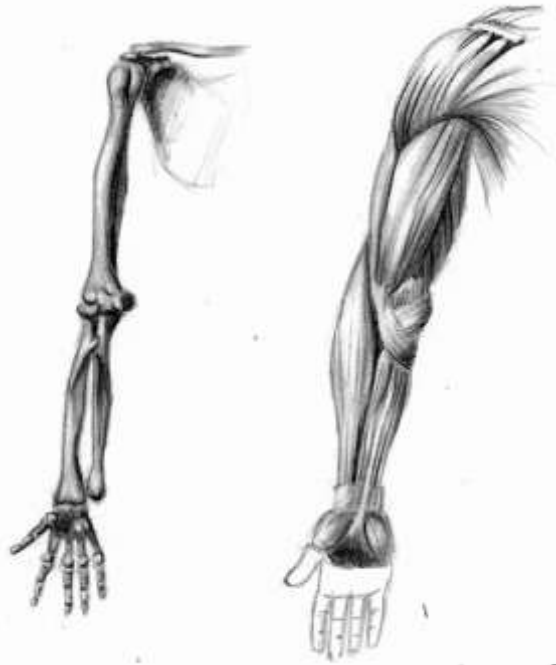




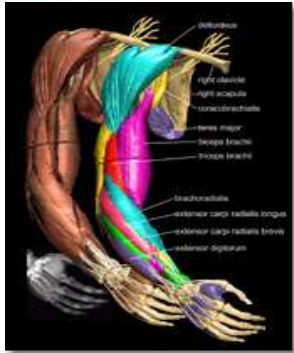
Topographic anatomy of the upper limb

1. Shoulder – *regio deltoidea*
2. Arm – *regio brachii anterior et posterior*
3. Elbow – *regio cubitalis anterior et posterior*
4. Forearm – *regio antebrachii anterior et posterior*
5. Wrist – *regio carpalis anterior et posterior*
6. Hand – *palma et dorsum manus, digiti manus*



External points

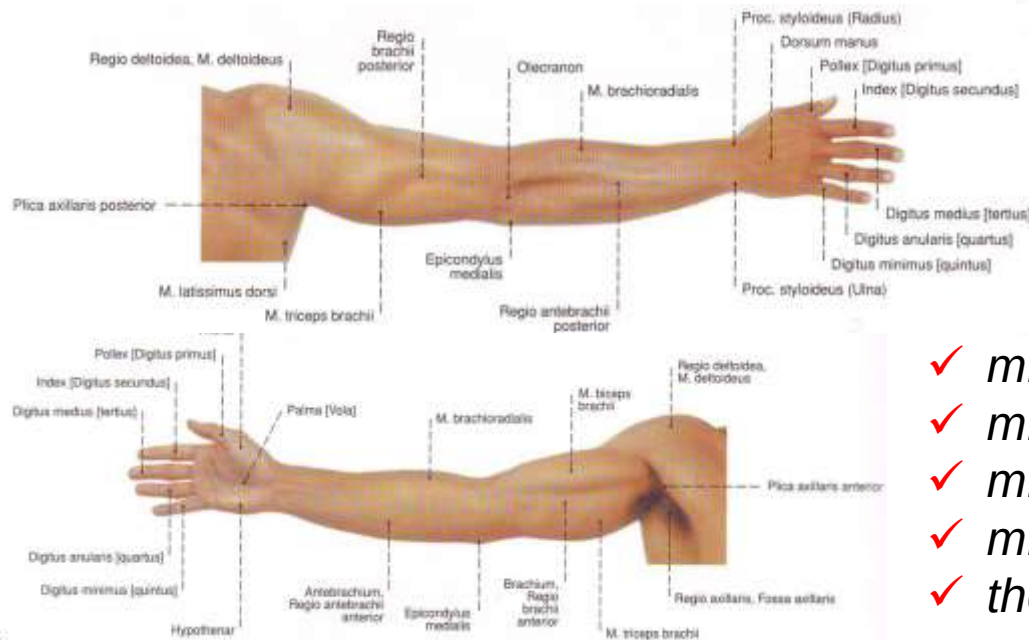
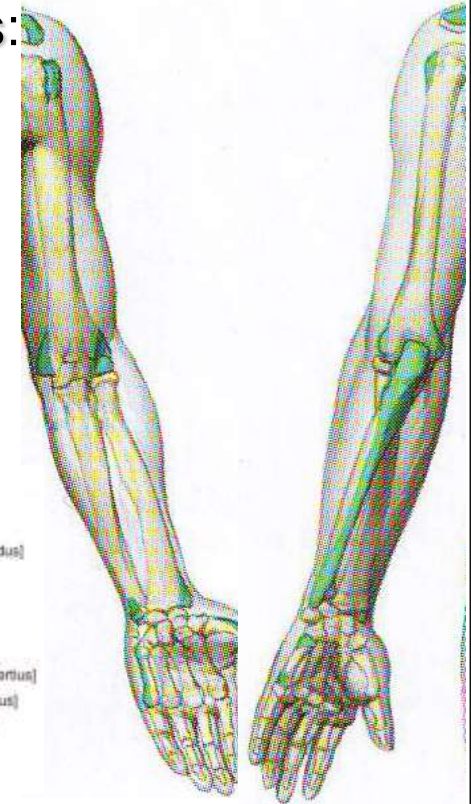
Upper limb



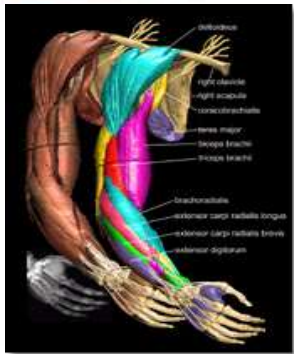
External palpation points

■ The bone and muscle palpation points:

- ✓ *processus coracoideus scapulae*
- ✓ *acromion scapulae*
- ✓ *epicondylus medialis humeri*
- ✓ *epicondylus lateralis humeri*
- ✓ *olecranon ulnae*
- ✓ *processus styloideus ulnae*
- ✓ *processus styloideus radii*



- ✓ *m. deltoideus*
- ✓ *m. biceps brachii*
- ✓ *m. triceps brachii*
- ✓ *m. brachioradialis*
- ✓ *thenar et hypothenar*



Topographic regions of the upper limb

- *regiones membri superioris:*

- ✓ shoulder (pectoral girdle):

- *regio deltoidea*

- ✓ arm, *brachium*:

- *regio brachii anterior*

- *regio brachii posterior*

- ✓ elbow, *cubitus*:

- *regio cubitalis anterior*

- *regio cubitalis posterior*

- ✓ forearm:

- *regio antebrachii anterior*

- *regio antebrachii posterior*

- ✓ wrist, *carpus*:

- *regio carpalis anterior*

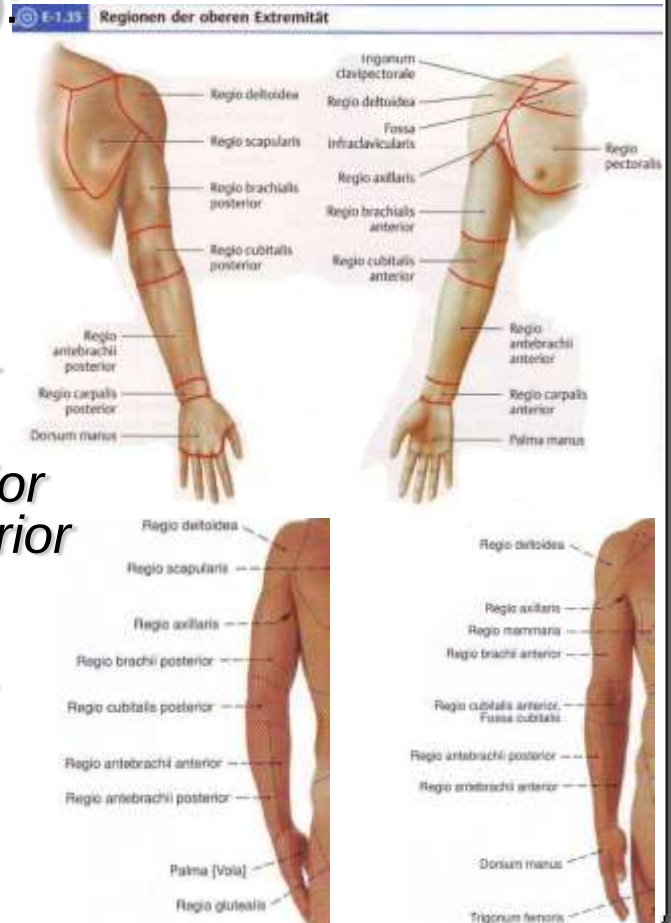
- *regio carpalis posterior*

- ✓ hand, *manus*:

- *palma manus*

- *dorsum manus*

- *digiti manus*



topography

content

Spatium

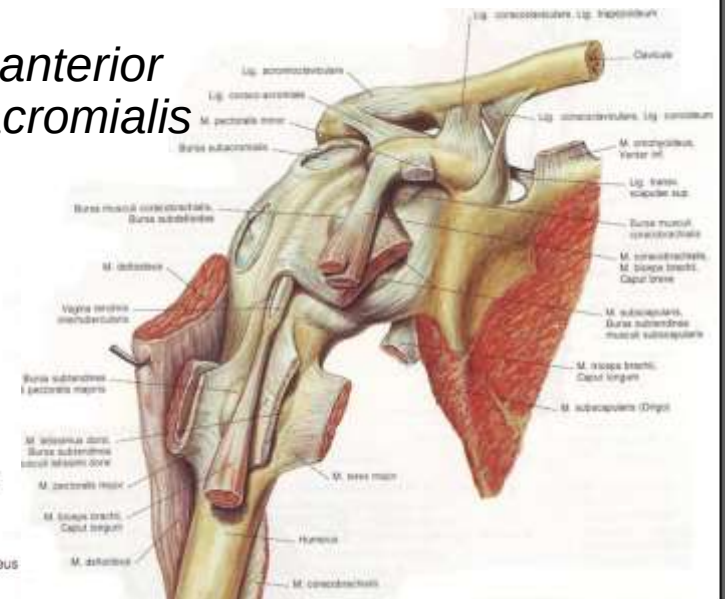
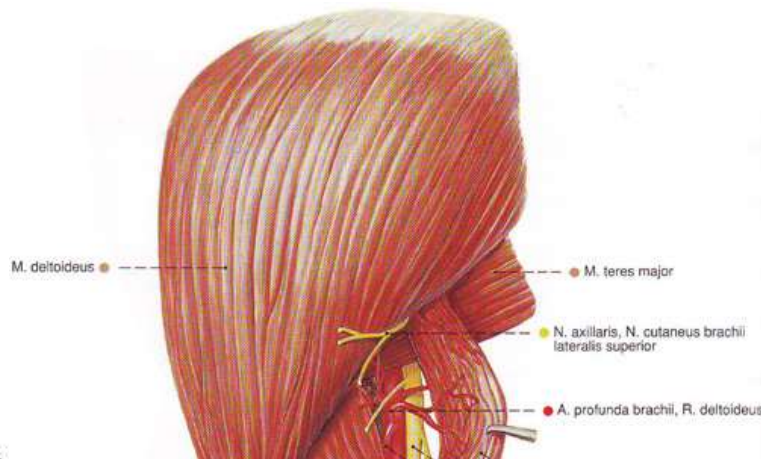
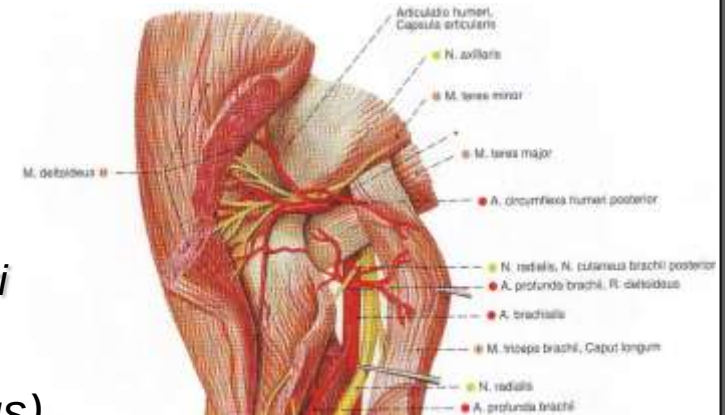
subdeltoideum



The subdeltoid space

■ content:

- ✓ loose connective tissue
- ✓ deeply – the deep layer of deltoid fascia
- ✓ neurovascular bundle – *foramen axillare laterale*:
 - *a. et v. circumflexa humeri posterior*
 - *n. axillaris*
- ✓ *r. deltoideus (anastomoticus)*
a. profundae brachii
- ✓ *a. et v. circumflexa humeri anterior*
- ✓ *bursa subdeltoidea et subacromialis*



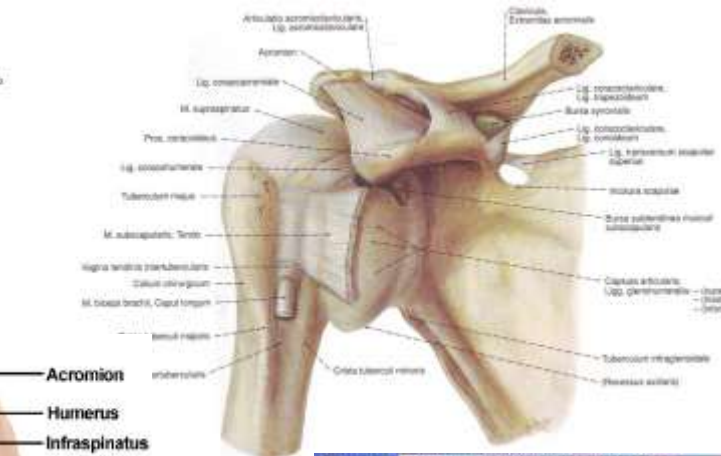
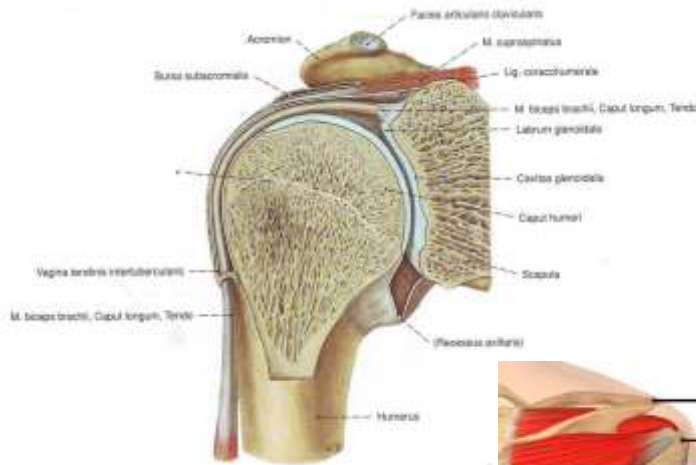
Articulatio humeri

