Week 5 Anatomy: Forearm

ANTERIOR COMPARTMENT

SUPERFICIAL MUSCLES (4)

All flexors supplied by median nerve except flexor carpi ulnaris & medial ½ of Flex digitorum profundus.

ORIGIN = medial epicondyle

FCU long origin from ulna

+ coronoid process

median n. goes b/w PT heads then deep to FDS

Flexor carpi radialis
flexion + abduction
(median n.)

Pronator Teres
pronation
(median n.)
goes b/w heads.

INS: mid shaft of radius

2 heads
- medial epicondyle
- coronoid proc (ulna)

Inserts on lateral convexity of radius
medial border of cubfossa

Palmaris Longus
Absent in 15% people
(median n.)

Flexor carpi ulnaris
(ulnar n.)
ulnar nerve goes b/w FCU heads

THROUGH FLEXOR RETINACULUM
INS: Base of metacarpals 2+3

INS: pisiform

INS: flexor retinaculum

Left forearm

INTERMEDIATE COMPARTMENT (1)

origin #1 medial epicondyle

origin #2 radius

Flexor Digitorum Superficialis

2 Heads — median n. + ulnar artery pass through

(median n.) goes under + supplies

Flexion:
- MCPJs
- PIPJs
- Wrist

Splits to 4 tendons @ wrist

through the carpal tunnel

INS: middle phalanges of 4 fingers

DEEP MUSCLES (3)

ORIGIN: Ulna + interosseous membrane

Flexor Digitorum Profundus

Splits to 4 tendons @ wrist through CT

ORIGIN: Ant. surface of radius + interosseous membrane

Flexor Pollicus Longus

Flexes IPJ + MCPJ of the thumb

(median n.)

via flexor retinaculum carpal tunnel

INS: Base of distal phalanx of the thumb

Pronator Quadratus

ORIGIN: Ant surface of ulna
INS: Ant surface of radius
(median n.)

medial ½ ulnar n.

lateral ½: anterior interosseous branch of median n.

INS: distal phalanges

Week 5 Anatomy: Forearm

Extensor / posterior compartment

Superficial

(Flexion)
Brachioradialis
RADIAL NERVE GOES THROUGH
ORIGIN: lateral supracondylar ridge of humerus
(radial n.)

radial n.)
tensor carpi adialis Long / Brev)
supracondylar ridge
lateral epicondyle
aten to etacarpals -+3
tend + ABduct wrist.
Attaches to tal radius, t before the yloid process

Lateral epicondyle.
(tennis elbow)

Extensor digitorum
ORIGIN: Lat epicondyle
Ext @ MCP + IPJs.
(radial n. deep)
~~*in post to n.*~~

Anconeus: lat epi → post/lat olecranon.
Extends + stabilises elbow
Abducts ulna during pronation
(radial n.)

ECRB supplied by the post interosseous nerve ✓

Extensor carpi ulnaris
O: lateral epicondyle
I: Base of 5th MC
A: ext + adduct wrist
(deep radial n.)
~~*post interosseous*~~

Extensor digiti minimi
O: lateral epicondyle
I: extensor hood
A: ext little finger + wrist
(deep radial n.)
~~*post interosseous*~~

INS: ~~lateral~~ Extensor hood of each finger

Deep

ORIGIN #1 lat epicondyle
ORIGIN #2 post surface of ulna

Supinator
Floor of cubital fossa
2 heads: deep branch of radial nerve passes b/w
Inserts on post radius.
Supinates the forearm
(deep b. of radial n.)
post interosseous

Abductor pollicis longus
lat border of snuffbox
O: interosseous membrane
A: lateral base 1st MC
(post. inteross b. radial n.)

Extensor Pollicis
Brevis: post radius to base of prox phalanx
Ex CMC + MCPJs.

Longus:
med border of snuffbox
O: post ulna
I: distal phalanx
Extends all of thumb.
(radial n.)

Extensor Indicis
O: post ulna + IOM distal to EPL
I: Extensor hood.
(radial n.)

