

ANATOMY OF THE UPPER EXTREMITY

BONES- 32
JOINTS, JOINT CAPSULE
LIGAMENTS
MUSCLES- 58
TENDONS
BURSA
FASCIA
NEURO/VASCULAR



University of Oklahoma PA Class of 1979



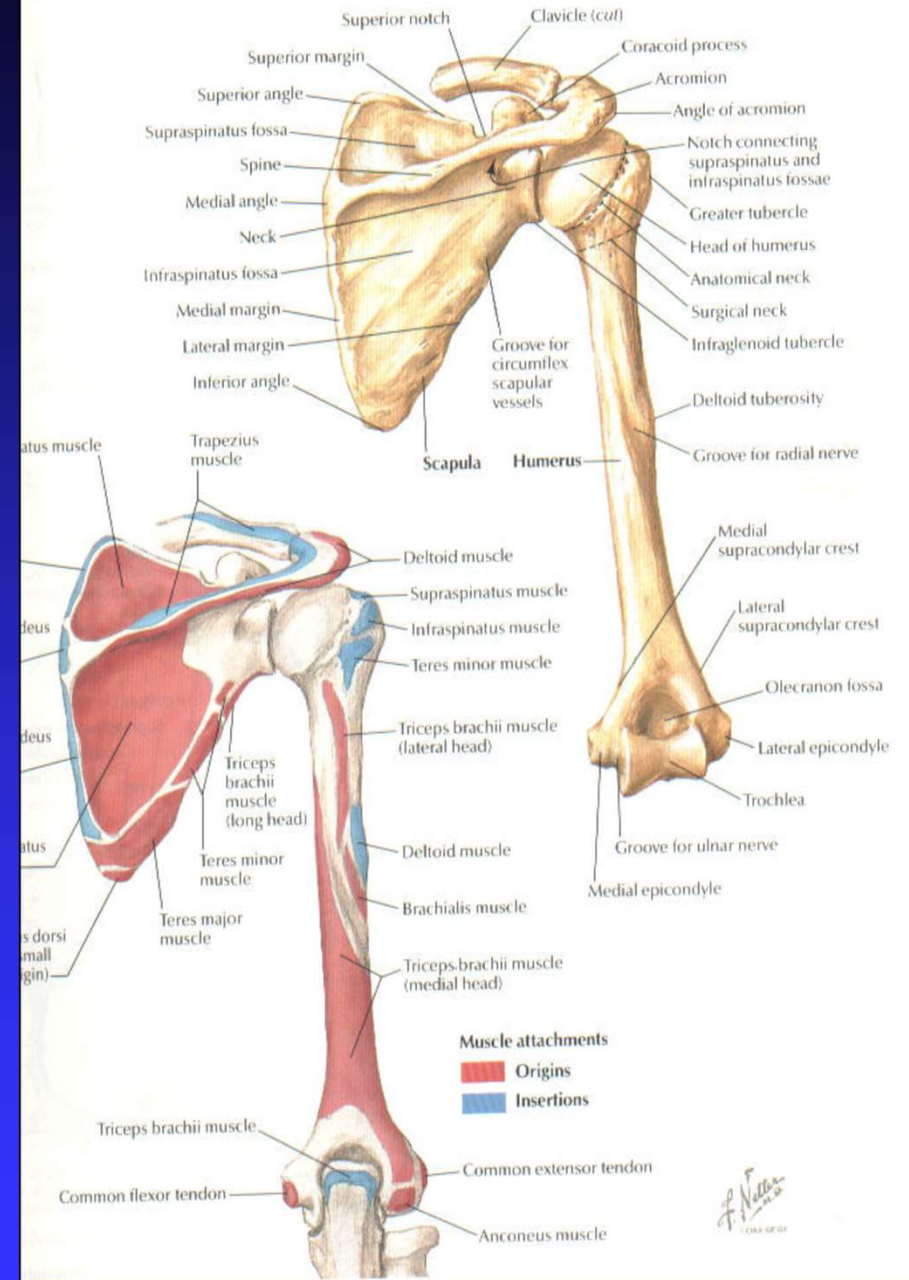
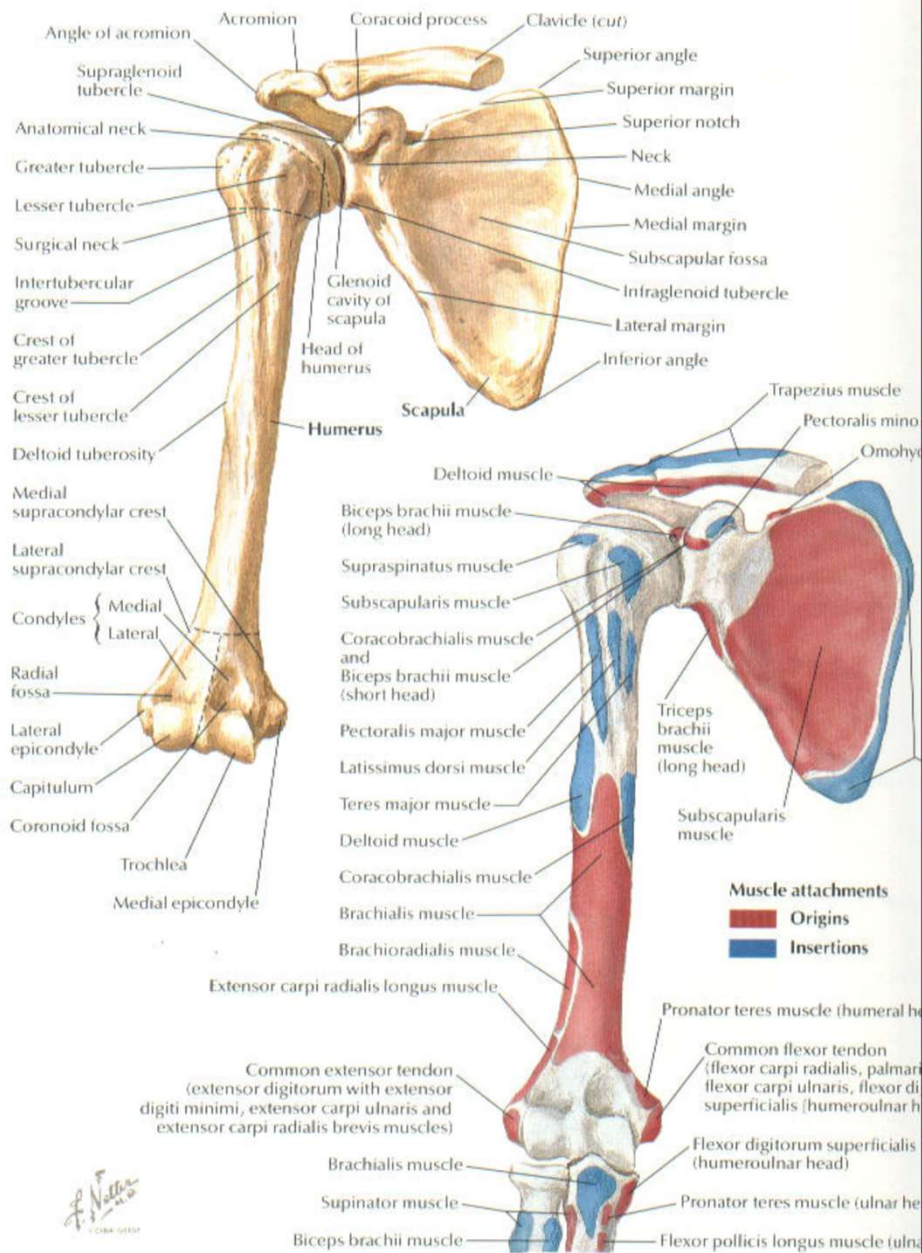
SHOULDER