Shoulder dislocation

- ✓ luxatio axillaris
- ✓ luxatio subcoracoidea



Glenohumeral (shoulder) joint, articulatio humeri (glenohumeralis)

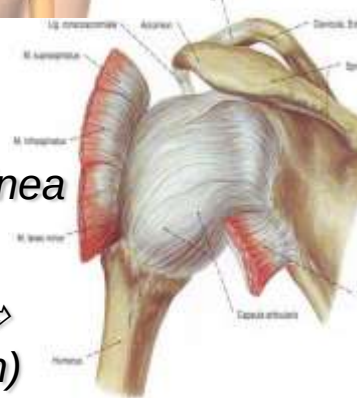


capsula articularis:

✓ recessus axillaris ⇒ fossa axillaris

✓ recessus subscapularis ⇒ bursa m. subscapularis subtendinea ⇒ fossa subscapularis

✓ recessus intertubercularis ⇒ spatium subdeltoidem (3-5 cm)



E-1.12 Kapsel-Band-Apparat der Schulter



boundaries
topographic
regions

Brachium



The arm, *brachium*

■ boundaries:

✓ proximal – the line through:

- *m. latissimus dorsi*
- *m. pectoralis major*

✓ distal – two-finger width (3-4 cm) proximally from

- the humeral epicondyles

■ compartments of the arm:

✓ anterior (flexor) – communication with:

- *fossa axillaris* – upwards
- *fossa cubitalis* – downwards

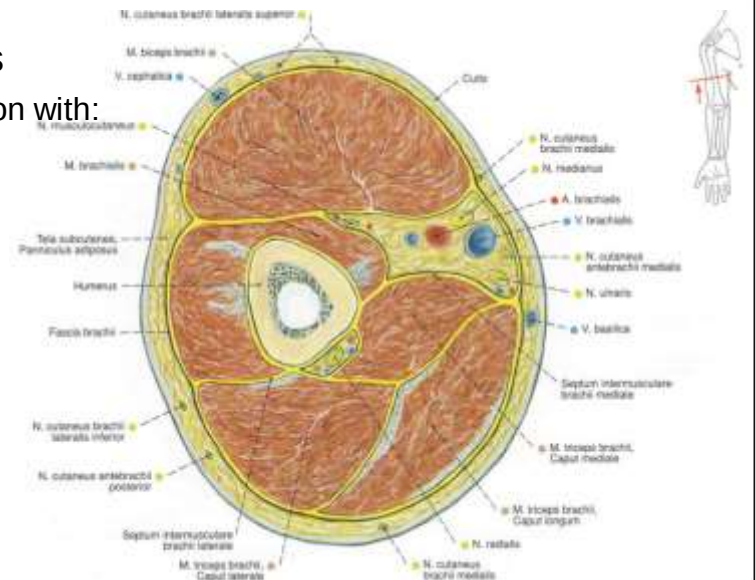
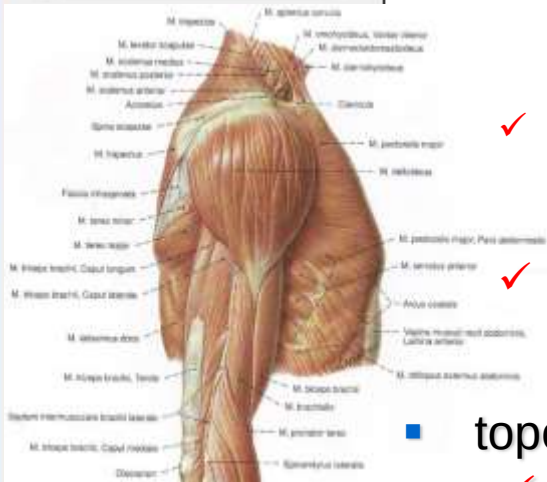
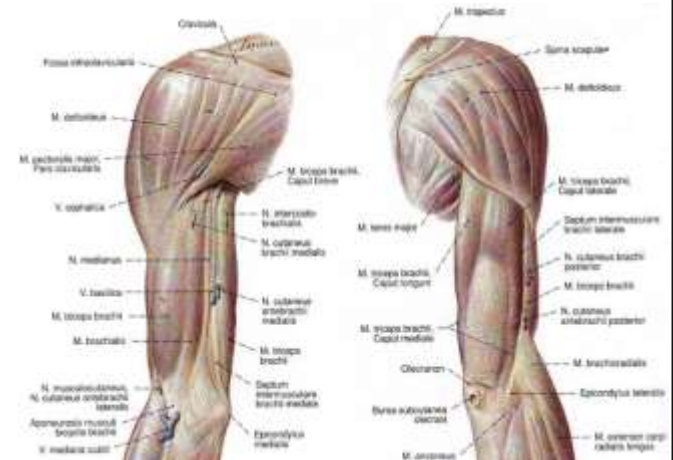
✓ posterior (extensor) – communication with:

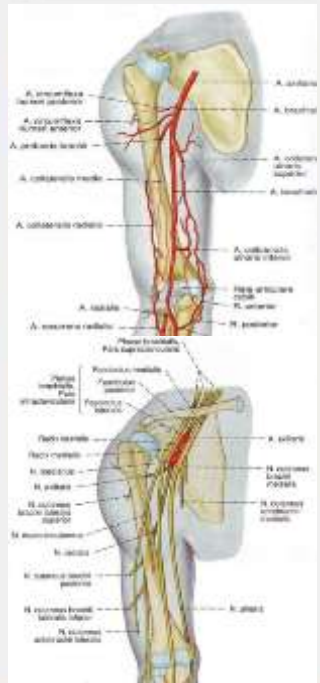
- *fossa axillaris* – upwards
- blind end – downwards

✓ *fascia brachii* ⇔
septum intermusculare brachii, mediale et laterale

■ topographic regions:

- ✓ *regio brachii anterior*
- ✓ *regio brachii posterior*





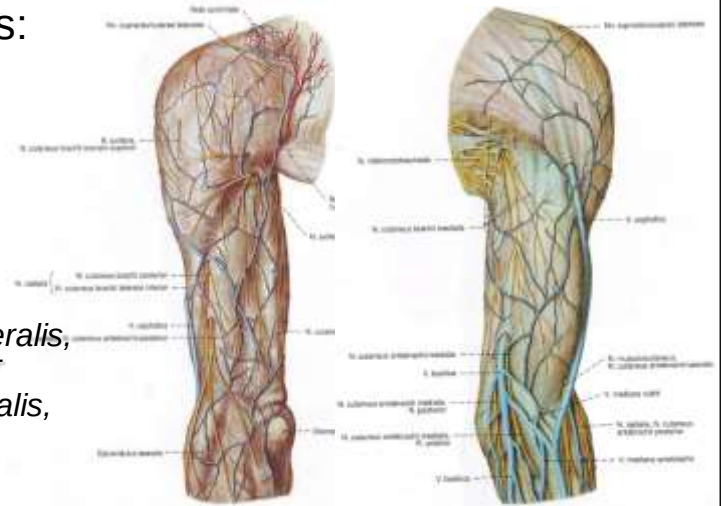
The anterior brachial region, *regio brachii anterior*