WRIST DROP

Radial nerve injury proximal to elbow
eg axilla / humeral shaft #
paralysis of extensors
wrist flexors unopposed (median)

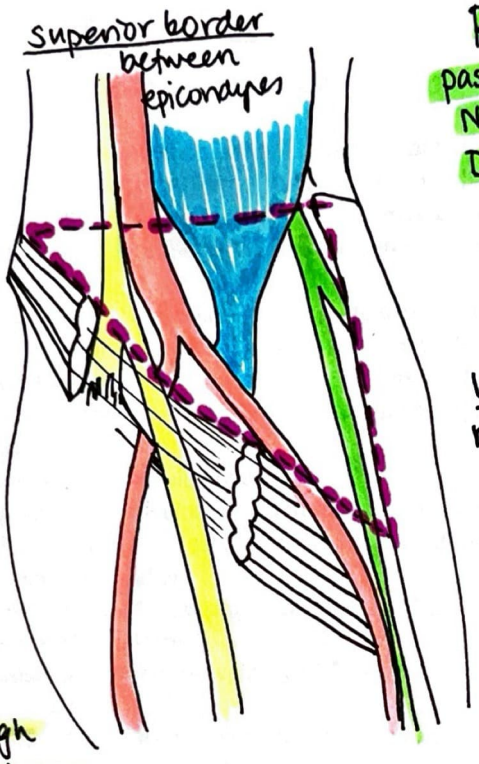
EPL to base of distal phalanx
Brevis to base of prox phalanx
Superficial branch of radial nerve
radial artery lying over scaphoid
Abductor pollicis longus to base of 1st MC
Extensor pollicis brevis

eek 5 Anatomy - forearm.

The Cubital Fossa.

BICEPS TENDON
Passes through, attaches to radial tuberosity
~~at~~ just distal to radial neck.

~~RADIA~~
BRACHIAL ARTERY
Bifurcates to radial & & ulnar at the APEX
divides @ radial neck.



RADIAL NERVE
passes under brachioradialis.
Not always inside but nearby
Divides to deep + superficial branches.

medial border
Lateral border of pronator teres

Lateral border
medial border of brachioradialis

MEDIAN NERVE
Leaves cubi fossa through the 2 heads of pronator teres

Roof: skin + fascia reinforced by the bicipital aponeurosis.
cubital vein in the roof

The Anatomical Snuffbox (Radial Fossa) — BREVIS SANDWICH

~~enter~~ Ulnar (medial) border
Extensor pollicus longus tendon

Contents
- Radial artery - crosses the floor
- Superficial branch of radial n.
- cephalic vein (begins in roof