BONES- clavicle, humerus, scapula

JOINTS- sternoclavicular, acromioclavicular;
glenohumeral, scapulothoracic

BONY INJECTION LANDMARKS- lateral edge of acromion,
posterior angle of acromion, coracoid process

FRACTURE DESCRIPTIONS- humeral head, anatomic
neck, surgical neck, greater tuberosity,
clavicle (medial, middle, lateral 1/3)



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SHOULDER- posterior view

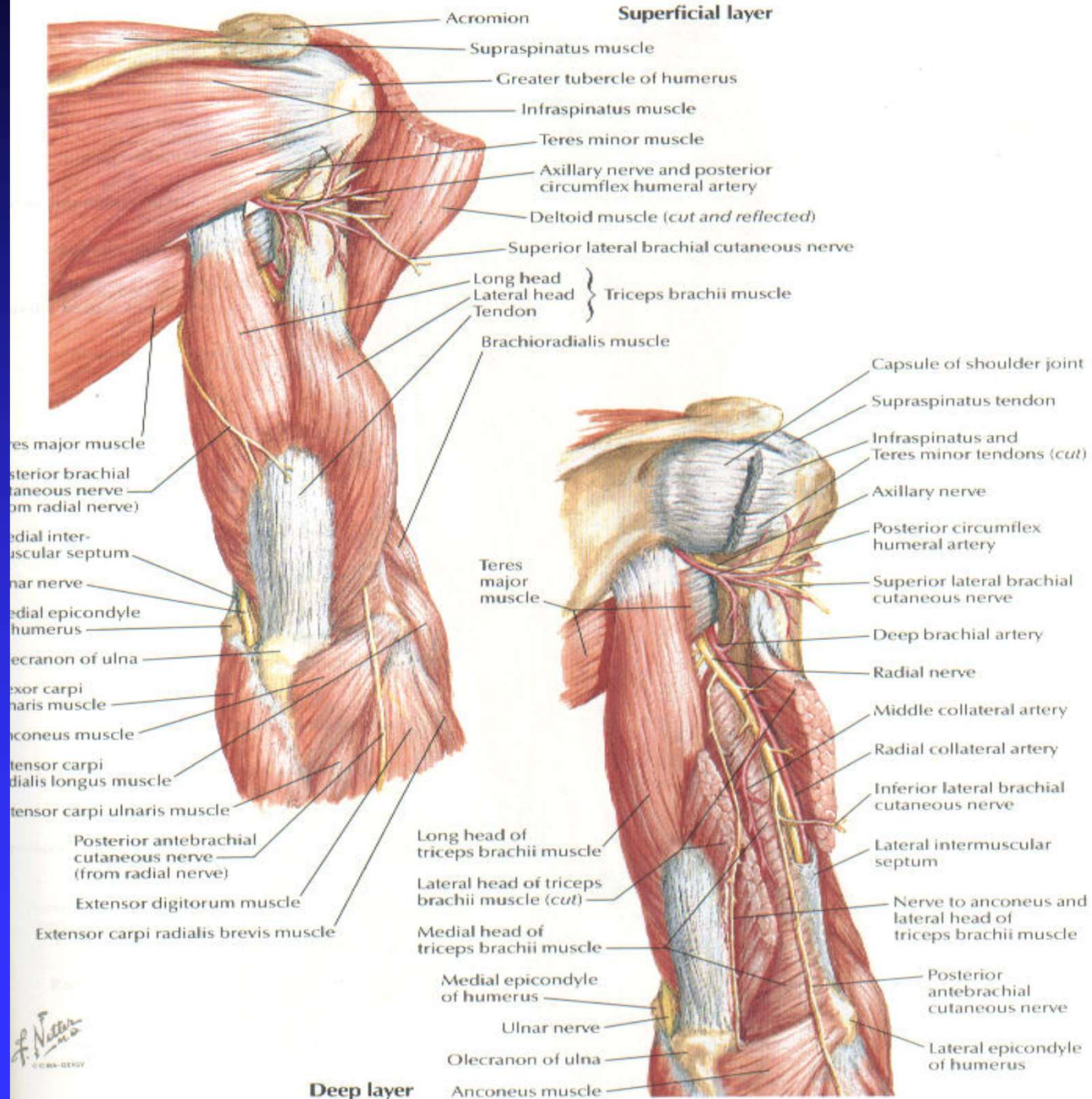
MUSCLES- supraspinatus, infraspinatus, teres minor, subscapularis,
(SITS muscles (rotator cuff muscles)- abduction, internal external rotation, teres major-internal rotation, deltoid- abduction, triceps- shoulder & elbow extension

