

MEGA BLOCK 1:

Spine:

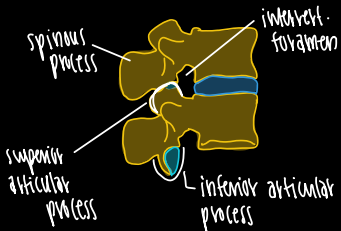
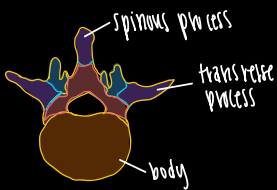
vertebrae functions:

- protects spinal cord $\hat{=}$ nerves
- supports weight of body
- provides rigid yet flexible axis
- facilitates posture $\hat{=}$ locomotion (movement)

vertebrae regions:

*breath at 7
lunch at 12
2 dinner at 5
snack at 4 bed at

vertebrae structure:



regional vertebrae characteristics:

- cervical (neck) = C1-C7
- thoracic (rib articulation) = T1-T12
- lumbar (lower back) = L1-L5
- sacral (fused) = S1-S5
- coccygeal = Co1-Co4

- body: weight bearing
- arch: supports spinal cord $\hat{=}$ forms vertebral column
 - laminae
 - pedicles

superior + inferior vert notch = intervert. foramen
 ↳ where spinal n. exit

- processes: muscle $\hat{=}$ ligament attachment
 - spinous = 1
 - transverse = 2
 - superior/inferior articular: 2 $\hat{=}$ 2

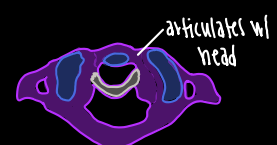
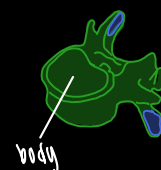
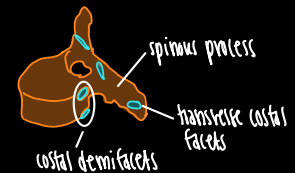
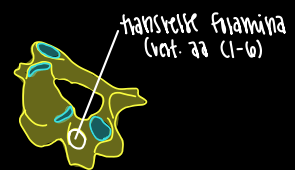
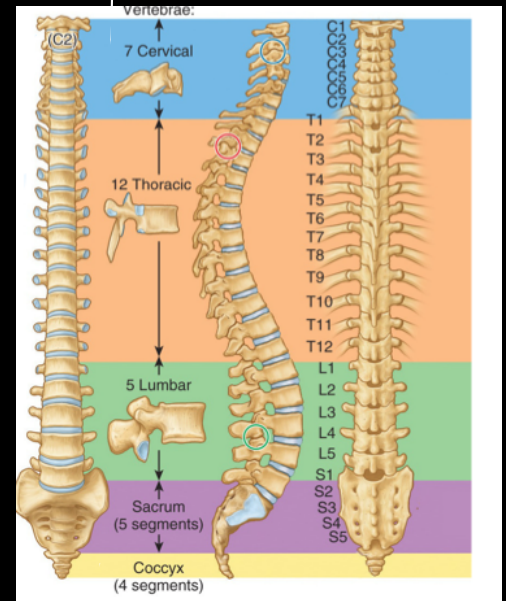
- cervical:
 - small body w/ concave/convex structure
 - bifid spinous process
 - transverse foramina

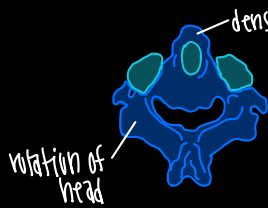
- thoracic:
 - heart shaped body
 - long spinous process
 - costal demi facets $\hat{=}$ } rib articulation
 - transverse costal facets

- lumbar:
 - large, kidney shaped body
 - triangular vertebral foramen

special vertebrae:

- Atlas (C1):
 - no body
 - transverse ligament that holds C2





- Axis (C2): -axis
-odontoid process (dens)

- Vertebra prominens (C7): long = prominent spinous process



- Sacrum: 5 fused elements; triangle shaped
↳ transmits weight to pelvic girdle

- Coccyx: 4 fused (could be 3-5)
↳ ★ non-weight bearing ★

• vertebral column curvatures:

- primary curvatures: thoracic = sacral
↳ anterior concavity

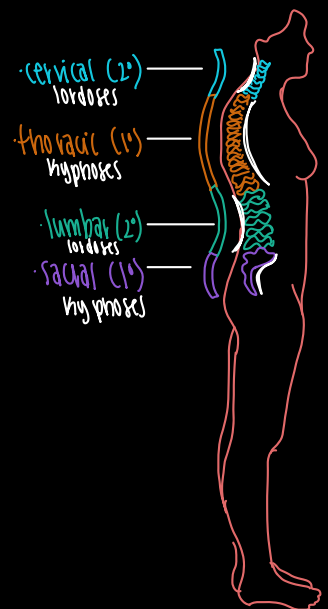
★ KYPHOSSES ★

★ present in fetus ★

- secondary curvatures: cervical = lumbar
↳ posterior concavity

★ LORDOSSES ★

★ prominent around 1st year; infant raises head; starts to walk

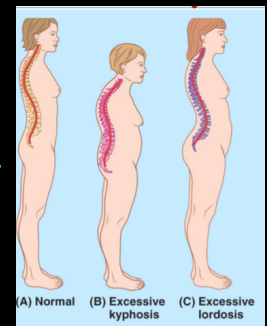
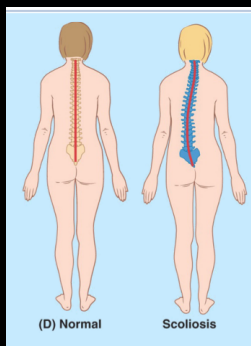


• abnormal curvatures:

- excessive kyphosis: hump / hunchback
↳ osteoporosis or trauma

- excessive lordosis: sway / hollow back
↳ excess anterior weight
• pregnancy = obese

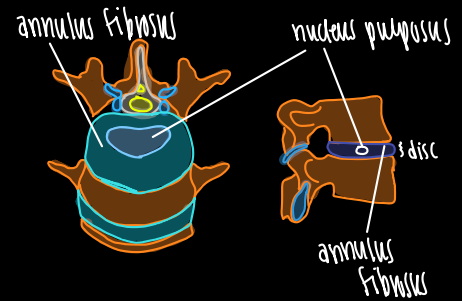
- scoliosis: lateral curvature
↳ functional: rim imbalance
structural: hemivertebra, trauma



• joints of vertebral bodies:

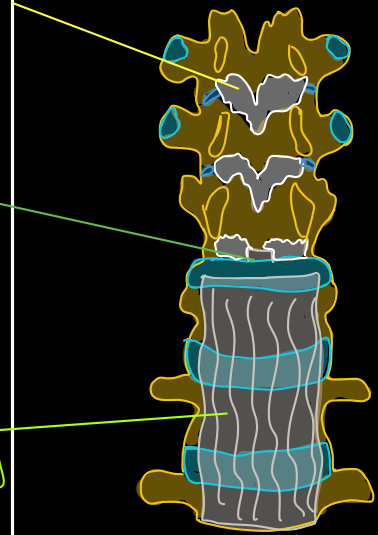
Intervertebral discs

- annulus fibrosus: - fibrocartilaginous ring
- THIN posteriorly, THICK anteriorly
* limits PROXIMATE vertebrae *
- nucleus pulposus: - more cartilage = semifluid
- provides disc flexibility



Ligaments of IV joints

- ligamentum flavum: joins adjacent lamina
→ resists abrupt flexion = laminae separation
- posterior longitudinal ligament: - narrow = weak
- attaches to IV discs
→ resists some hyperflexion
- anterior longitudinal ligament: - broad = strong
- covers anterior body to IV foramina
→ resists *hyperextension*



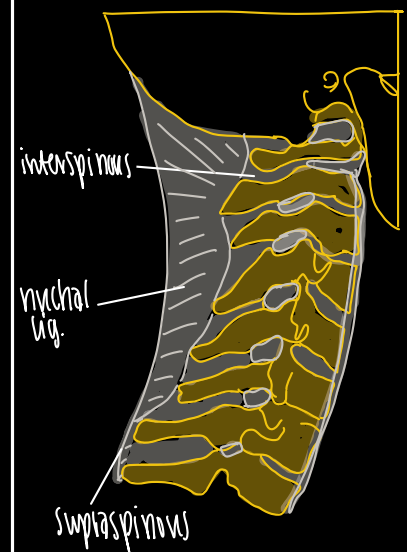
Accessory Ligaments of IV Joints

- interspinous ligament (thin, membranous)
- supraspinous ligament (thick, fibrous)
→ connect adjacent spinous processes

* limits flexion *

- nuchal ligament: - fibroelastic tissue, thick band
→ from occipital protuberance to cervical spinous process

* provides muscle attachment = supports head *



* behind vert = limits FLEXION
* in front of = limits EXTENSION

* hyper EXTENSION = ALL

* FLEXION = everything else

Back Muscles:

MOVEMENTS

- Abduction: away from midline
- Adduction: adding back to midline

- Elevation: bring shoulders
- Depression: bring down

upward/downward rotation: reach for the sky

LAYERS of back mm:

- superficial
 - intermediate
- } EXTRINSIC

- deep
 - superficial
 - intermediate
 - deep
 - major
- } INTRINSIC

EXTRINSIC

- ★ superficial: levator scapulae, trapezius, latissimus dorsi, rhomboid minor/major

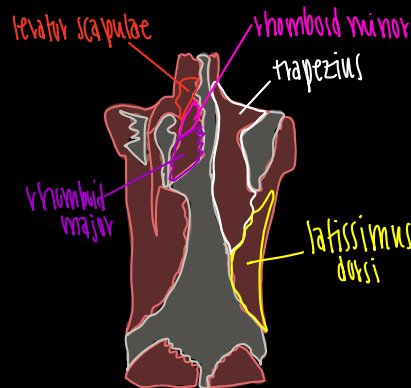
- ★ intermediate: serratus anterior superior, serratus anterior inferior

INTRINSIC

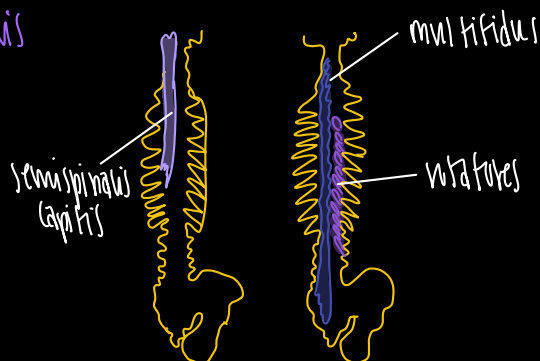
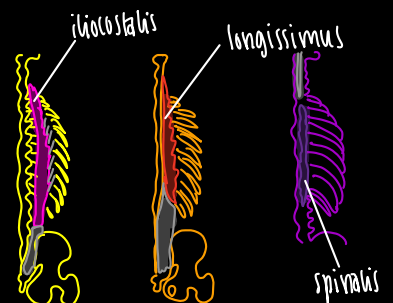
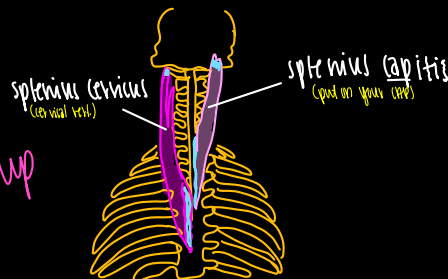
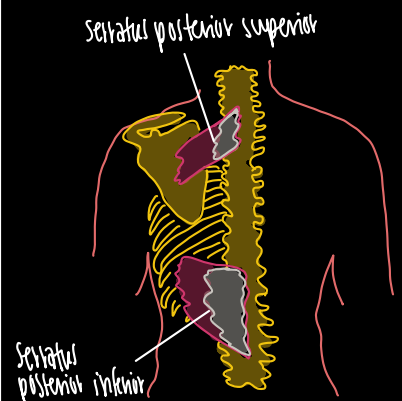
- ★ superficial: splenius capitis, splenius cervicis

- ★ intermediate: erector spinae group
 - iliocostalis
 - longissimus
 - spinalis

- ★ deep (MAJOR): transversospinalis
 - semispinalis
 - multifidus
 - rotatores



★ EXTRINSIC = innervated by ANTERIOR rami of spinal nn.
 ↳ Move Upper Limbs
 • proximal attach: BACK
 • distal attach: UPPER LIMB



★ EXTRINSIC:

• superficial →

★ dorsal scapular n: levator scap = rhomboids

★ spinal accessory n: trapezius

★ thoracodorsal n: latissimus dorsi

• levator scapulae:

- p: C1-C4
- d: medial border of scapula
- n: dorsal scapular n
- a: elevate scapula, rotate GH joint

• trapezius ⇨:

- p: EOP, nuchal ligament (C7-T12)
- d: clavicle, acromion = spine of scapula
- n: spinal accessory n. (cranial n. II)
- a: elevate, depress = retract scapula

• latissimus dorsi:

- p: T7-T12, thoracolumbar fascia
- d: intertubercular sulcus of humerus
- n: thoracodorsal n.
- a: extend, abduct, = medially rotate humerus