- boundaries – ahead of the humerus:

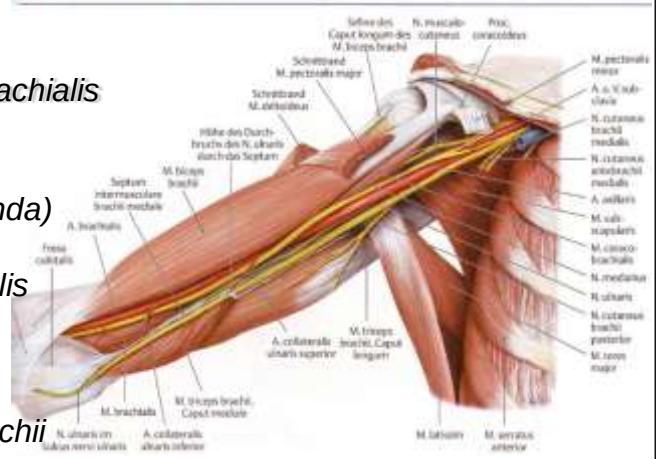
- ✓ *sulcus bicipitalis medialis*
- ✓ *sulcus bicipitalis lateralis*

- surface anatomy:

- ✓ skin – thin, sleek and mobile
- ✓ subcutaneous layer – scant fat and loose connective tissue:
 - *v. cephalica* ⇔ *sulcus bicipitalis lateralis*, *n. cutaneus brachii lateralis inferior*
 - *v. basilica* ⇔ *sulcus bicipitalis medialis*, *n. cutaneus antebrachii medialis* ⇔ *hiatus basilicus*
- ✓ *fascia brachii*
- ✓ anterior muscle group – two layers:
 - superficial layer – *m. biceps brachii*
 - deep layer – *m. coracobrachialis*, *m. brachialis*
- ✓ neurovascular bundle of the region – in *sulcus bicipitalis medialis*:
 - *v. et a. brachialis* (*superficialis et profunda*)
 - *n. medianus*
 - *nn. cutanei brachii et antebrachii medialis*
 - *n. ulnaris* – anteromedially, *a. collateralis ulnaris superior*
 - *n. musculocutaneus* – laterally
 - *n. radialis* – posteriorly, *a. profunda brachii* (*canalis humeromuscularis*)



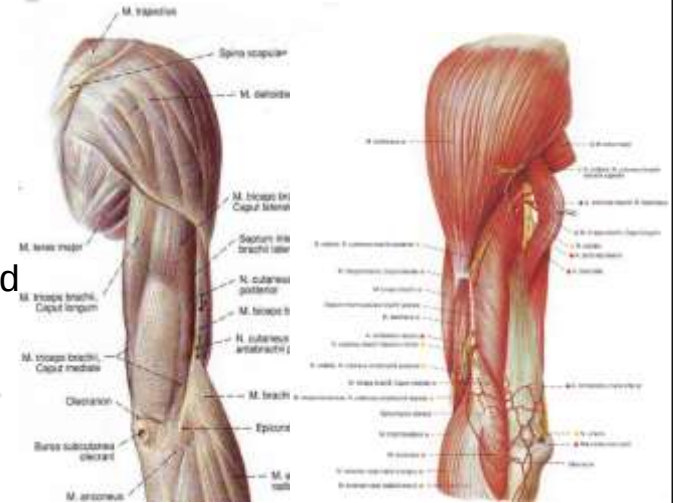
Haupt-Gefäß-Nerven-Straße des Oberarms: Sulcus bicipitalis medialis



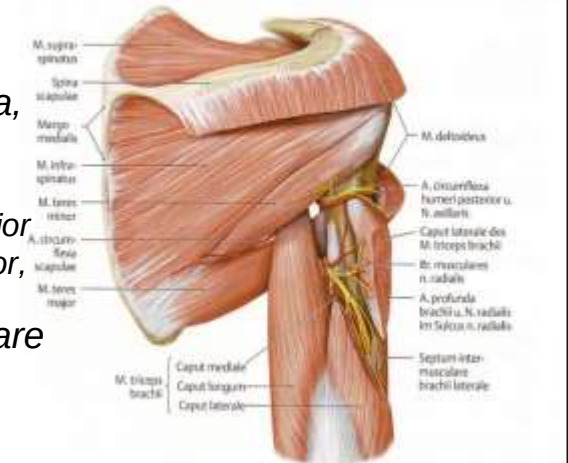


The posterior brachial region, *regio brachii posterior*

- boundaries – behind the humerus:
 - ✓ *sulcus bicipitalis medialis*
 - ✓ *sulcus bicipitalis lateralis*
- surface anatomy:
 - ✓ skin – thicker and less mobile
 - ✓ subcutaneous layer – abundant fat and loose connective tissue:
 - *n. cutaneus brachii posterior*
 - *n. cutaneus brachii lateralis inferior*
 - *n. cutaneus antebrachii posterior*
 - ✓ *fascia brachii* – comparatively thicker
 - ✓ *m. triceps brachii* – muscle heads
 - ✓ neurovascular bundles of the region:
 - upper – in *canalis humeromuscularis*:
 - *a. profunda brachii* ⇔ *a. collateralis media*, *a. collateralis radialis* (end branch)
 - *n. radialis* – branches in the region:
 - prior to the canal – *n. cutaneus brachii posterior*
 - in the canal – *n. cutaneus antebrachii posterior*, *n. cutaneus brachii lateralis inferior*
 - lower – behind the *septum intermusculare brachii mediale*:
 - *a. collateralis ulnaris superior*
 - *n. ulnaris*



6-1.31 Nervus radialis und andere Nerven mit unmittelbarem Kontakt zum Humerus



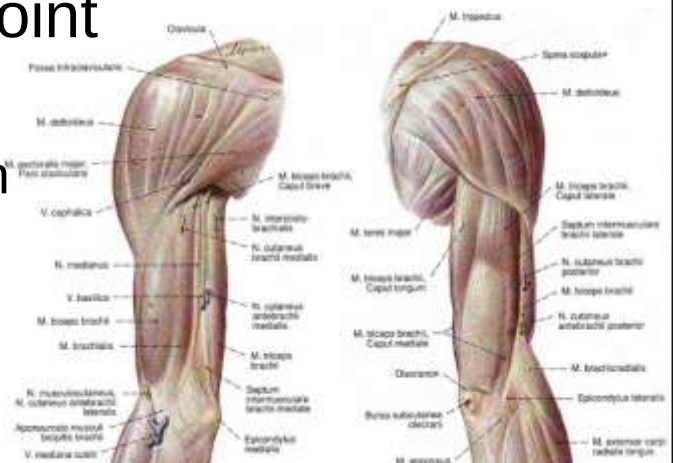
boundaries
topographic
regions



The elbow, *cubitus*

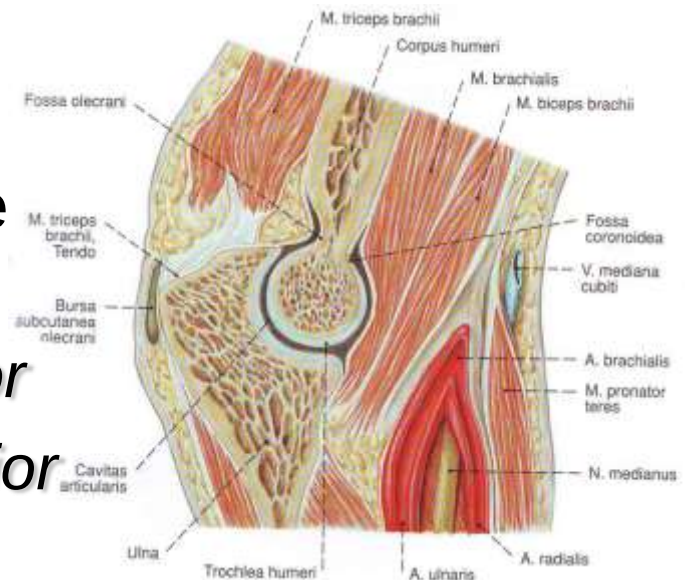
- Boundaries – the elbow joint contours:

- ✓ proximal – two-finger width (3-4 cm) proximally from:
- ✓ distal – two-finger width (3-4 cm) distally from the:
 - humeral epicondyles
 - elbow skin flap



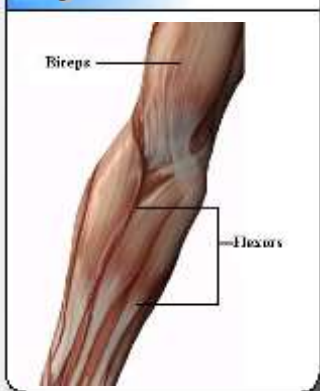
- topographic regions – vertical lines through the humeral epicondyles:

- ✓ *regio cubitalis anterior*
- ✓ *regio cubitalis posterior*



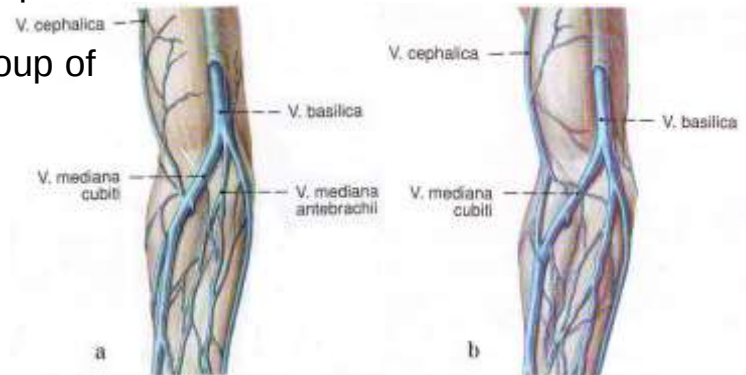
topography
surface anatomy

Regio cubiti anterior

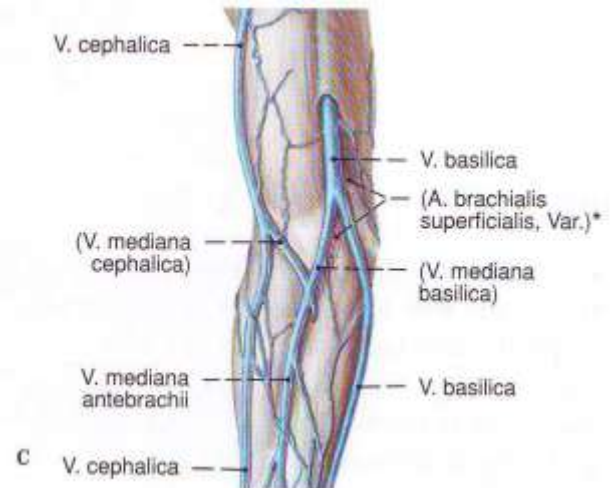


The anterior cubital region, *regio cubitalis anterior*

- medial elevation – anterior (flexor) group of muscles of the forearm
- lateral elevation – lateral (pronator) group of muscles of the forearm
- middle elevation – the end portions of:
 - ✓ *aponeurosis m. bicipitis brachii*
 - ✓ *m. brachialis*
- surface anatomy:
 - ✓ skin – thin and highly mobile
 - ✓ subcutaneous tissue – sparse fat and loose connective tissue:
 - lateral groove – *v. cephalica*, *n. cutaneus antebrachii lateralis*
 - medial groove – *v. basilica*, *n. cutaneus antebrachii medialis*, *nodi lymphoidei cubitales superficiales* (1-3) - enlarged and compact in *syphilis secundaria*
 - ✓ *fascia cubiti*, *aponeurosis m. bicipitis brachii*
 - ✓ anterior muscle groups – three groups:
 - medial:
 - *m. pronator teres*, *m. flexor carpi radialis*, *m. palmaris longus*, *m. flexor carpi ulnaris*, *m. flexor digitorum superficialis*
 - lateral:
 - *m. brachioradialis*, *mm. extensores carpi radiales*, *m. supinator*
 - median:
 - *m. biceps brachii*, *m. brachialis*



И- anastomosis – 65%

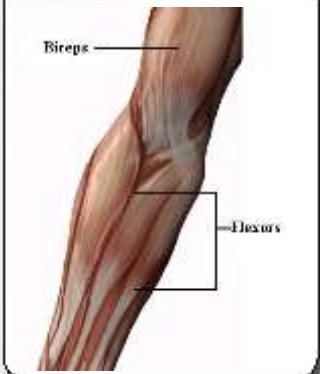


М-anastomosis – 35%

topography

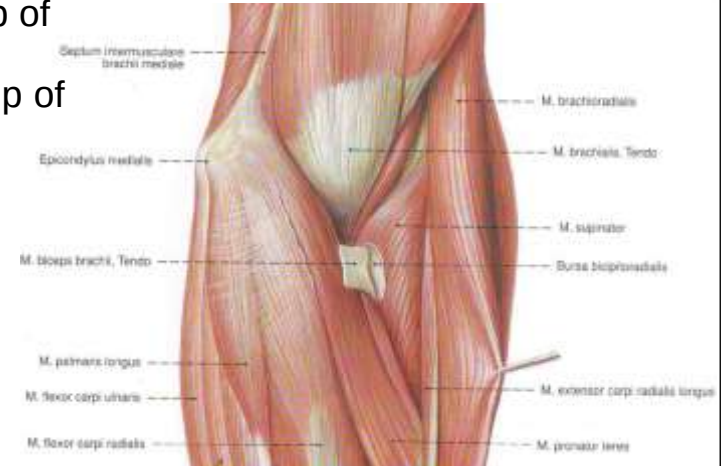
surface anatomy

Regio cubiti anterior



The anterior cubital region, *regio cubitalis anterior*

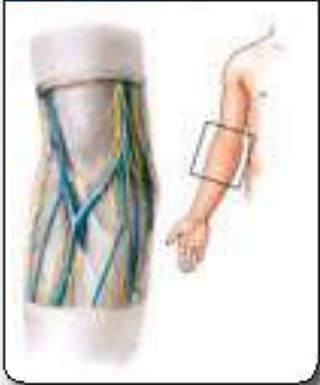
- medial elevation – anterior (flexor) group of muscles of the forearm
- lateral elevation – lateral (pronator) group of muscles of the forearm
- middle elevation – the end portions of:
 - ✓ *aponeurosis m. bicipitis brachii*
 - ✓ *m. brachialis*
- surface anatomy:
 - ✓ skin – thin and highly mobile
 - ✓ subcutaneous tissue – sparse fat and loose connective tissue:
 - lateral groove – *v. cephalica*, *n. cutaneus antebrachii lateralis*
 - medial groove – *v. basilica*, *n. cutaneus antebrachii medialis*, *nodi lymphoidei cubitales superficiales* (1-3) - enlarged and compact in *syphilis secundaria*
 - ✓ *fascia cubiti*, *aponeurosis m. bicipitis brachii*
 - ✓ anterior muscle groups – three groups:
 - medial:
 - *m. pronator teres*, *m. flexor carpi radialis*, *m. palmaris longus*, *m. flexor carpi ulnaris*, *m. flexor digitorum superficialis*
 - lateral:
 - *m. brachioradialis*, *mm. extensores carpi radiales*, *m. supinator*
 - median:
 - *m. biceps brachii*, *m. brachialis*



topography

content

Fossa cubiti



The cubital fossa, *fossa cubitalis*

■ boundaries:

✓ lateral:

- *m. biceps brachii*
- *m. brachioradialis*

✓ medial:

- *m. pronator teres*

✓ floor:

- *tendo m. bicipitis brachii* ⇨ *bursa bicipitoradialis*
- *tendo m. brachialis*

■ content:

✓ loose connective tissue

✓ medial neurovascular bundle:

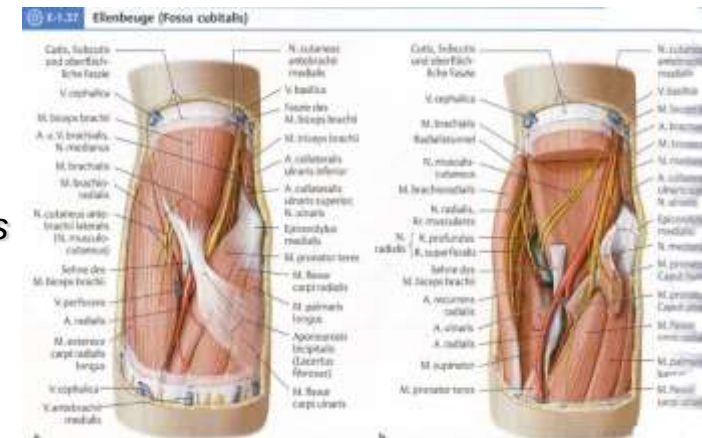
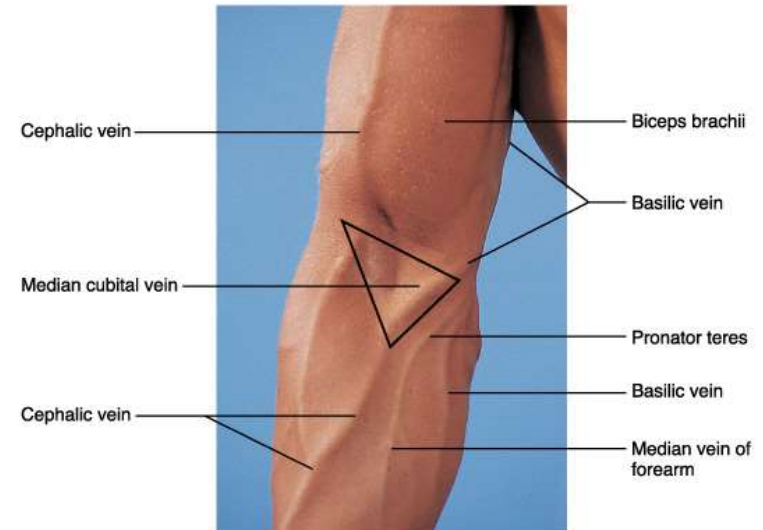
- *v. et a. brachialis* ⇨ *a. radialis et a. ulnaris*, lymph nodes
- *n. medianus*

✓ lateral neurovascular bundle:

- *n. radialis* ⇨ *ramus superficialis et ramus profundus*
- *a. et v. collateralis radialis*, *a. et v. recurrens radialis*

✓ *m. brachialis*

✓ *art. cubiti*, *capsula articularis*



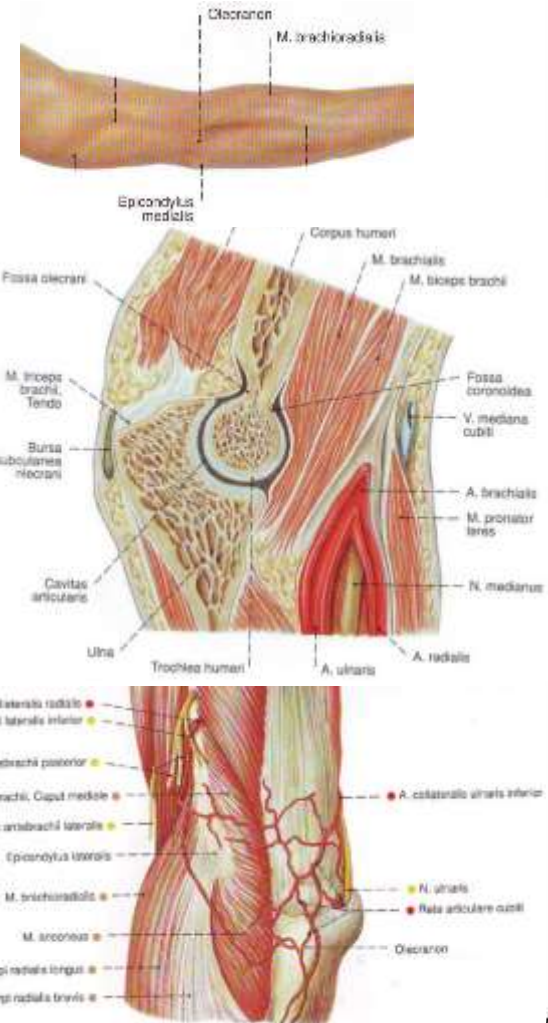
major landmarks
surface anatomy

Regio cubiti posterior



Posterior cubital region, *regio cubitalis posterior*

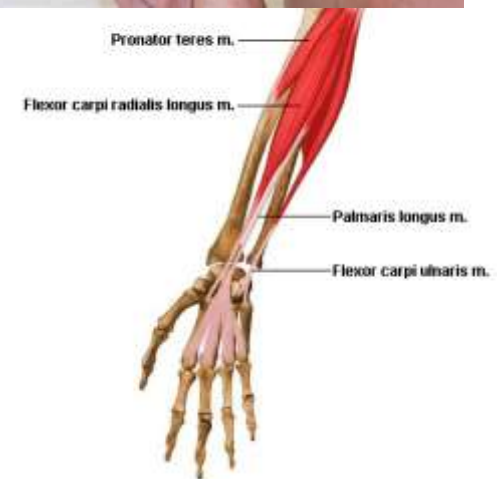
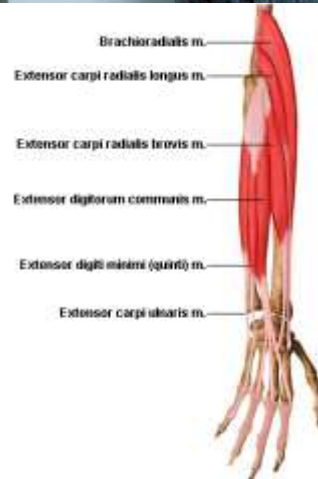
- *olecranon ulnae*
- *fossa pulchritudinis* ⇒ *caput radii*, *capitulum humeri*
- *sulcus nervi ulnaris*
- surface anatomy:
 - ✓ skin – thick and highly mobile
 - ✓ subcutaneous layer – sparse fat and loose connective tissue:
 - *bursa subcutanea olecrani*
 - *n. cutaneus antebrachii posterior*
 - ✓ *fascia brachii*
 - ✓ muscles:
 - *tendo m. tricipitis brachii*
⇒ *bursa subtendinea m. tricipitis brachii*
 - *m. anconeus*
 - ✓ *n. ulnaris*
 - ✓ *a. collateralis ulnaris superior*



