18. What is Allen's test and why is it done?

A clinical test to check **collateral circulation** between radial and ulnar arteries before **radial artery cannulation or harvest**.

19. What is the main action of lumbricals?

Flex MCP joints and extend IP joints ? "writing position."

20. Differentiate between thenar and hypothenar muscles.

THENAR MUSCLES	HYPOTHENAR MUSCLES
Act on thumb	Act on little finger
Supplied by median nerve (except deep FPB head)	Supplied by ulnar nerve
Responsible for opposition & precision	Aid in grip & cupping of palm

21. What is “claw hand” and what is its anatomical basis?

Hyperextension of MCP & flexion of IP joints of ring and little fingers due to **ulnar nerve palsy** ? loss of lumbricals & interossei.

22. What is “hand of benediction”?

Seen in **median nerve injury at elbow** — patient cannot flex index & middle fingers when making a fist.

23. What is “Ape-hand deformity”?

Flattened thenar eminence with thumb in same plane as fingers due to **median nerve lesion at wrist**.

24. Why is the mid-palmar space clinically important?

Infections of flexor tendons of middle, ring, and little fingers can spread here and further to **Parona's space** in forearm.

25. What is the difference between palmar and dorsal skin of hand?

- **Palmar skin:** Thick, hairless, firmly bound by fibrous septa.
- **Dorsal skin:** Thin, loose, and mobile ? easily distended by edema.