• rhomboid major/minor:

- p: C7-T5
- d: medial border of scapula
- n: dorsal scapular n.
- a: retract scapula, rotate GH joint

• intermediate →

• serratus posterior superior = inferior:

- p: (C7-T3, T11-L2)
- d: ribs 2-4 = 8-12
- n: intercostal n, anterior rami
- a: proprioception (elevate = depress ribs)

★ INTRINSIC:

• superficial →

splenius capitis = splenius cervicis

↳ "bandages" that cover = hold deep neck muscles in position

• a: laterally flex neck, rotate head = neck

↳ capitis: gives to head

↳ put on your cap

↳ cervicis: cervical vertebrae

• intermediate →

erector spinae group (iliocostalis, longissimus = spinalis)

↳ PRIMARY extensors of vertebral column

= some lateral flexion

• deep (major) →

transversospinalis (semispinalis, multifidus = rotatores)

↳ stabilization, extension = rotation

MOVEMENTS at intervertebral joints:

EXTENSION:

- semispinalis cervicis
- iliocostalis cervicis
- splenius cervicis
- splenius capitis

- trapezius
- levator scapulae
- multifidus
- longissimus
- semispinalis capitis

} CERVICAL

- erector spinae
- multifidus
- semispinalis

} LUMBAR & THORACIC

LATERAL FLEXION:

- iliocostalis
- longissimus
- splenius capitis

- splenius cervicis

} CERVICAL

- iliocostalis
- longissimus
- multifidus

- rhomboids

} LUMBAR & THORACIC

ROTATION:

- rotatores
- semispinalis capitis
- semispinalis cervicis

- multifidus
- splenius cervicis

} CERVICAL

- rotatores
- multifidus
- iliocostalis

- longissimus
- splenius

} LUMBAR & THORACIC

Suboccipital Triangle:

↳ 3D w/ pyramid shape

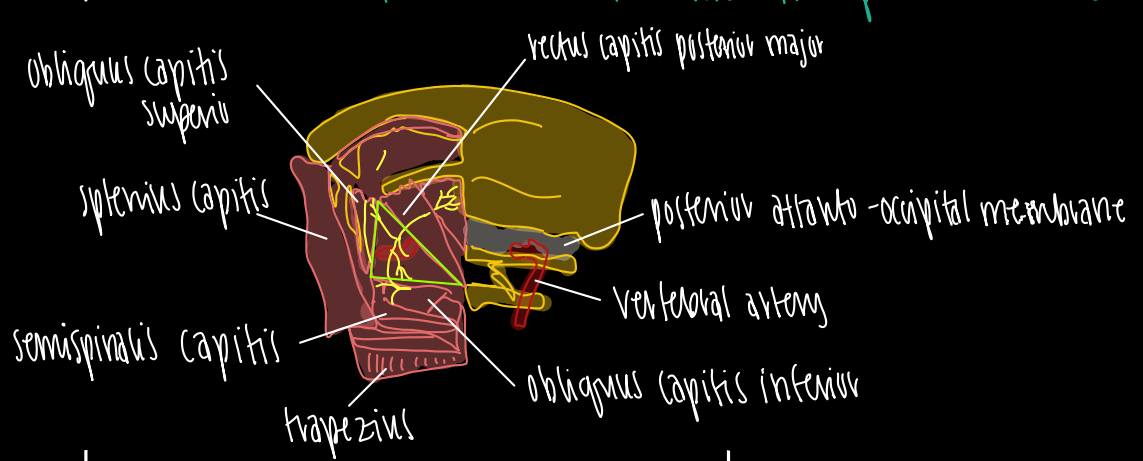
found below external obl. protuberance
deep to superior part of posterior
cervical region

★ ROOF: semispinalis capitis

★ BOUNDARIES: rectus capitis posterior major (superomedial)
obliquus capitis superior (superolateral)
obliquus capitis inferior (inferolateral)

★ CONTENTS: vertebral a. & suboccipital n. (C1)

★ FLOOR: post- atlanto occipital membrane, posterior arch C1



Spinal Cord Meninges:

• SPINAL CORD: major reflex center = conduction pathway between body & brain

↳ protected by: vertebral meninges = CSF

↳ spinal cord = continuation of medulla oblongata in brainstem down to L1-L2

* spinal cord ends at L1-L2 *

- terminates at conus medullaris

↳ bundle of fibers below = cauda equina
↳ horses tail
(bundle of spaghetti)

* SPINAL CORD enlargements:

- cervical → C4-T1

- lumbosacral → T11-S1

} expansions due to LARGE # of nerve fibers entering & exiting cord from upper & lower limbs

* NERVE ROOTS = SPINAL NERVES:

* anterior = ventral → motor (efferent)

* posterior = dorsal → sensory (afferent)

* goes out to periphery *

* back to CNS = brain *

① posterior horn → ② posterior rootlets → ③ posterior roots → ④ dorsal root ganglion

① anterior horn → ② anterior rootlets → ③ anterior roots

* mixed = motor & sensory

- posterior ramus: synovial joints of vertebral column (deep back mm./overlying skin)

- spinal n: anterior & posterior roots; through intervertebral foramen

- anterior ramus: skin & hypaxial muscles of anterior/lateral regions = LIMBS

Spinal Segments:

vertebrae: 7C 5L 4C
12T 5S

spinal nerve pairs: 8C
12T
5L
5S
1C

When EXITING canal:

- * C1-8: ABOVE corresponding vertebrae
- * C8: between C7 & T1
- * T1-L5: BELOW corresponding vertebrae
- * S1-S4: BELOW corresponding vertebrae
- * S5: Col. through sacral hiatus

Herniated IV discs: commonly occurs in posterolateral direction w/ nucleus pulposus protrusion
 ↳ L4-L5 or L5-S1 from traumatic or chronic injury

* thinner, weaker supporting ligament on posterior side = PLL

* broader, stronger supporting ligament on anterior side = ALL

* herniated discs affect spinal nerves BELOW *
 ↳ i.e. disc between T11 & T12 would affect T12 *

SPINAL MENINGES: continuous w/ CRANIAL meninges

* superficial → deep = dura
arachnoid
pia

Spinal meninges:

↳ layers of connective tissue
 = spaces that surround,
 support & protect spinal
 cord & nerves

Contain CSF *

dura-arachnoid interface = SUBDURAL space

* arachnoid trabeculae: reach down to pia mater

* denticulate ligament: lateral extensions of pia → help anchor cord in dural sac

* epidural space: adipose & internal venous plexus

more on spinal meninges:

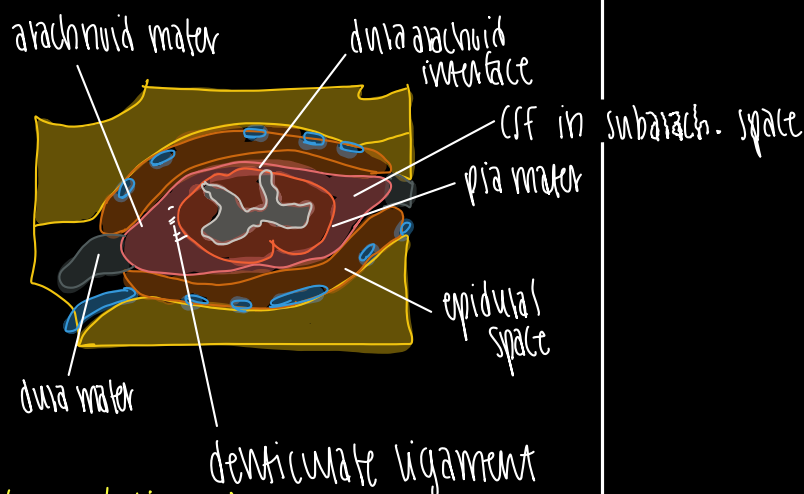
• filum terminale INTERNUM =

↳ extension of neural tissue & supporting (glia) =
 pia

• from tip of cone → sacrum =
 YARN CHOLE

• filum terminale EXTERNUM =

↳ dura anchoring to coccyx (coccygeal ligament)



*Lumbar puncture: to withdraw CSF from subarachnoid space

*L3-L4, L4-L5 to avoid spinal cord

L3, L4, L5 keeps the cord alive*

*Epidural anesthesia: anesthetic injected by lumbar puncture method, sacral hiatus or sacral foramina

↳ Blood Supply of Spinal Cord:

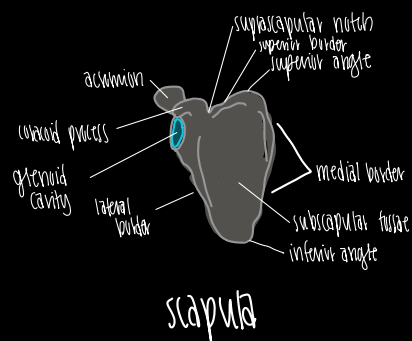
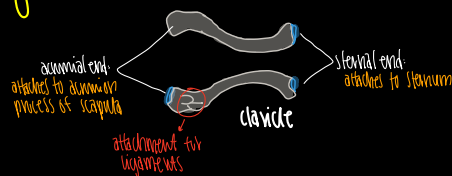
- anterior/posterior segmental medullary a.
- 3 longitudinal: • anterior spinal a.
• posterior spinal a. (PAIR a.)
- greater anterior segmental medullary a.
↳ lower cord = reinforced anterior spinal a.

↳ Venous Drainage:

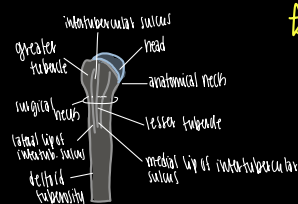
- 3 anterior = 3 posterior
↳ drain into internal vertebral venous plexus to dural sinuses = intervertebral vv.

Scapular region
= joints of
SHOULDER:

*pectoral girdle = clavicle + scapula



* HUMERUS:



* humerus = most moveable joint in body

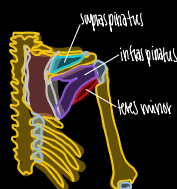
↳ glenohumeral joint (GH): ball & socket synovial joint

- abduction
- adduction
- flexion
- extension
- medial rotation
- lateral rotation

* Scapulo humeral muscles:

anterior loss causes paresis (wearing)

mid loss causes paralysis of 15-90° abduction



* Deltoid:

o: spine/union of scapula, lateral 1/3 clavicle

i: deltoid tuberosity of humerus

- a: anterior → FLEXION
- mid → abduction (15-90°)
- posterior → EXTENSION

n: axillary n. (C5)



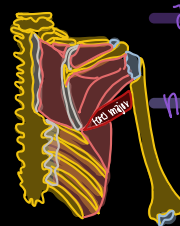
* Teres Major:

o: inferior angle of scapula

i: medial lip of intertubercular sulcus

a: abduction

n: to a subscapular n. (C6)



* Rotator cuff: 4T's

• subscapularis: o: subscapular fossa
i: lesser tubercle of humerus
a: medial rotation of humerus
n: upper/lower subscapular n. (C6)

→ only muscle to attach to lesser tubercle of humerus

• teres minor: o: lateral border of scapula
i: inferior facet of greater tubercle
a: LATERAL rotation
n: axillary n. (C5)

• infraspinatus: o: infraspinous process of scapula
i: middle facet of greater tubercle
a: LATERAL rotation of hum.
n: suprascapular n. (C5)

• supraspinatus: o: supraspinous fossa of scapula
i: upper facet of greater tubercle

a: abduction of humerus (0-15°)
n: suprascapular n. (C5)

* Innervation:

- upper subscap = subscapularis m.
- lower subscap = teres major & subscapularis m.
- middle (Klumpke's) = latissimus dorsi

↳ ligament: superior transverse scapular ligament

* ARMY/NAVY:

• suprascapular a: OVER ligament

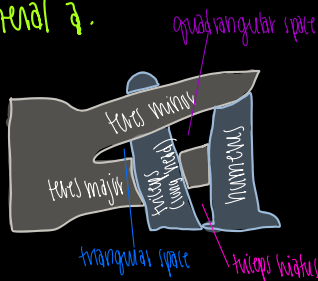
• suprascapular n: UNDER ligament

★ Gateways in posterior shoulder:

quadrangular space = axillary n.
posterior circumflex humeral a.

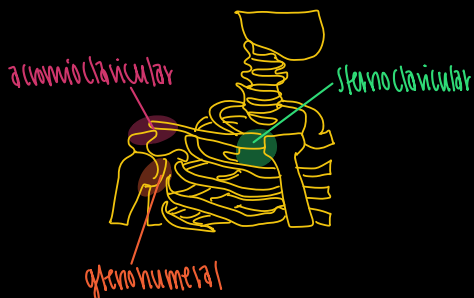
triangular space = circumflex scapular a.

triangular interval = radial n.
profunda brachii a.