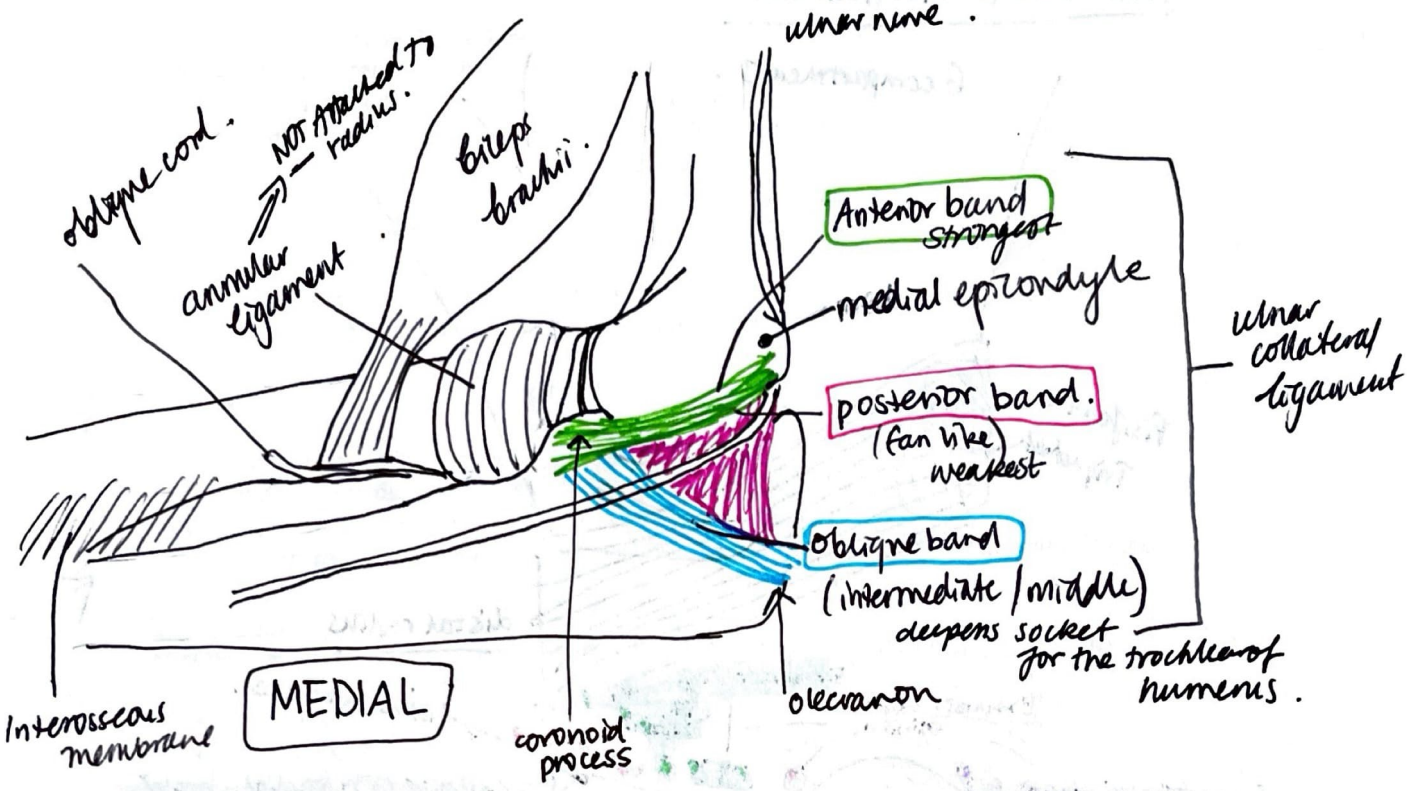
Floor - carpal bones; scaphoid + trapezium
Roof - skin.

also palpable
- styloid
