

Viva Voce – Forearm and Hand

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General and Surface Anatomy

1. What are the boundaries of the forearm?

Between **elbow joint** (above) and **wrist joint** (below).

2. Name the bones forming the forearm.

- **Radius** (lateral)
 - **Ulna** (medial)
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3. What is the interosseous membrane?

A fibrous sheet connecting **radius and ulna**, providing:

- Site for **muscle attachment**
 - **Transmission of forces** from hand to humerus
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4. What are the palpable bony landmarks at the wrist?

- **Radial styloid process** (lateral)
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- **Ulnar styloid process** (medial)
 - **Pisiform** (medial anterior)
 - **Scaphoid tubercle** (lateral anterior)
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5. What forms the roof and floor of the anatomical snuffbox?

- **Roof:** Skin and superficial fascia
 - **Floor:** Scaphoid and trapezium bones
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6. Which artery passes through the anatomical snuffbox?

Radial artery

7. What is the clinical importance of the anatomical snuffbox?

- Site for **radial pulse**
 - **Tenderness** in scaphoid fracture
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Muscles of Forearm

8. Name the superficial flexors of the forearm.

“Pass–Fail–Pass–Fail”

Pronator teres, Flexor carpi radialis, Palmaris longus, Flexor carpi ulnaris

9. Which muscle forms the intermediate layer of anterior compartment?

Flexor digitorum superficialis (FDS)

10. Name the deep flexors of forearm.

Flexor digitorum profundus, Flexor pollicis longus, Pronator quadratus

11. What is the nerve supply of FDS and FDP?

- **FDS:** Median nerve
 - **FDP:** Lateral half – Median (AIN), Medial half – Ulnar nerve
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12. Which muscle is known as the “work-horse of pronation”?

Pronator quadratus

13. Which muscle is known as the “work-horse of extension”?

Extensor carpi radialis longus

14. What is the nerve of the posterior compartment of forearm?

Radial nerve (via posterior interosseous branch)

15. Which muscle is an exception—anterior in position but supplied by radial nerve?

Brachioradialis

16. What is the common site of origin of superficial extensors?

Lateral epicondyle of humerus

17. Name the deep extensors of forearm.

Supinator, Abductor pollicis longus, Extensor pollicis brevis, Extensor pollicis longus, Extensor indicis

Flexor and Extensor Retinacula

18. What is the function of the flexor retinaculum?

- Converts carpal groove into **carpal tunnel**
 - Prevents “bow-stringing” of flexor tendons
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19. What are the contents of carpal tunnel?

- **Median nerve**
 - **9 tendons:** 4 FDS, 4 FDP, 1 FPL
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20. What is the function of the extensor retinaculum?

Prevents “bow-stringing” of extensor tendons during wrist extension.

21. Name the structures in first dorsal compartment.

Abductor pollicis longus & Extensor pollicis brevis

22. What is De Quervain's disease?

Tenosynovitis of tendons in the **first dorsal compartment** (APL & EPB).

Intrinsic Muscles of Hand

23. Name the thenar muscles.

Abductor pollicis brevis, Flexor pollicis brevis, Opponens pollicis, Adductor pollicis

24. Name the hypothenar muscles.

Abductor digiti minimi, Flexor digiti minimi brevis, Opponens digiti minimi

25. What are lumbricals and what is their action?

- Arise from FDP tendons, insert into extensor expansions.
 - **Flex MCP** and **extend IP joints**.
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26. What are the interossei and what is their function?

- **Palmar (3)** ? ADduct fingers (**PAD**)
 - **Dorsal (4)** ? ABduct fingers (**DAB**)
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27. Which nerve supplies the lumbricals?

1st & 2nd – Median nerve

3rd & 4th – Ulnar nerve

28. Which muscles are supplied by both median and ulnar nerves?

Flexor digitorum profundus and Flexor pollicis brevis (deep head).

Arteries and Nerves of Hand

29. What are the main arterial arches of the hand?

- **Superficial palmar arch:** mainly ulnar artery
 - **Deep palmar arch:** mainly radial artery
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30. What test is used to check patency of these arches?

Allen's Test

31. What are the contents of Guyon's canal?

Ulnar nerve and ulnar artery

32. What is the nerve supply of adductor pollicis?

Deep branch of ulnar nerve

33. What is the chief sensory nerve of hand?

Median nerve – supplies lateral 3½ digits on palmar side.

34. Which nerve lesion causes "claw hand"?

Ulnar nerve lesion at wrist.

35. Which nerve lesion causes "ape-hand deformity"?

Median nerve lesion at wrist.

36. Which nerve lesion causes "wrist drop"?

Radial nerve lesion (spiral groove or posterior interosseous nerve).

37. What is the clinical significance of Parona's space?

Acts as a **communication pathway** between **mid-palmar/thenar spaces** and the **forearm** ?
pus may spread to forearm.

38. How would you test ulnar nerve integrity in hand?

- Ask patient to hold a paper between fingers ? **interossei test**.
 - **Froment's sign** positive if thumb flexes at IP joint.
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39. How do you test median nerve in the hand?

- Ask to **oppose thumb** to little finger.
 - **Ape-hand** deformity indicates loss of opposition.
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40. What is the sensory area supplied by the radial nerve in hand?

Dorsum of hand – **lateral side and base of thumb**.

Clinical Viva and Maneuvers

41. What is Finkelstein's test?

Pain on ulnar deviation of wrist with thumb flexed inside fist ? **De Quervain's tenosynovitis**.

42. What is Froment's sign?

Flexion of thumb IP joint when gripping paper ? paralysis of **adductor pollicis** (ulnar nerve palsy).

43. What is the "OK" or "Pinch" sign?

Inability to flex thumb IP and index DIP joints ? **Anterior interosseous nerve lesion.**

44. What is the “writing position” of fingers?

Lumbrical action: MCP flexion + IP extension.

45. What is the cause of “trigger finger”?

Thickening of fibrous sheath of **flexor tendons** causing locking during flexion.

46. What is the difference between tennis and golfer’s elbow?

TENNIS ELBOW	GOLFER’S ELBOW
Lateral epicondyle	Medial epicondyle
Extensor origin	Flexor origin
Pain on extension	Pain on flexion

47. Why is scaphoid fracture dangerous?

Because the **radial artery** supplies its proximal fragment ? risk of **avascular necrosis.**

48. What is a “claw hand” deformity?

Hyperextension of MCP + flexion of IP joints in ring & little fingers ? due to **ulnar nerve palsy.**

49. What is a “hand of benediction”?

When trying to make a fist, **index and middle fingers remain extended** ? **median nerve injury at elbow.**

50. What is the functional position of hand?

Slight wrist extension, MCP flexion, and IP joint extension – **optimal for power and precision grip.**