★ Shoulder Region Joints:

synovial: Sternoclavicular
acromioclavicular
glenohumeral



★ Sternoclavicular: clavicle fracture

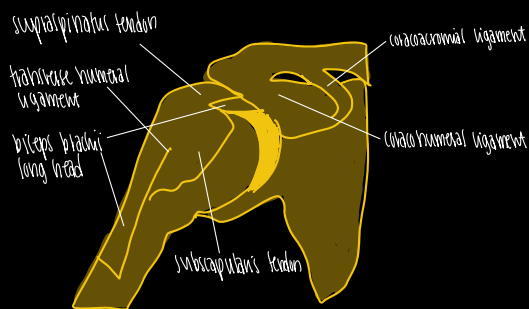
★ Acromioclavicular: Shoulder separation

★ Glenohumeral: dislocation
impingement syndrome

★ Clinical Correlation:

Shoulder separation = rupture of acromioclavicular ligament

↳ more acute = rupture of AC = coracoclavicular ligament



★ Coracohumeral ligament:
↳ humerus to coracoid process

★ Coracoclavicular ligament:
↳ acromioclavicular joint

★ Glenohumeral Joint:

↳ formed by articulation
between humerus head &
scapula glenoid cavity

★ biceps brachii long head tendon

↳ runs through joint capsule of GH joint

↳ is transfixed to humerus by transverse
humeral ligament

★ supraspinatus = subscapularis
tendon
↳ strengthen joint
capsule = can be
damaged

* Glenohumeral Bursae: Lubrication point for tendons in areas of friction

↳ outpocketings of synovial membrane of joint

* Intertubercular tendon sheath:

wraps around biceps brachii tendon

• subacromial bursa } keep deltoid fibers away
• subdeltoid bursa } from supraspinatus fibers

* Clinical Correlation: Impingement Syndrome

↳ can occur due to trauma or overuse causing bursae inflammation = BURSITIS

* usually subacromial bursa gets impinged between

• acromion :
• tendons (supraspinatus) } attached to greater tubercle

• Ultrasound / MRI to diagnose

• Treat: corticosteroid

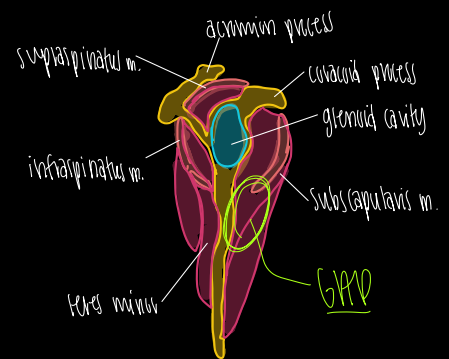
* Clinical Correlation: GH dislocation



humeral head disarticulation

* usually occurs anterior inferior *

↳ lack of support in inferior direction



* REVIEW:

• Dislocation: Glenohumeral joint

• Separation: Acromioclavicular joint

• AC ligament

• coracoclavicular ligament

Pectoral region = Axilla

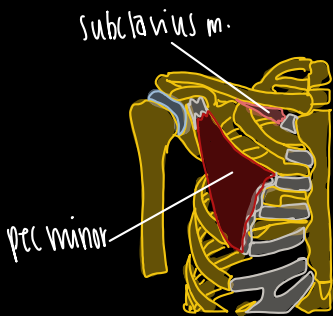
Muscles:

3 muscles around that area:

- pectoralis major = medial lip
- latissimus dorsi = floor of intertubercular sulcus

KEY:

- Medial rotation = INTERNAL
- Lateral rotation = EXTERNAL



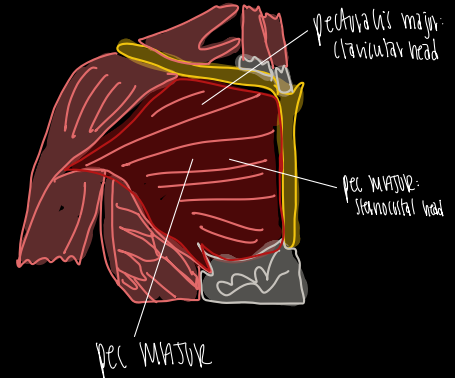
Pectoralis major: 2 heads → clavicular: more superior = attaches to clavicle
sternocostal: attaches to sternum = ribs

o: medial 1/2 clavicle → clavicular head
sternum, costal cartilages, external abdominal oblique aponeurosis (sternocostal head)

i: lateral lip of intertubercular surface of humerus

a: BOTH heads = flexes, adducts = medially rotates arm

latissimus dorsi
EXTENDS



n: medial = lateral pectoral n.

↳ medial: pec major = MINOR

"medial does MORE"
= picks pec minor

↳ lateral: pec major only

"lateral does LESS"
= slides OVER superior / medial border of pec minor

Pectoralis minor:

o: ribs 3-5 near costal cartilages
i: coracoid process of scapula

a: stabilizes scapula by pulling inferior = anterior

n: medial pectoral n.

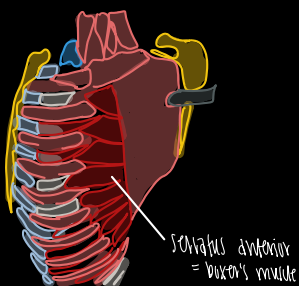
pec minor = subclavius: invested by clavipectoral fascia → DEEP to pec. major

Serratus Anterior:

o: ribs 1-8
i: medial border of scapula (anterior)

a: PROTRACTS scapula, upward rotation of glenoid
helps keep medial border = inferior angle

n: long thoracic n. → on superficial surface of muscle



* Clinical correlation: winged scapula

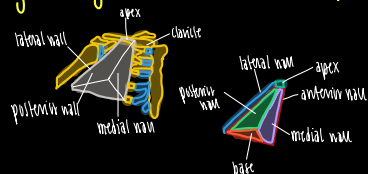
↳ damage to Long thoracic n. can cause paralysis of serratus anterior

* causes medial border of scapula to protrude away from thoracic wall

↳ "winged" appearance: accentuated when patient is asked to push on wall w/ outstretched arm

AXILLA:

gateway between neck & arm



* Cervico-axillary canal: BORDEKS

→ 1st rib

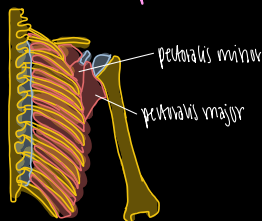
→ clavicle

→ superior scapula border

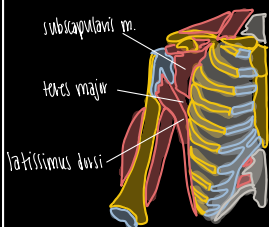
* bony ring that can limit structures

↳ like w/ tumor or inflammation

↳ ANTERIOR WALL: pectoralis MAJOR MINOR



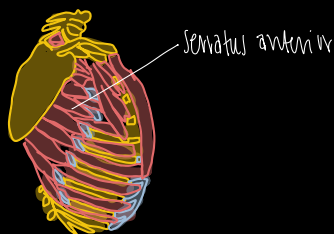
↳ POSTERIOR WALL: teres MAJOR latissimus dorsi