- base of 1st MC.

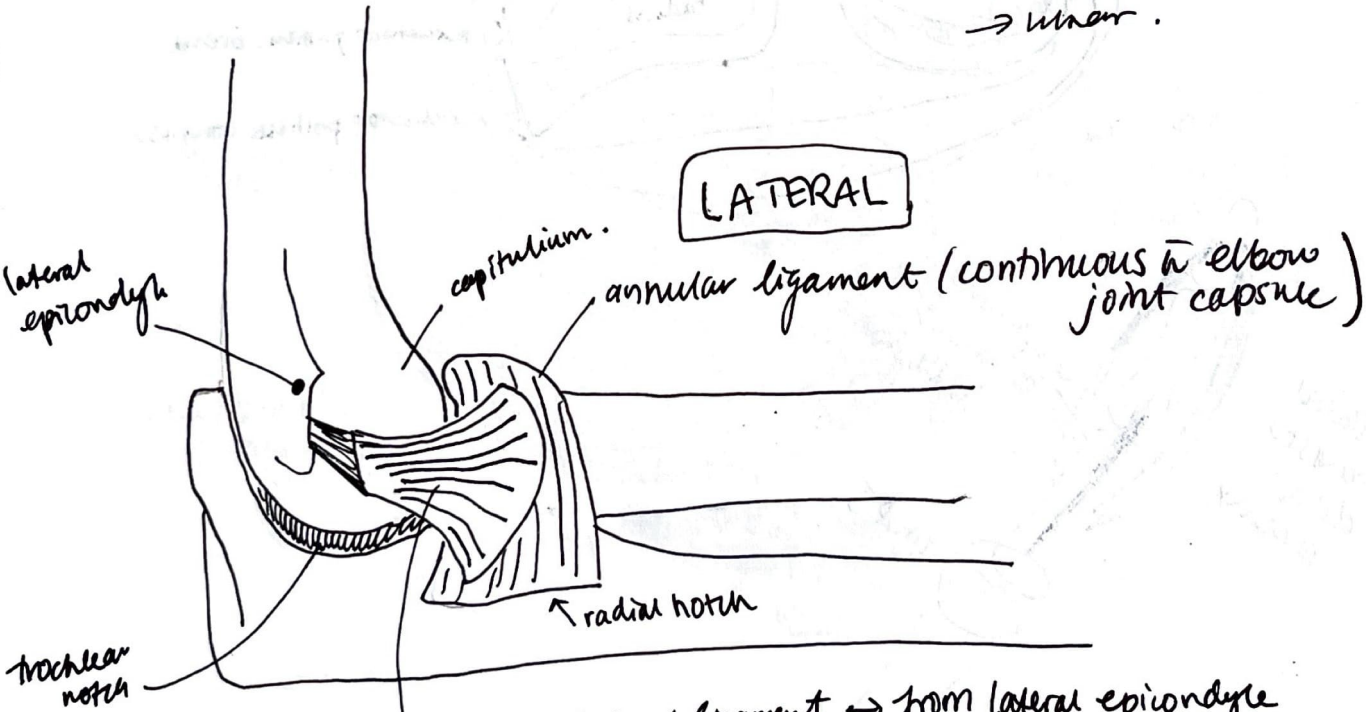
Radial (lateral) border
Extensor pollicus brevis
+ Abductor pollicus