**Clinical
relevance**

Clinical significance

- lateral epicondylitis (tennis elbow)
- medial epicondylitis (golfer's elbow)

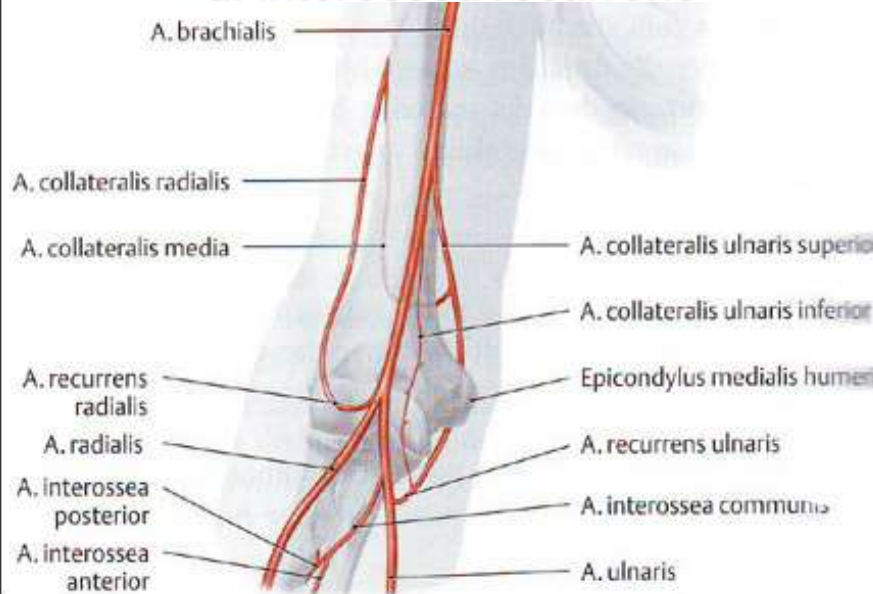


The elbow joint, *articulatio cubiti*

Articulatio cubiti

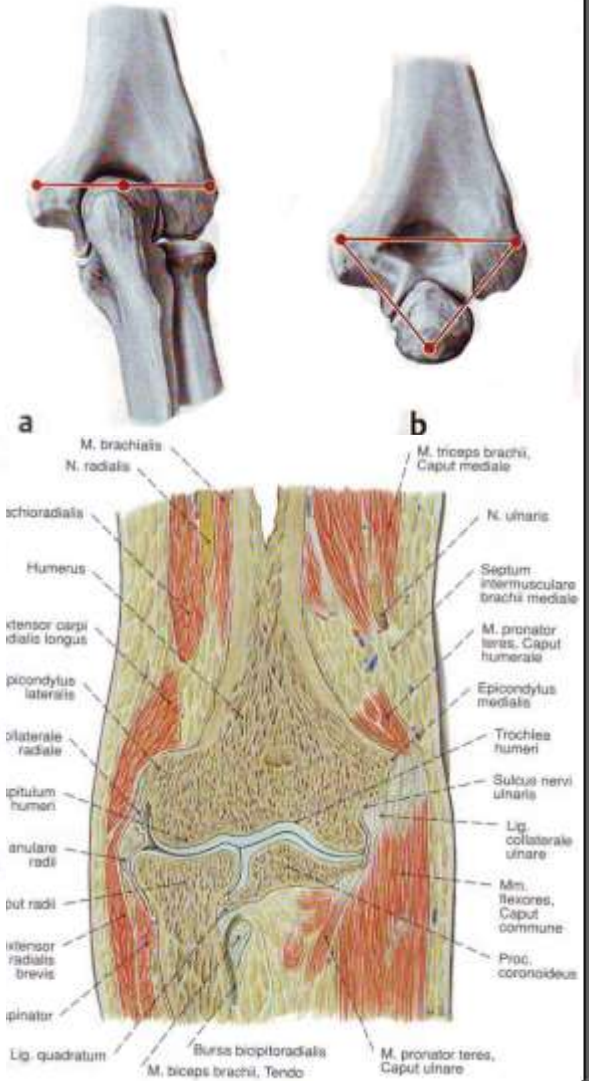


- *rete articulare cubiti*:
 - ✓ *a. collateralis ulnaris superior*
 - ✓ *a. collateralis ulnaris inferior*
 - ✓ *a. collateralis radialis*
 - ✓ *a. collateralis media*
 - ✓ *a. recurrens radialis*
 - ✓ *a. recurrens ulnaris*
 - ✓ *a. interossea recurrens*

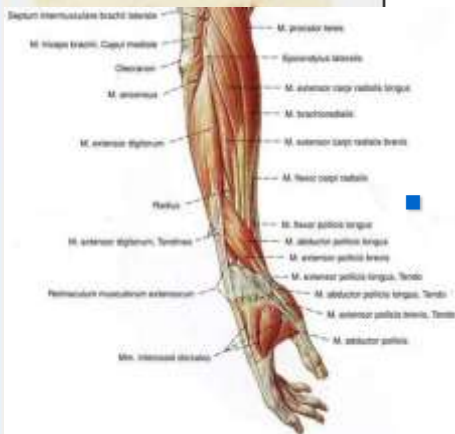


38

Hueter-Linie und Hueter-Dreieck



Antebrachium



- boundaries:

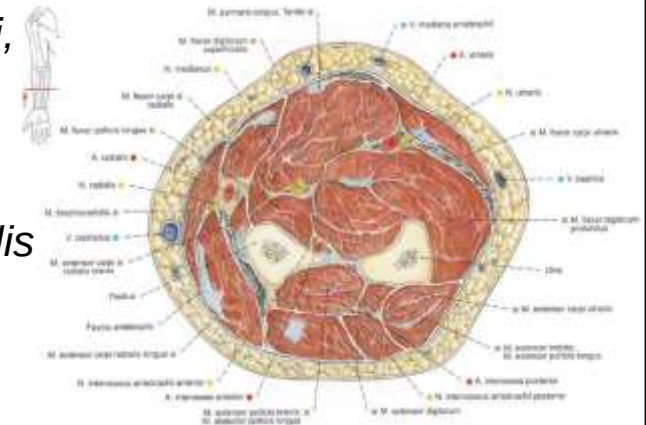
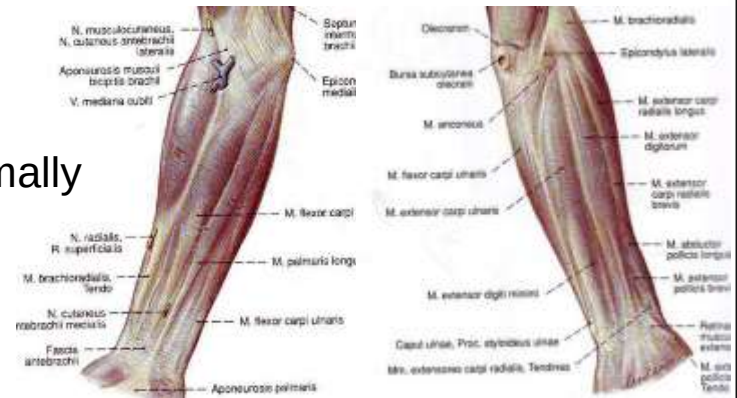
- ✓ proximal – two fingers distally from the elbow groove
- ✓ distal – the line at 1 cm proximally from *processus styloidei, ulnae et radii*