JOINT CAPSULE

INJECTION LANDMARKS- follow spine of scapula to posterior acromion angle, 4 fingerbreaths below acromion angle is axillary nerve, 1 fingerbreath below acromion angle is point of needle placement aiming for coracoid process for shoulder joint injection

Muscles of Arm: Posterior Views

SEE ALSO PLATE 450



SHOULDER- anterior view

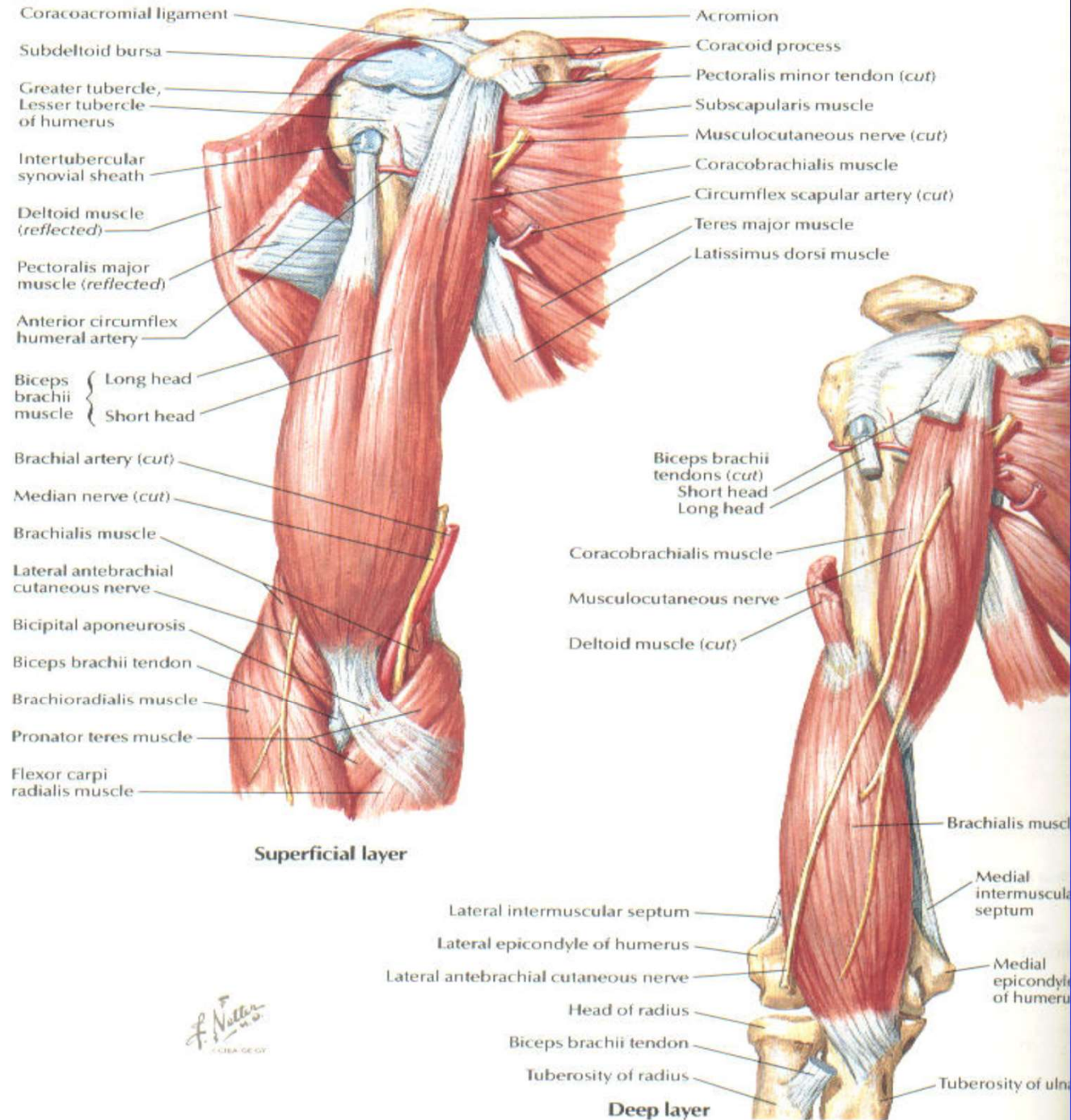
MUSCLES- subscapularis- internal rotation,
latissimus dorsi- extension/adduction,
pectoralis major- adduction,
biceps-elbow flexion

BURSA- subacromial bursa

INJECTION LANDMARKS- lateral edge of acromion,
1 fingerbreath below edge is point of
needle placement for subacromial
(impingement syndrome) injection