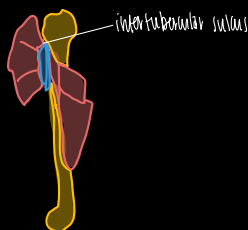
↳ MEDIAL WALL: serratus anterior → intercostobrachial n. (T2 anterior ramus)

↳ innervation from medial arm plex

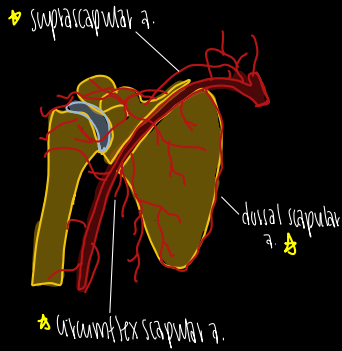
* referred pain w/ MIA



↳ LATERAL WALL: intertubercular sulcus

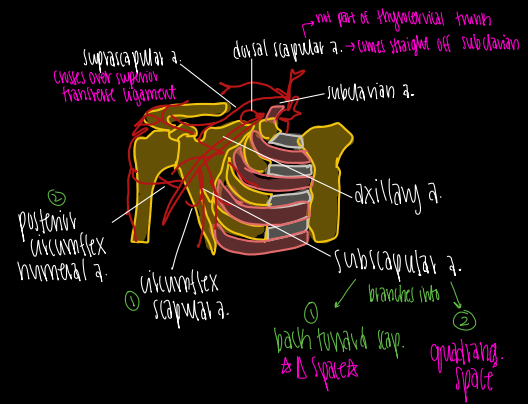


★ Major Arteries of Upper Extremity:



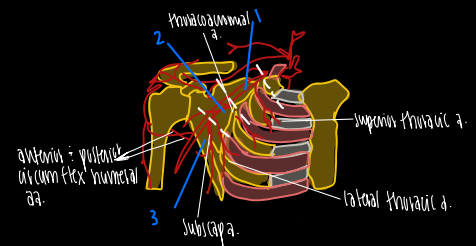
★ these 3 anastomose which is important bc w/ blockage can still get blood supply

★ Axilla vessels are covered w/ axillary sheath CT wrapped around axillary a. ∴ n. to keep close together



★ Axillary Artery Divisions:

- ① superior thoracic a. → Division 1: 1 artery
- ② thoracoacromial a. ∴ } Division 2: 2 aa.
- lateral thoracic a.
- ③ subscapular a. ∴ } Division 3: 3 aa.
- anterior circumflex humeral a.
- posterior circumflex humeral a.



★ LYMPH NODES:

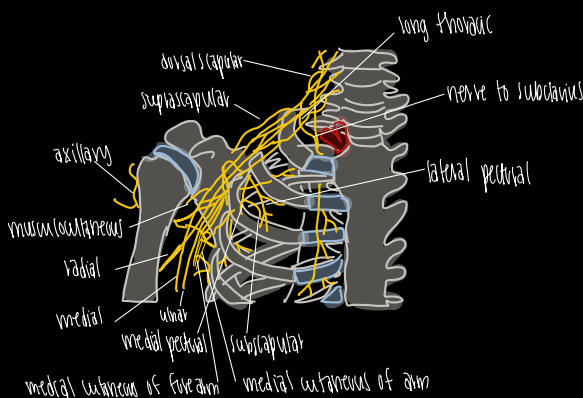
3 common spots for swollen L.N. = cervical, axilla, inguinal } due to infection, disease or cancer

subscapular → from scapular region
pectoral → from breast region
humeral → from arm region } all drain to CENTRAL → APICAL

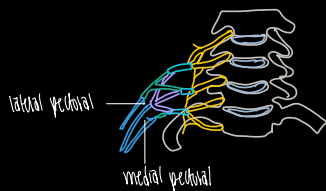
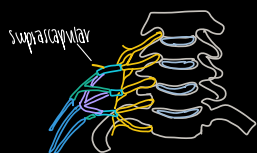
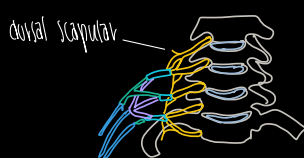
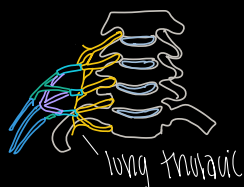
Brachial Plexus:

★ Brachial Plexus first seen emerging between:

Scalene anterior = middle m.



★ Branches of Brachial Plexus:



① Lung Thoracic N:

motor → serratus anterior (C5, C6, C7)

↳ "Winged Scapula" = paralysis of S.A. due to lung thoracic n. injury

② Dorsal Scapular N:

motor → rhomboids (major = minor) = levator scapulae (C5)

↳ any issue to C5 would affect 3 muscles

③ Suprascapular N:

motor → supraspinatus, infraspinatus

sensory: b/t joint (C5-C6)

④ Nerve to Subclavius:

motor → subclavius

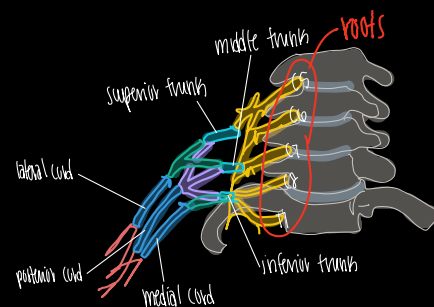
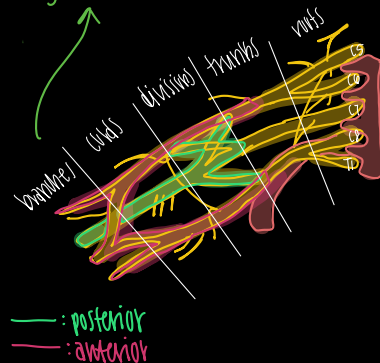
sensory → sternoclavicular joint (C5-C6)

⑤ Pectoral NRV:

LATERAL: motor → pec major (C6)

MEDIAL: motor → pec major = minor (C8, T1)

Randy Travis Drinks Cold Beer



★ C5 + C6 = superior trunk

★ C8 + T1 = inferior trunk

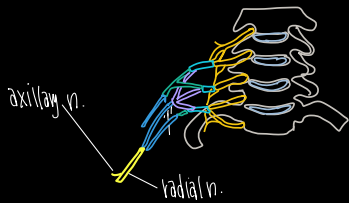
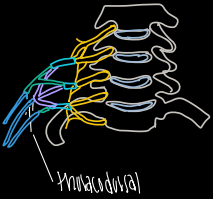
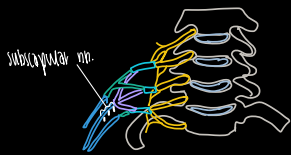
★ C7 = middle trunk