Proximal border
Styloid process of radius

ELBOW LIGAMENTS – MCL & LCL thickenings of joint capsule.



Nerves → MSK cut
→ radial
→ ulnar.

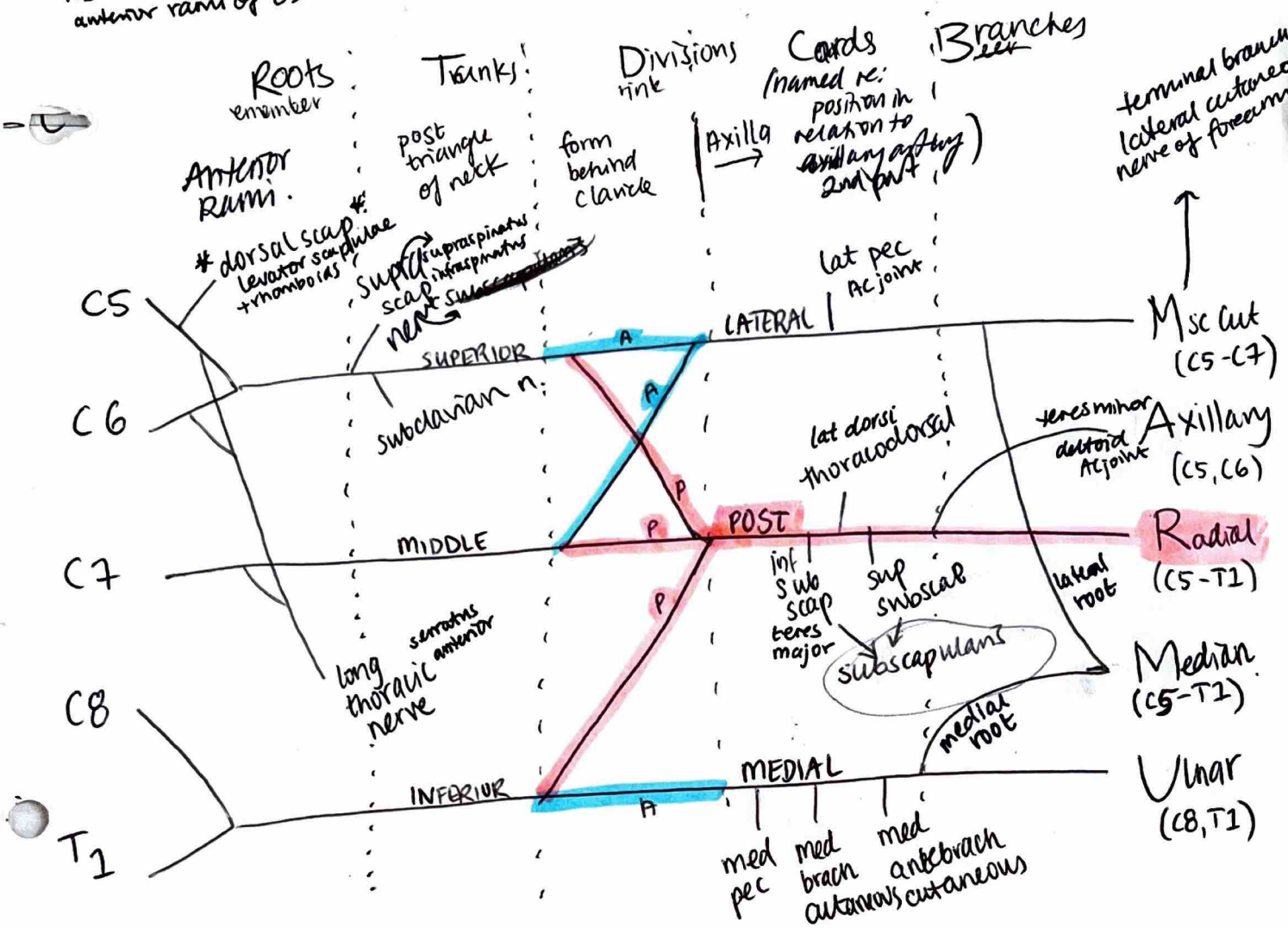


→ from lateral epicondyle of humerus, blends w annular ligament of the radius.

NB: capsule not attached to the radius or ulna.
Attaches to the annular lig?

* Brachial Plexus * WK 7 Anatomy.

NB cervical plexus is anterior rami of C1-C4

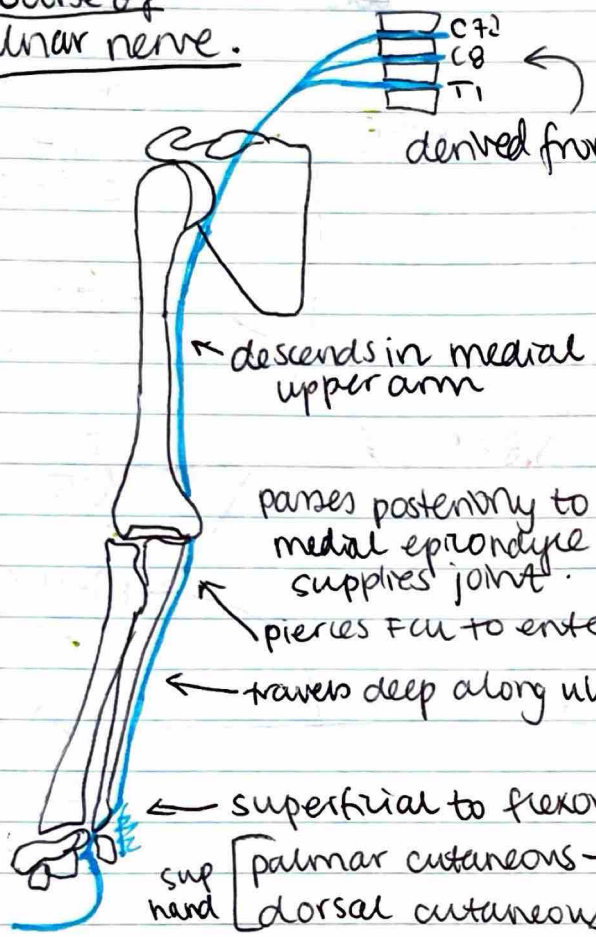


* pec major is the only muscle that can test all roots (also can assist w respiration)

* long thoracic nerve supplies serratus anterior

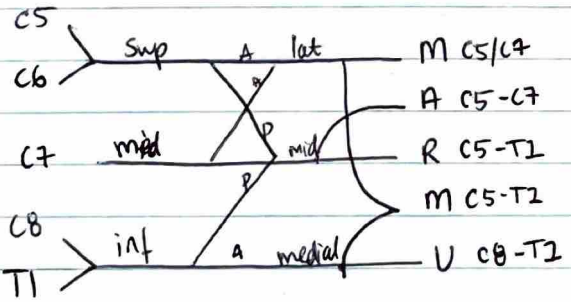
* Radial nerve is largest branch, crosses lower border of axillary wall on tendon of lat dorsi.
→ occupies the lower part of the radial groove.

course of ulnar nerve.