Muscles of Arm: Anterior Views

SEE ALSO PLATE 447



ELBOW- hinge joint

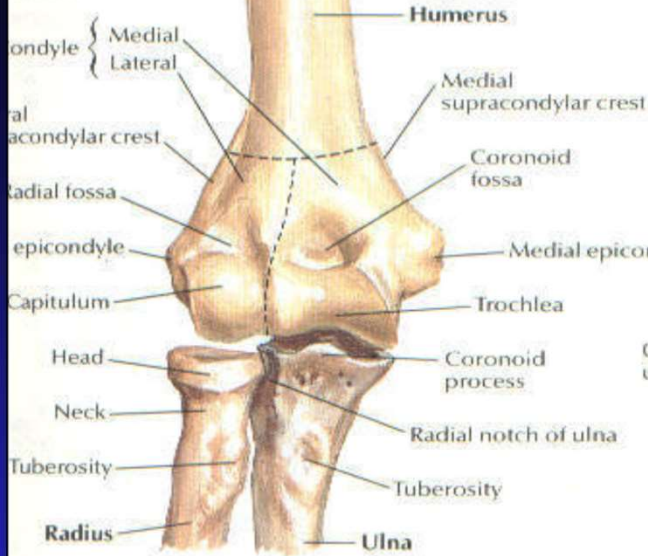
BONES- humerus, radius, ulna

JOINTS- humeralulna, humeralradial, radioulnar

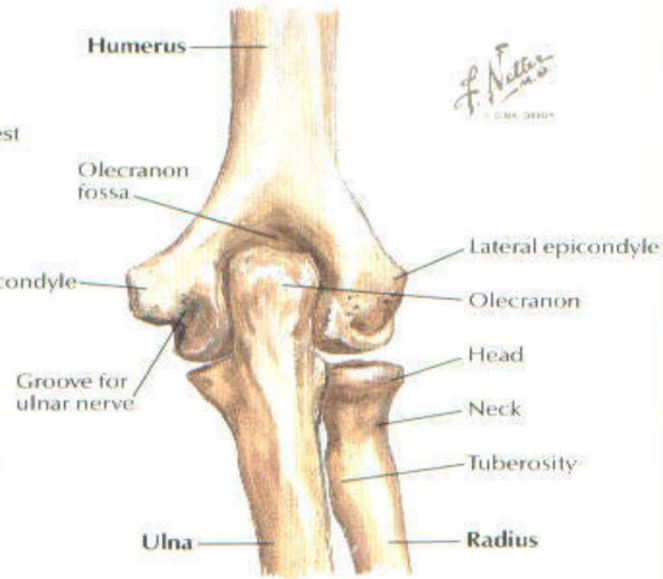
BONY INJECTION LANDMARKS- lateral epicondyle,
medial epicondyle, radial head

