

# RADIAL NERVE (C5 C6 C7 C8 T1). Largest nerve of upper limb

# Nerve of posterior compartment of arm & forearm.

Origin → C5 C6 C7 C8 T1 → continuation of posterior cord of brachial plexus.

in axilla → lies posterior to 3rd part of axillary artery.

branches in axilla (3).

① posterior cutaneous nerve of arm → sensory to skin on back of arm upto elbow.

② Nerve to long head of biceps.

③ Nerve to medial head of biceps.

Arm It enters Posterior compartment through intermuscular space - lower triangular space.

↓  
enters posterior compartment of arm.

↓  
lies in spiral groove.

Branches in spiral groove (5).

① lower lateral cutaneous nerve of arm → sensory to lateral surface of arm upto elbow.

② posterior cutaneous nerve of forearm → sensory to skin on <sup>strip of</sup> middle of forearm upto wrist.

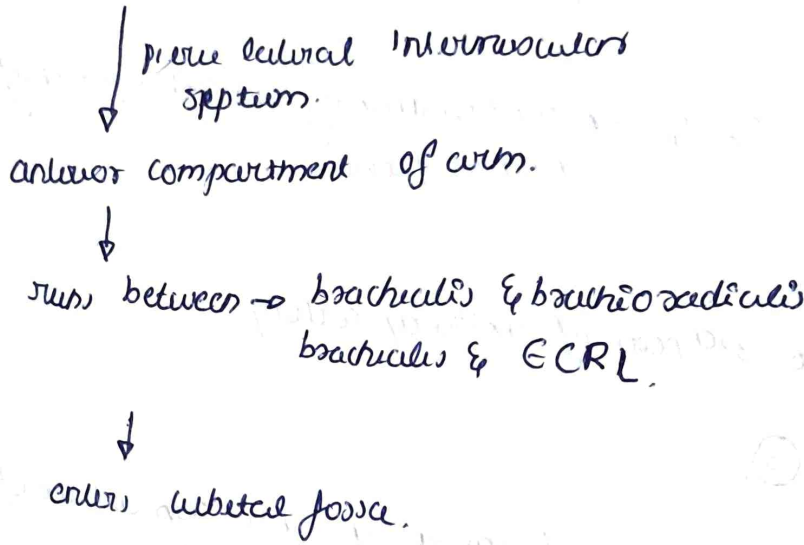
③ Nerve to lateral head of biceps.

④ Nerve to medial head of biceps.

⑤ Nerve to anconeus.

Anterior compartment of arm.

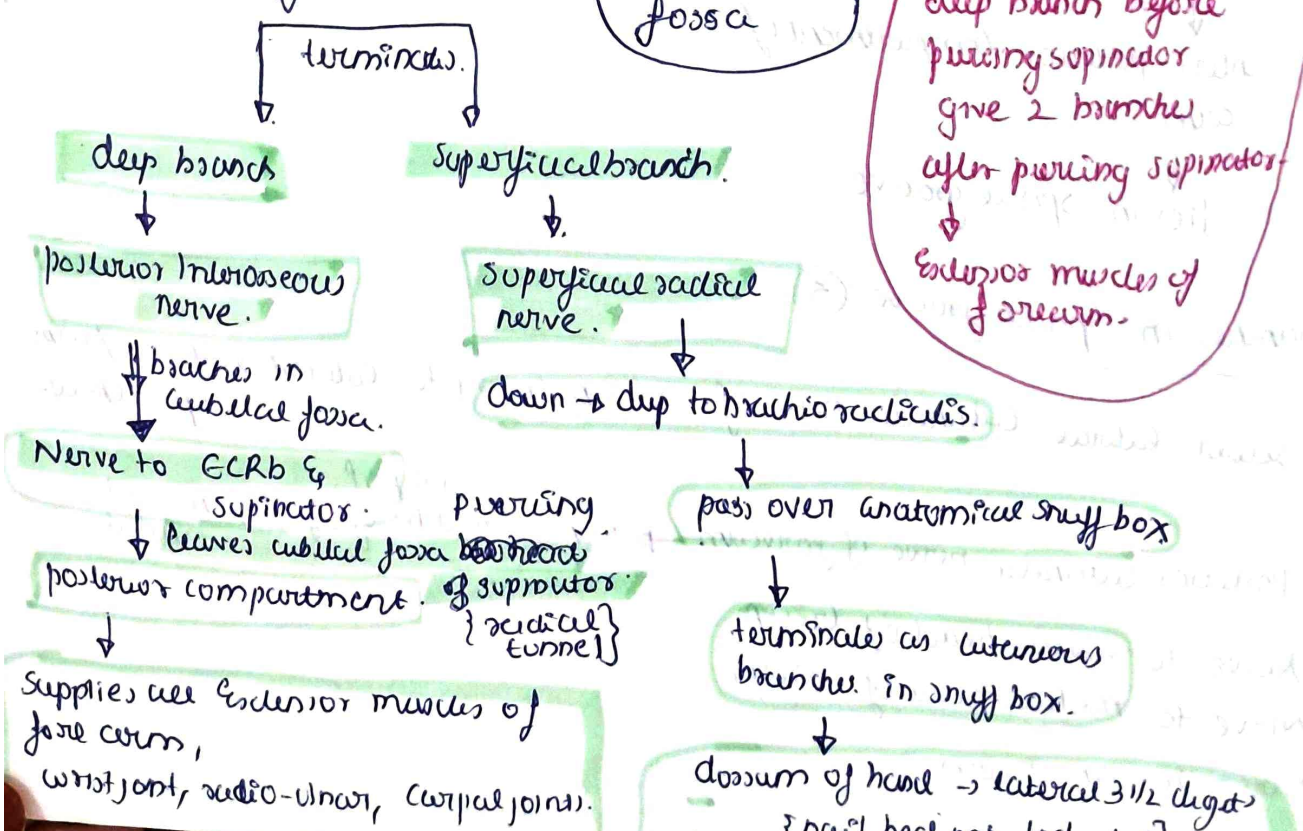
- @ lower end of spiral groove.