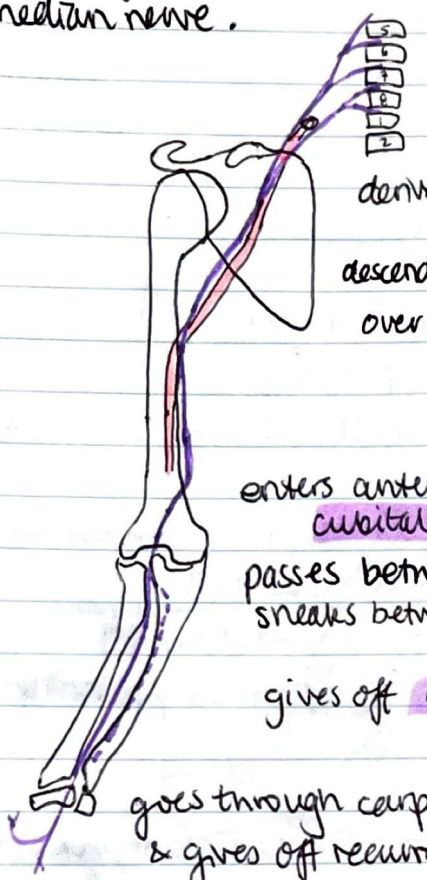


deep hand - most intrinsic hand muscles

R T D C B



Course of the median nerve.



fibres from C5 - T1

derived from medial + lateral cords

descends laterally to brachial artery then crosses over to descend medially

enters anterior compartment via cubital fossa.

passes between 2 heads of pronator teres

sneaks between FDP and FDS

innervates: pronator teres, FCR, Palmaris longus, FPL, FDP (lateral), FDS.

gives off anterior interosseus & palmar cutaneous

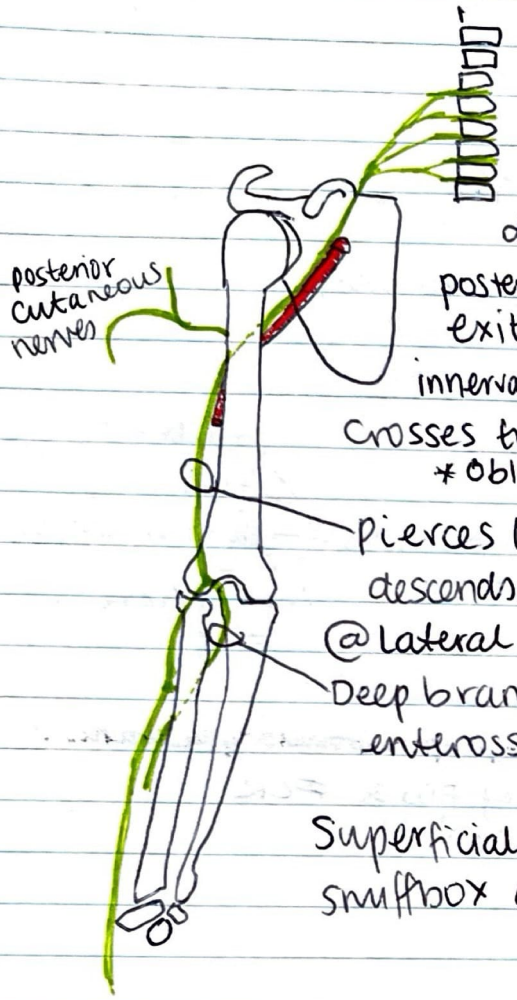
↳ Passes b/w FDP + FPL, deep to pronator quadratus.

goes through carpal tunnel b/w tendons of FDS & FCR & gives off recurrent branch (thenar muscles) & digital branch (2 + 3 lumbricals)

VIVA Q: what structures are supplied by median nerve? 8 to pass

- Articular branches to elbow joint
- Muscular branches to PT, FCR, PL, FDS.
- Anterior interosseus nerve supplies Pronator Quad, FPL, half of FDP,
  - Articular branches to wrist joint.
- Palmar cutaneous branch to skin of lateral palm
- Recurrent branch to thenar muscles → APB, OP, FPB.
- Palmar digital branches to lumbricals 1 & 2 + cutaneous supply

Course of the radial nerve



Fibres from C5 - T1

derived from posterior cord

posterior to axial artery

exits axilla via triangular interval

innervates long + lateral heads of triceps

Crosses the humerus in RADIAL GROOVE / spiral groove.
* Obliquely *

pierces lateral intermuscular septum

descends between brachioradialis + brachialis.