FRACTURE DESCRIPTIONS- intercondylar, supracondylar,
radial head

elbow



In extension: anterior view



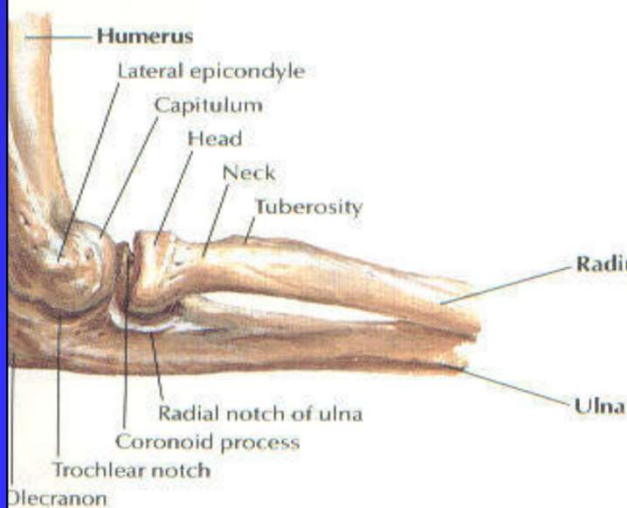
In extension: posterior view



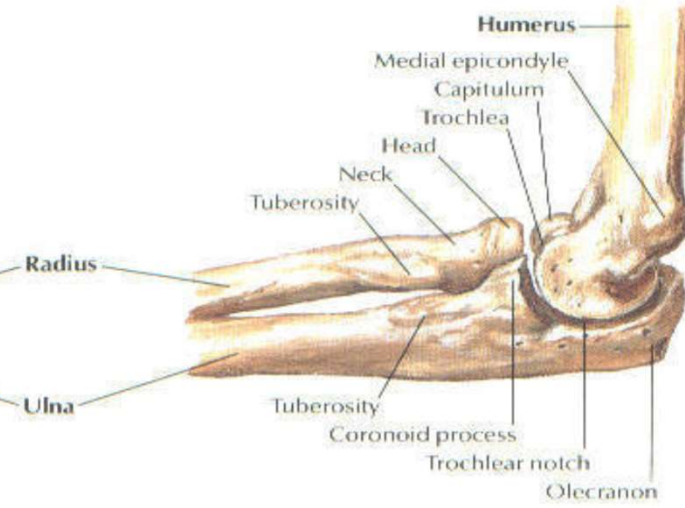
In extension: lateral view



In extension: medial view



In 90° flexion: lateral view



In 90° flexion: medial view

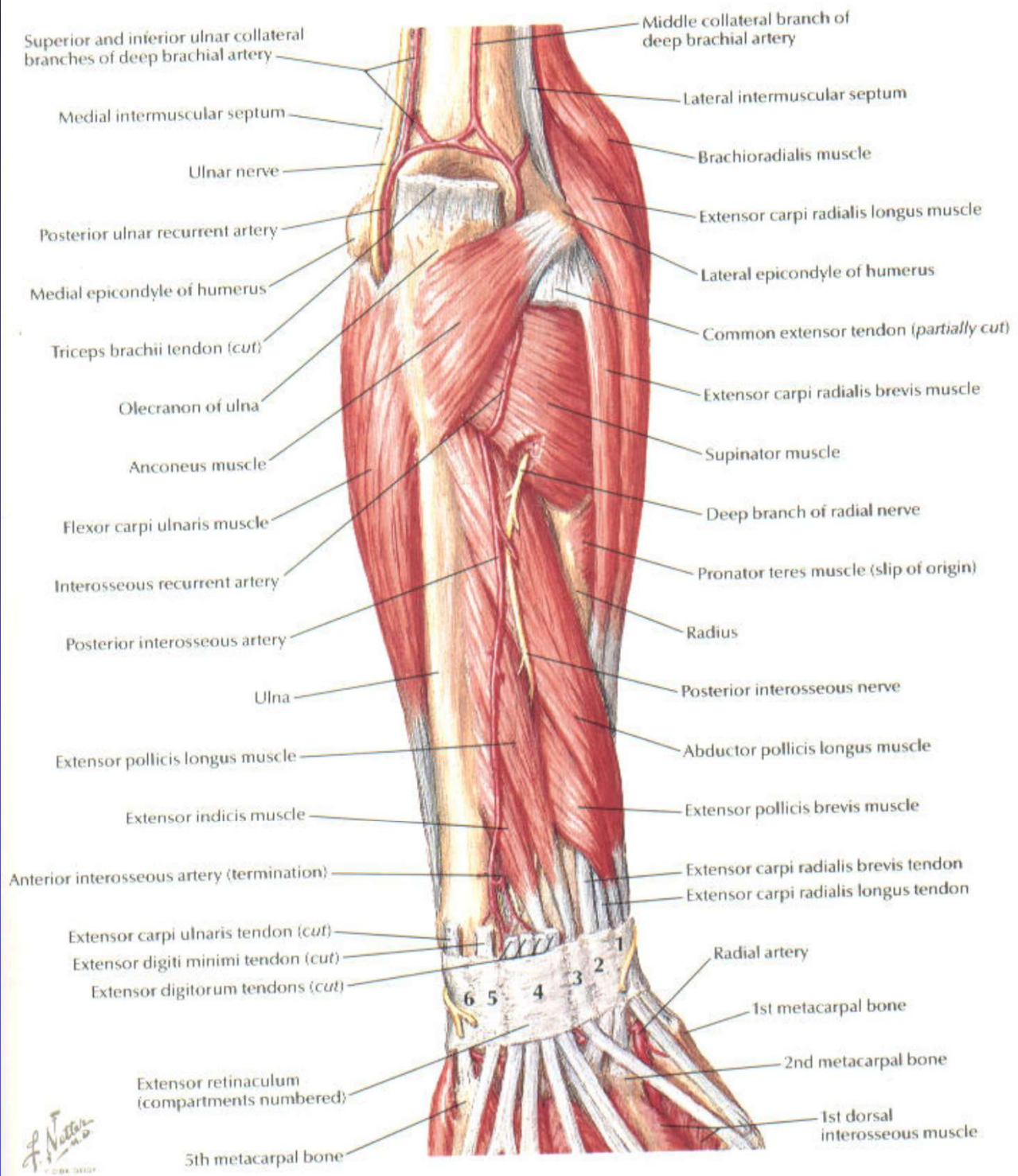
ELBOW- posterior view

MUSCLES- triceps- shoulder & elbow extension, brachioradialis, extensor carpi radialis longus, extensor carpi radialis brevis (wad of 3)- wrist extension, extensor digitorum communis- extensor phalnes, extensor carpi ulnaris- wrist extension

NERVES- ulnar

INJECTION LANDMARKS- lateral & medial epicondyle

BURSA- olecranon



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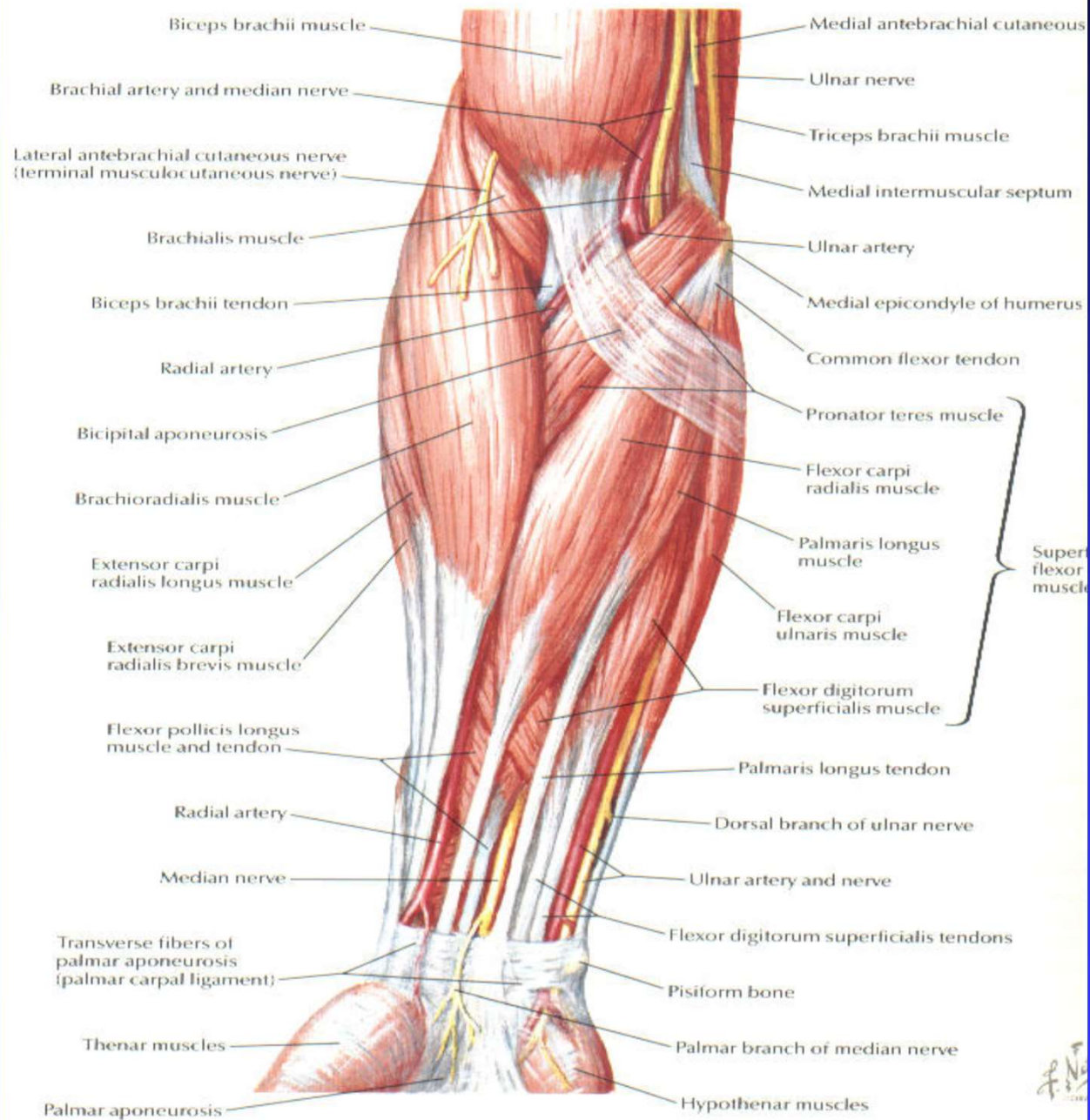
ELBOW- anterior view