★ lateral cord = continuation of superior trunk

★ medial cord = continuation of inferior trunk

often have connection
↳ Medial does MORE: pec major = minor

Lateral does LESS: pec major



⑥ Subscapular NN:

UPPER:
motor → subscapularis C5

LOWER:
motor → subscapularis
teres major C6

MIDDLE (thoracodorsal):
motor → latissimus dorsi C7

⑦ Axillary N:

motor → deltoid
teres minor C5

sensory: skin over upper/lateral arm:
GH joint

→ Injury by: fracture to surgical neck of humerus
dislocation of GH joint
compression from incorrect use of crutches OR
misplaced IM injection

*test by: asking patient to abduct arm
w/ resistance while palpating
deltoid

causes deltoid atrophy
cutaneous sensory loss =
difficulty abducting arm

could test:

0-15°: supraspinatus (suprascapular n.)
15-90°: deltoid (axillary n.)
90° ± ↑: trapezius (spinal accessory n.)
scapular anterior: (long thoracic n.)

⑧ Radial N:

motor → all muscles of posterior arm = forearm

sensory → skin on posterior arm, forearm = dorsal/lateral hand
C5-T1

→ Midshaft humeral fracture: can damage radial nerve along radial groove

*symptoms: posterior forearm mm. =
skin on dorsum of hand

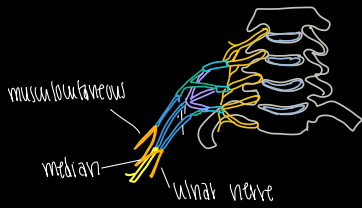
causes radial nerve compression
so everything below would have
partial/total paralysis

* ANTERIOR BRANCHES:

"M"

⑨ Musculocutaneous N:

motor → all muscles in anterior
arm



- * musculocut: continuation of LATERAL cord
- * median: medial \equiv lateral contributions
- * ulnar: continuation of MEDIAL cord

sensory \rightarrow skin on lateral forearm (lateral ulnarous n. of forearm)
 \rightarrow changes when emerging from lateral biceps brachii border
 (C5-C7)

⑩ Median N:

motor \rightarrow all muscles in anterior forearm (EXCEPT: flexor carpi ulnaris \equiv medial 1/2 of flexor digitorum profundus)
 + thenar muscles in thumb
 \equiv lateral 2 lumbricals

sensory \rightarrow skin on lateral 3 1/2 digits \equiv lateral palm
 (C6-T1)

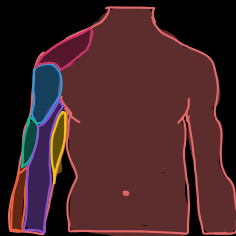
⑪ Ulnar N:

motor \rightarrow flexor carpi ulnaris, medial 1/2 of flexor digitorum profundus, all intrinsic mm. of hand (EXCEPT: thenar mm. \equiv lateral 2 lumbricals)

sensory \rightarrow skin on medial 1 1/2 digits \equiv medial palm/dorsal hand
 (C7), (C8-T1)

* Cutaneous ONLY:

- medial ulnarous n. of arm \rightarrow (C8, T1)
 - medial ulnarous n. of forearm \rightarrow (C8, T1)
- } both of MEDIAL cord



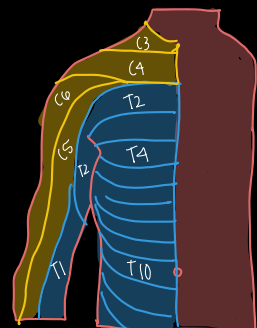
- m = branch of axillary n. (C5-C6)
- m = branch of radial n. (C5-C6)
- m = lateral ulnarous nerve of forearm (C5-C6)
- m = intercostobrachial n. (T2)
- m = medial ulnarous n. of forearm (C8, T1)

\rightarrow w/ compression of \uparrow levels
 * proximal: whole dermatome

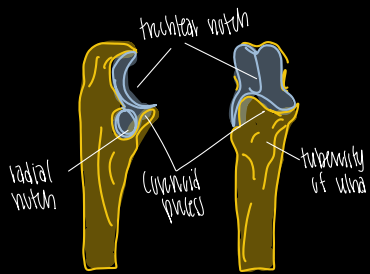
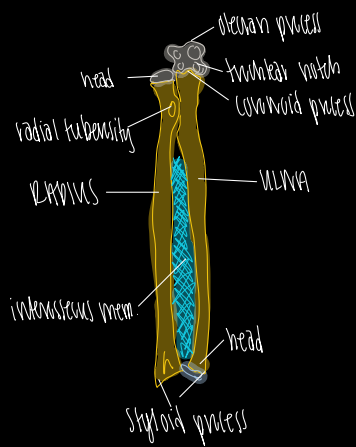
* distal: distal n. injury

\rightarrow proximal: motor \equiv sensory loss
 distal: less motor

* Dermatom: theoretical strips of skin innervated by single spinal cord level



Arm, Elbow: Forearm



CLINICAL:

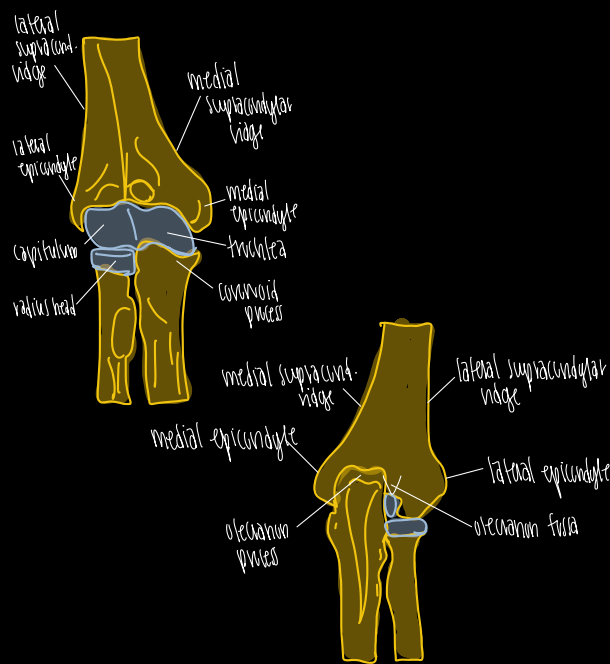
"Nursemaid's Elbow"
→ radius dislodged from annular ligament

More common in CHILDREN

- partial: subluxation
- total: whole radius comes out of ligament; surgery

CLINICAL:

Colles Fracture
→ fractured distal radius positioned distally
fractured styloid process of ulna
"dinner fork abnormality"