Branches → In anterior compartment above lateral condyle of arm.

- ① Nerve to brachialis
- ② Nerve to brachioradialis
- ③ Nerve to ECRL.

@ level of lateral condyle. In cubital fossa



deep branch before piercing supinator give 2 branches after piercing supinator → extensor muscles of forearm.

# Injuries

v v imp

## Sites

① In axilla

→ due to crush → ① Crutch palsy

### Motor loss

- loss of extension of elbow. → due to biceps paralysis
- wrist extension loss → paralysis of wrist extension of forearm. → ② wrist drop ↓ due to unopposed flexor actions.
- digits extension loss
- loss of supination in extended elbow. { in flexed → biceps }

### Sensory loss

- posterior skin of arm
- posterior narrow strip of forearm
- dorsum of hand → lateral 3 1/2 digits → involved on palm. } look at last figure.

② In radial groove

- ① midshaft humerus fracture
- ② wrongly placed intermuscular injection
- ③ Saturday night palsy. ★

- ⇒ wrist drop → loss of extension of wrist & fingers
- ⇒ loss of supination in extended arm.
- ⇒ ~~wrist~~ Extension of elbow { other branches in axilla to biceps }
- ⇒ Sensory loss → lateral skin on arm.  
posterior thin strip → forearm  
dorsum of hand →

## @ elbow

Radial Tunnel Syndrome.  $\Rightarrow$  injury @ radial tunnel

- $\Rightarrow$  No wrist drop
- $\Rightarrow$  loss of finger extension.
- $\Rightarrow$  pain over extensor aspect of forearm.

## PIN syndrome

- no loss of finger extension. { no problem to ECRL & ECRB }
- even in complete PIN palsy
- no pain presenting.

Distinction between PIN & RTS.

	PIN	RTS
$\rightarrow$ finger extension	✓	X
$\rightarrow$ pain.	X	✓+++

1 DK where is the site for PIN &

RTS exactly?

Axilla.

PCN Forearm.

long head of biceps.

medial head

lateral intermuscular septum.

brachialis

ECRL

elbow joint  
brachioradialis.

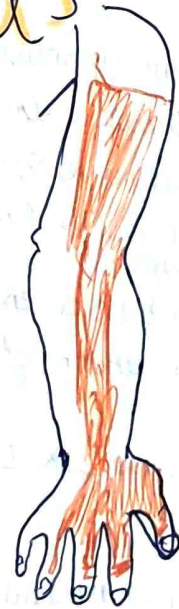
supinator.

superficial.

dup

Forearm extension.

No Nail Beds.



BR

BPL

EPB

EPL.

Side of forearm  
side of dorsum.  
hand & lateral 3 1/2 digits  
except nail beds.