MUSCLES- biceps- flexion,
brachioradialis, extensor carpi radialis longus,
extensor carpi radialis brevis (wad of 3)wrist-extension,
pronator- pronate,
flexor carpi radialis- wrist flexion,
palmaris longus, flexor carpi ulnaris- wrist flexion

INJECTION LANDMARKS- medial epicondyle

Muscles of Forearm (Superficial Layer): Anterior View

SEE ALSO PLATES 448, 449



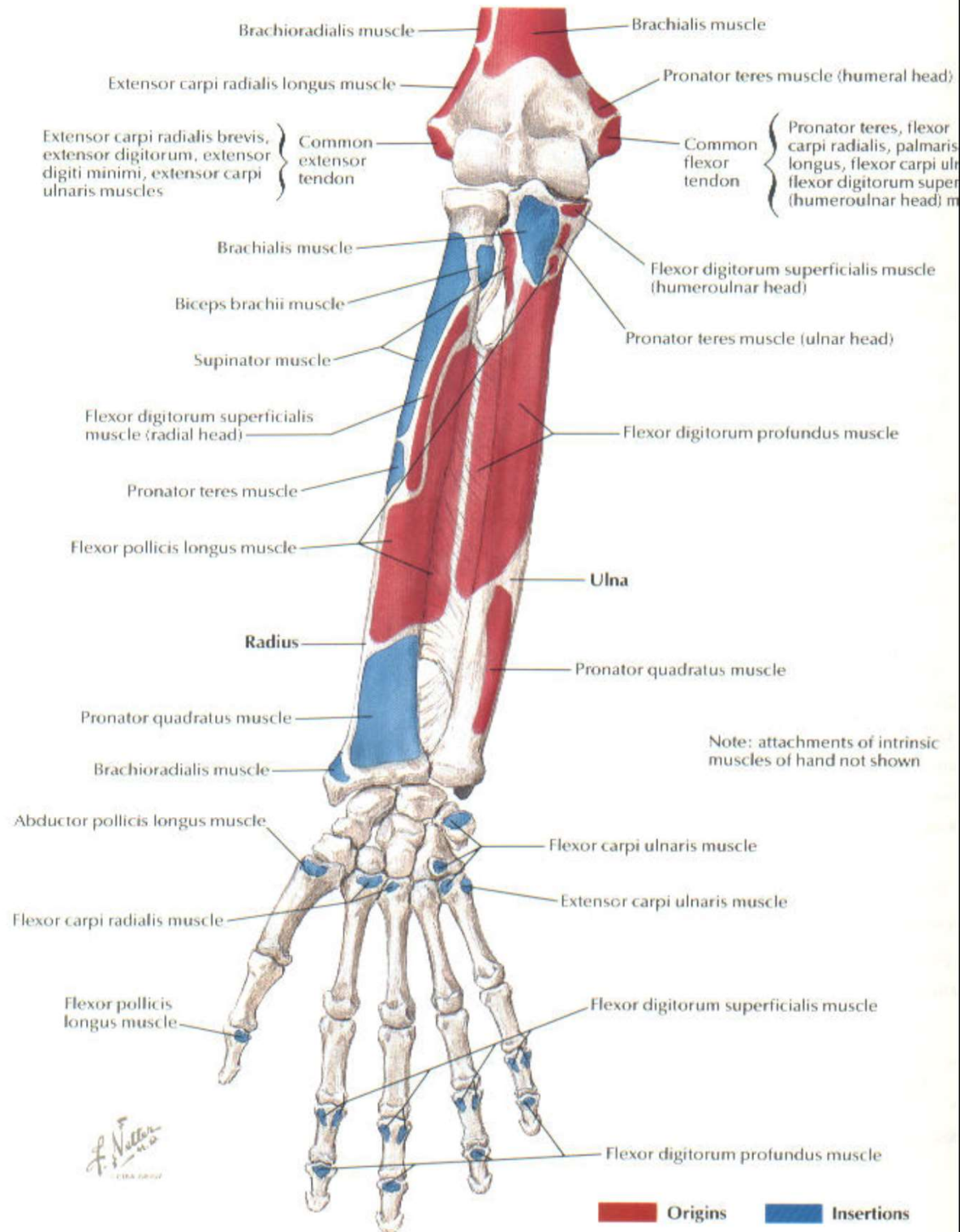
WRIST & HAND

BONES- radius, ulna, scaphoid (navicular), lunate, triquetrium, pisiform, trapezium, trapezoid, capitate, hamate (Some Lovers Try Positions That They Can't Hold), metacarpals (1 thru 5), phalanges (2 thru 5) have proximal, middle, and distal phalanx, thumb (1st phalanges) has proximal and distal phalanx