@ lateral condyle in cubital fossa → divides

Deep branch pierces supinator + becomes posterior interosseous nerve.

Superficial branch runs under brachioradialis, goes to snuffbox & innervates dorsum of hand.

Axillary nerve - comes off the posterior cord as the other terminal division.

supplies the glenohumeral joint, deltoid, teres minor.

Sensory to skin patch over inferior aspect of deltoid.

VIVA - major branches / supply in the arm of radial nerve.

Triceps - long, lat, medial heads.

Post cutaneous

Anconeus

Lat cutaneous n. of arm

Brachioradialis

Ext carpi radialis longus

lateral brachialis

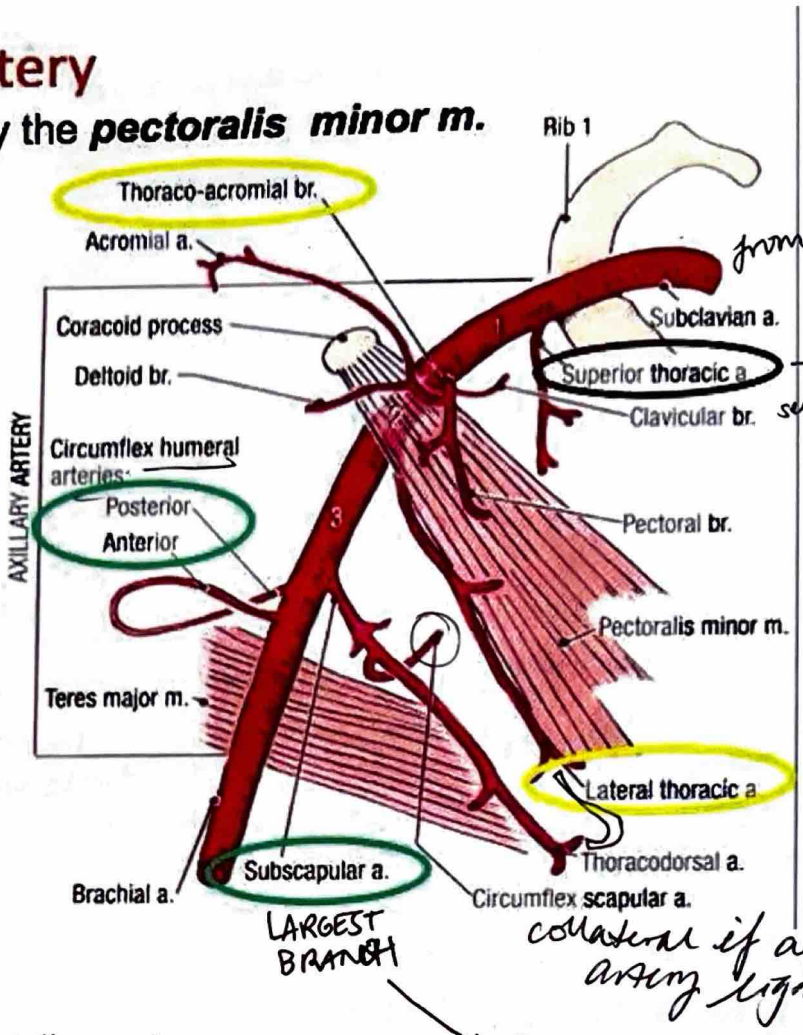
Elbow joint.

Post IO nerve → ECRB, supinator, ED/EDM, ECU, APL, EPL, EPB, EI.

Axilla: Axillary Artery

3 segments, defined by the ***pectoralis minor m.***

- ***1st segment = 1 branch:***
  - superior thoracic a.
  (supplies 1st 2 intercostal spaces)
- ***2nd segment = 2 branches:***
  - -thoracoacromial a.
  - -lateral thoracic a.
- ***3rd segment = 3 branches:***
  - -subscapular a.
    - -circumflex scapular a
    - -thoracodorsal a.
  - -post. humeral circumflex a.
  - -ant. humeral circumflex a.



from 3rd part of subclavian a.

1st + 2nd intercostals & sup. serratus anterior

LARGEST BRANCH

collateral if axillary artery ligated!

follows lateral border of scapula & anastamoses with lateral thoracic & intercostal arteries + DORSAL SCAPULA A

• Lies laterally to the axillary vein.