* ELBOW JOINT: 3 joints

• humero-radial: between radius & capitulum
* flexion / extension *

• humero-ulnar: between trochlea & trochlear notch
* flexion / extension *

• proximal radio-ulnar: where head of radius meets
→ pronation & supination

LIGAMENTS:

• Radial Collateral

→ Annular ligament: expansion of RCL
holds head of radius in radial fossa on ulna

CLINICAL:

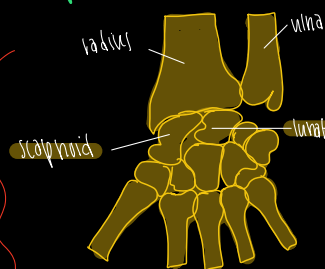
Dislocated Elbow

→ posteriorly
when falling on hands
w/ elbow flexed
or hyperextension
→ distal humerus driven through intact anterior joint capsule
* ulnar n. / ulnar CL
can be torn or compressed
= olecranon process may fracture *

* Scaphoid & lunate carpals articulate w/ wrist carpals *

* Radio-Carpal Joint:

→ anatomical position ulna doesn't articulate w/ wrist carpals



Radio-Carpal joint

ARM:

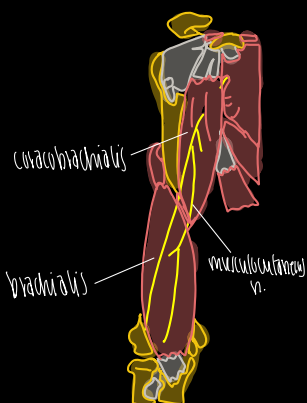
★ ANTERIOR compartment of arm:

"Flexor compartment"

↳ flex elbow joint or GH joint

★ innervation: musculocutaneous n.

★ Deep Group:



★ POSTERIOR compartment of arm:

"Extensor compartment"

↳ extends elbow (some GH) joint

innervation: radial n.

① Biceps Brachii:

o: supraglenoid tubercle → long head
coracoid process → short head

i: radial tuberosity, bicipital aponeurosis

a: flexes & supinates forearm;

assists in resisting dislocation of

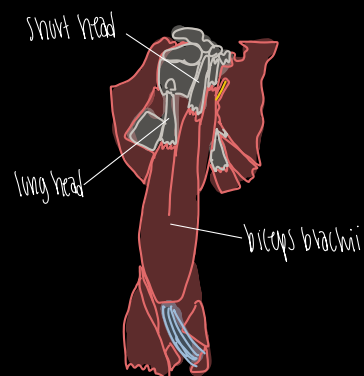
shoulder

n: musculocutaneous n.

↳ CLINICAL: Rupture of Biceps Brachii tendon

★ long head biceps brachii avulsed from supraglenoid tubercle

→ also common to have: torn glenoid labrum



★ attaching to coracoid process:

① coracobrachialis

② pec minor

③ biceps brachii

② Coracobrachialis:

o: coracoid process of scapula

i: medial humeral mid-shaft

a: flexes & adducts arm

n: musculocutaneous n.

③ Brachialis:

o: distal shaft of humerus

i: coracoid process / tuberosity of ulna

a: flexes forearm

n: musculocutaneous n.

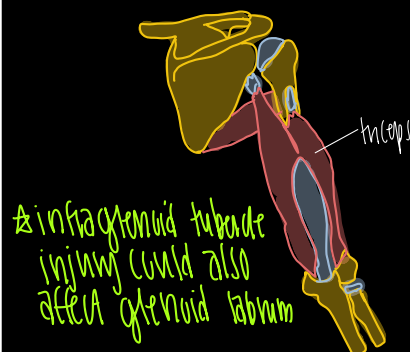
Triceps Brachii:

o: infraglenoid tubercle, posterior humerus

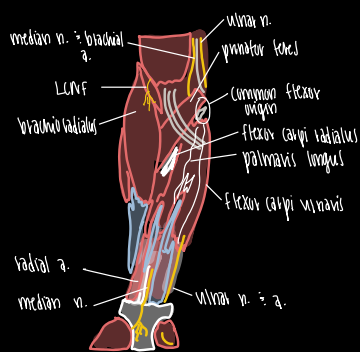
i: olecranon process of ulna

a: extends forearm

n: radial n.



FOREARM:



★ SUPERFICIAL:

① Pronator Teres:

o: medial condyle (CFO), proximal ulna
i: mid-shaft radius

a: pronates forearm
n: median n.

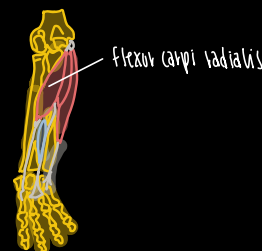


ANTERIOR

★ Common Flexor origin:

- pronator teres
- flexor carpi radialis
- palmaris longus
- flexor carpi ulnaris

↳ fracture to medial condyle or distal humerus can affect ALL



② Flexor Carpi Radialis:

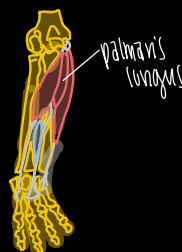
o: CFO
i: base of 2nd & 3rd metacarpal

a: flexes & abducts wrist
n: median n.

③ Palmaris Longus:

o: CFO
i: palmar aponeurosis

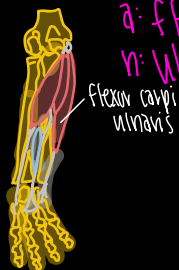
a: flexes wrist
n: median n.



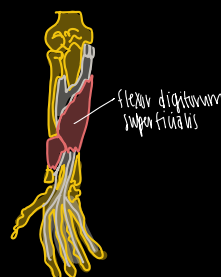
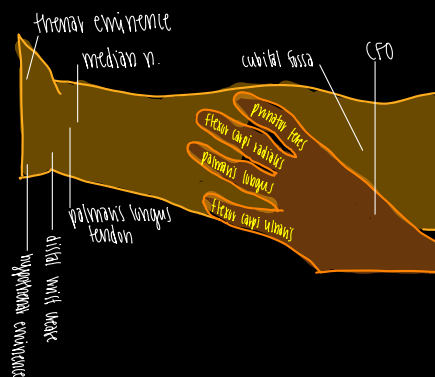
④ Flexor Carpi Ulnaris:

o: CFO
i: pisiform; base of 5th metacarpal

a: flexes & abducts wrist
n: ulnar n.



★ Superficial Layer: ANTERIOR



★ INTERMEDIATE:

Flexor Digitorum Superficialis:

o: CFO, radius shaft
i: middle phalanges of digits 2-5

a: flexes wrist & digits 2-5 (not distal interphalangeal joints)
n: median n.