JOINTS- wrist (radius, ulna and proximal carpal row), 1st carpometacarpal (cmc/basilar joint), metacarpal phalangeal (mcp), proximal interphalangeal (pip), distal interphalangeal (dip)

BONY INJECTION LANDMARKS- listers' tubercle, base 1st metacarpal, mcp joint

FRACTURE DESCRIPTIONS- distal radius (Colles' (silver fork deformity), Smith), proximal 1st metacarpal (Bennetts), 5th metacarpal head (boxers)



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FOREARM/ WRIST- anterior view

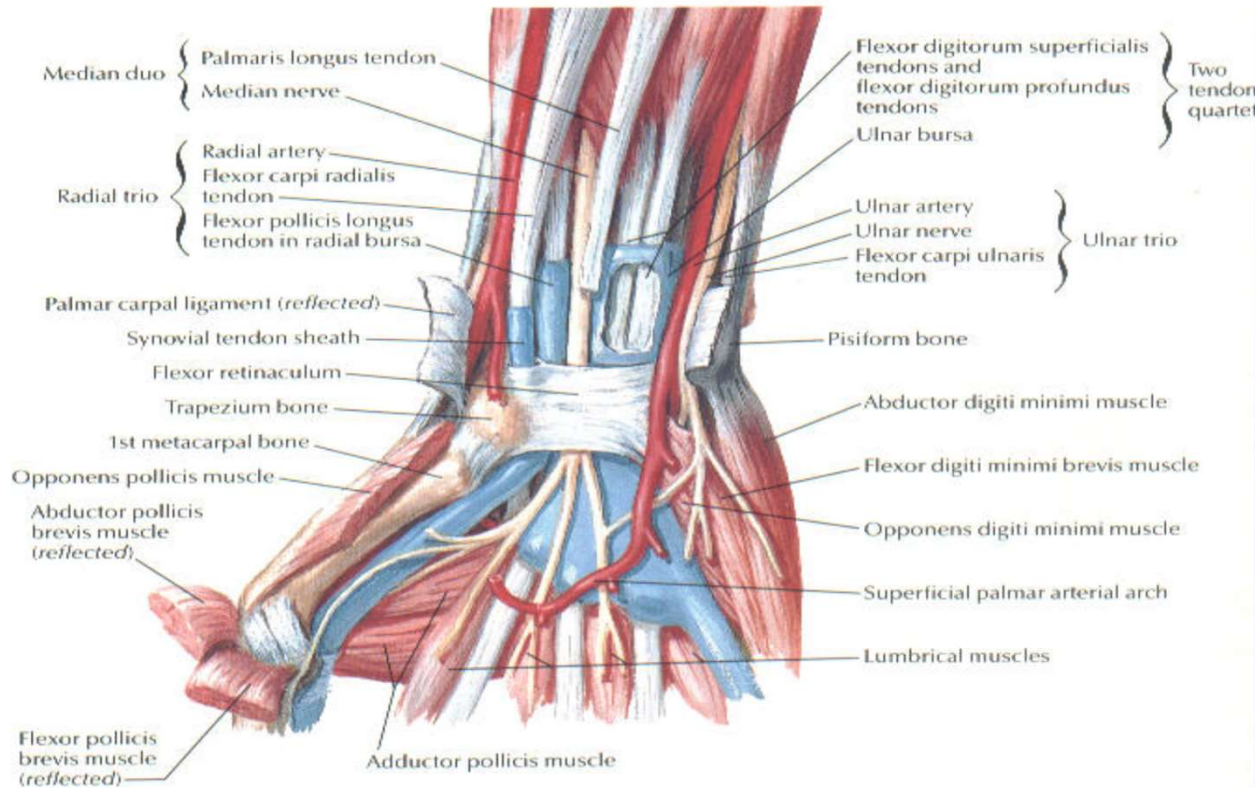
MUSCLES- flexor carpi radialis- wrist flexion, palmaris longus, flexor carpi ulnaris- wrist flexion

NERVES- median, ulnar

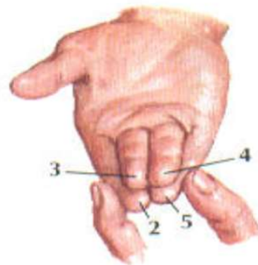
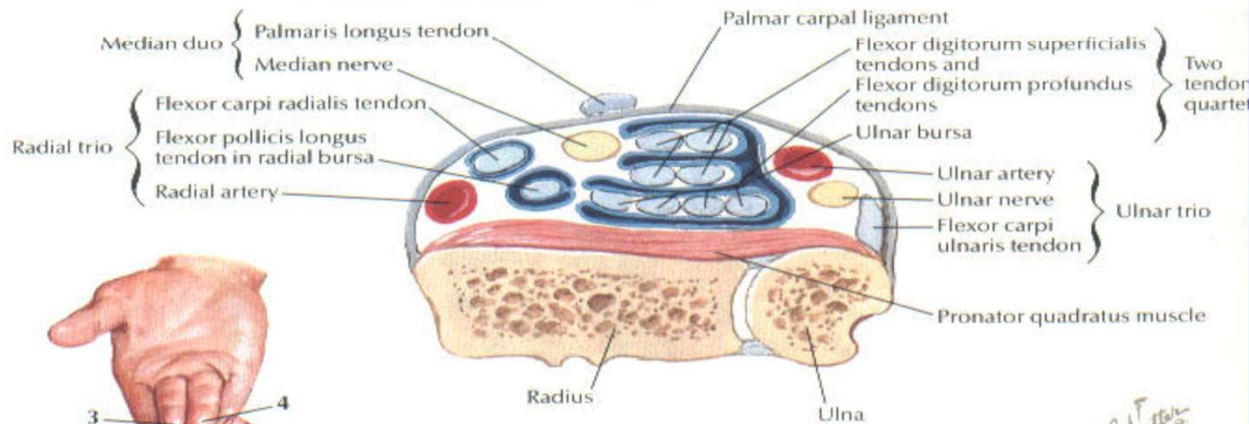
ARTERIES- radial, ulnar

INJECTION LANDMARKS- palmaris longus
(thenar crease, 3rd finger)
for carpal tunnel injection, position needle along
ulnar aspect of palmaris longus

Flexor Tendons, Arteries and Nerves at Wrist



Schematic cross section proximal to flexor retinaculum



Simple method of demonstrating arrangement of flexor digitorum superficialis tendons at wrist

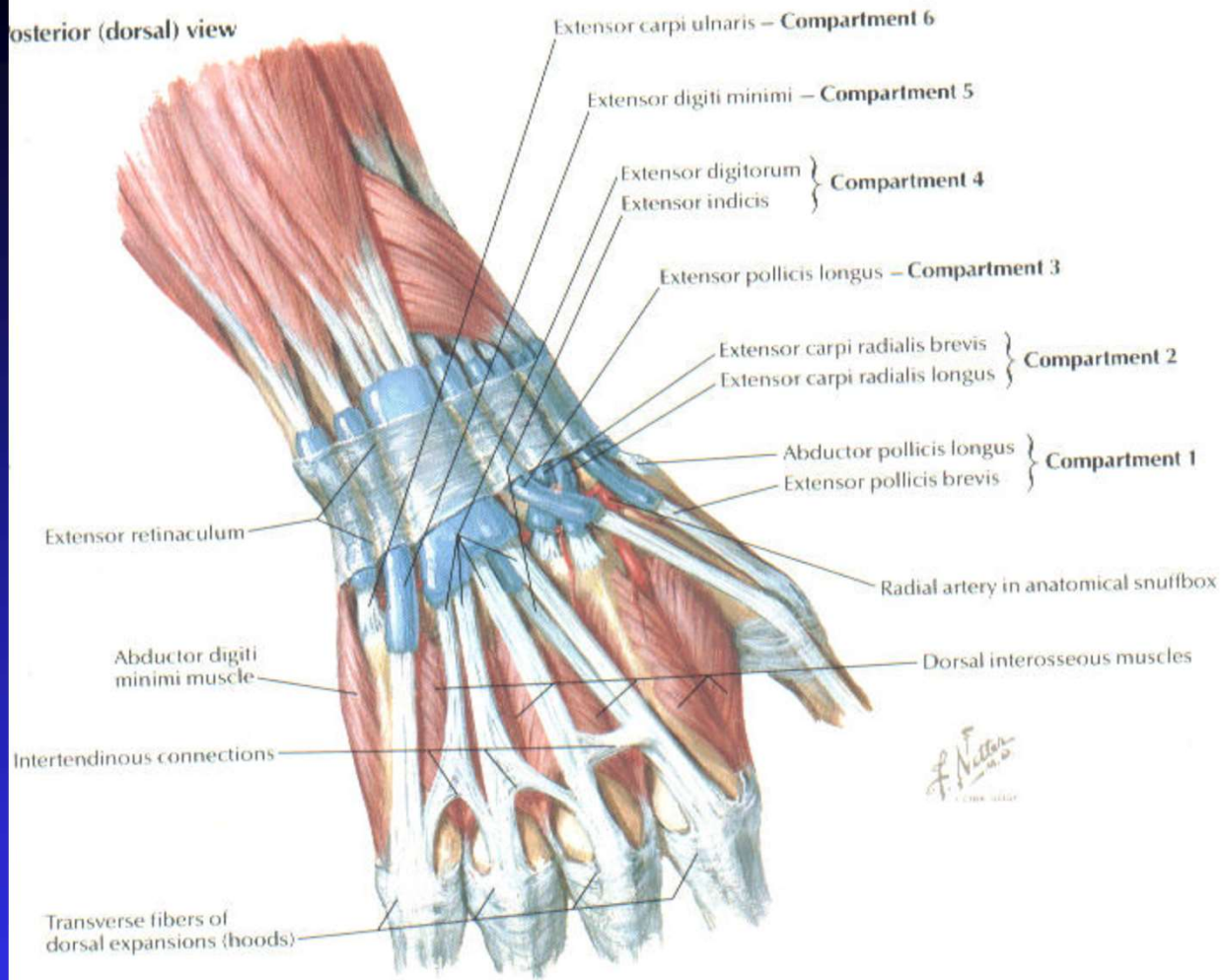
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FOREARM/ WRIST- posterior view

MUSCLES/ TENDONS- abductor pollicis longus- thumb abduction (1), extensor pollicis brevis- thumb extension (1), extensor carpi radialis longus & brevis- wrist extension (2), extensor pollicis longus- thumb extension (3), extensor digitorum communis- phalanges extension (4), extensor digiti minimi- baby finger extension (5), extensor carpi ulnaris- wrist extension (6)

INJECTION LANDMARKS- anatomic snuffbox, ulnar border, made up of the abductor pollicis longus and extensor pollicis brevis tendons are the tendons involved in DeQuervains' tendonitis

Anterior (dorsal) view



Cross section at proximal wrist