- compartments of the forearm:

- ✓ anterior – anterior muscle group
- ✓ posterior – posterior muscle group
- ✓ radial – lateral muscle group
- ✓ *fascia antebrachii* ⇒
septum intermusculare antebrachii,
anterius et posterius

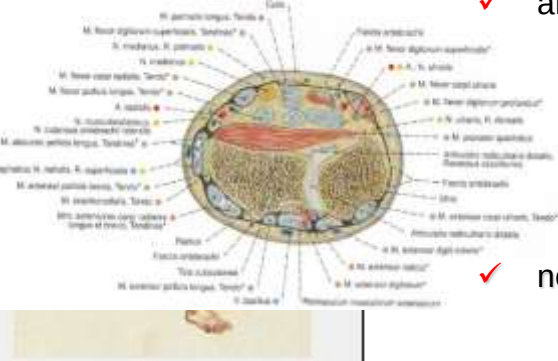
- topographic regions – ulnar and radial longitudinal grooves (*epicondylus humeri, medialis et lateralis* ⇒ *processus styloideus, ulnae et radii*):

- ✓ regio antebrachii anterior
- ✓ regio antebrachii posterior



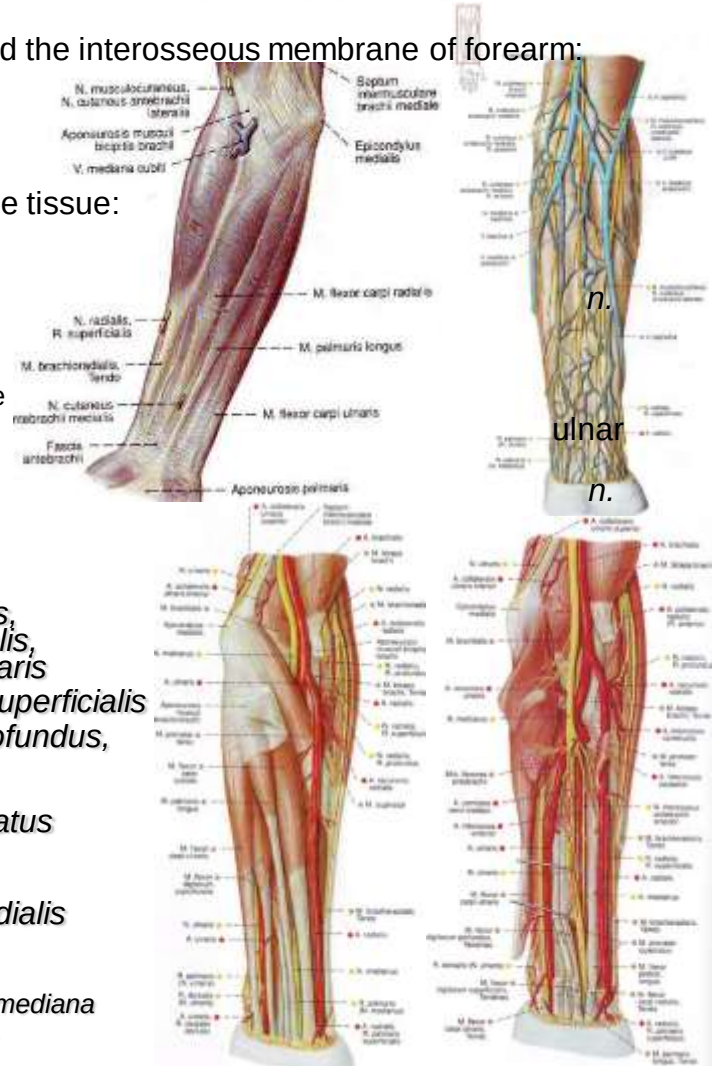
topography
surface anatomy

Antebrachium
Fractura



The anterior forearm region, *regio antebrachii anterior*

- boundaries – ahead of bones of the forearm and the interosseous membrane of forearm:
 - ✓ medial and lateral elevations
 - ✓ muscle tendons – in the distal one-thirds
- surface anatomy:
 - ✓ skin – thin and mobile
 - ✓ subcutaneous layer – sparse fat and loose tissue:
 - *v. cephalica*, *n. cutaneus antebrachii lateralis*
 - *v. basilica*, *cutaneus antebrachii medialis*
 - *v. mediana antebrachii*
 - *r. palmaris n. medianus* ⇨ median line
 - *r. cutaneus palmaris n. ulnaris* ⇨ ulnar groove
 - internervous lines – *medianus*, *n. radialis*, *n. ulnaris*
 - ✓ **fascia antebrachii**
 - ✓ anterior muscle group – four layers:
 - superficial layer – *m. brachioradialis*, *pronator teres*, *m. flexor carpi radialis*, *palmaris longus*, *m. flexor carpi ulnaris*
 - middle layer – *m. flexor digitorum superficialis*
 - deep layer – *m. flexor digitorum profundus*, *m. flexor pollicis longus* ⇨ deeply Pirogow-Parona space
 - deepest layer – *m. pronator quadratus*
 - ✓ neurovascular bundles in the region:
 - radial: *a. et v. radialis*, *r. superficialis n. radialis*
 - ulnar: *a.*, *v. et n. ulnaris*
 - median – two bundles:
 - superficial – *n. medianus*, *a. et v. mediana*
 - deep – *a. et v. interossea anterior*, *interosseus antebrachii anterior*



The posterior forearm region, *regio antebrachii posterior*

- boundaries – behind the forearm bones and interosseous membrane:

- ✓ superior and inferior oblique elevations

- surface anatomy:

- ✓ skin – thicker and mobile

- ✓ subcutaneous layer – sparse fat and loose tissue:

- venous vessels – *v. cephalica et v. basilica*
- *n. cutaneus antebrachii posterior*
- *n. cutaneus antebrachii medialis*
- *r. superficialis n. radialis* ⇨ distal one-third
- *r. dorsalis manus n. ulnaris*

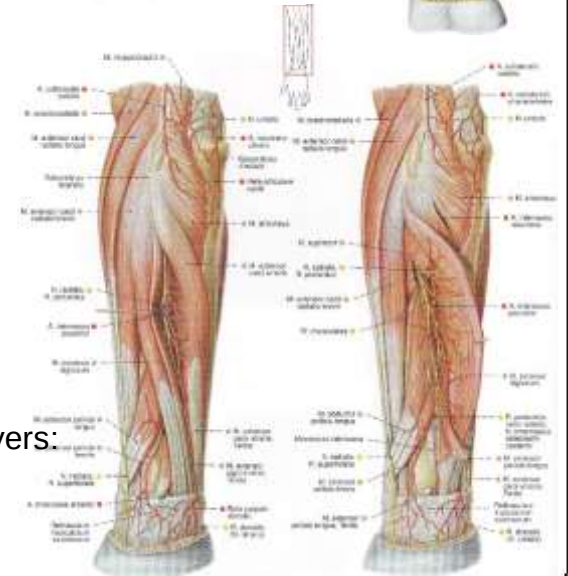
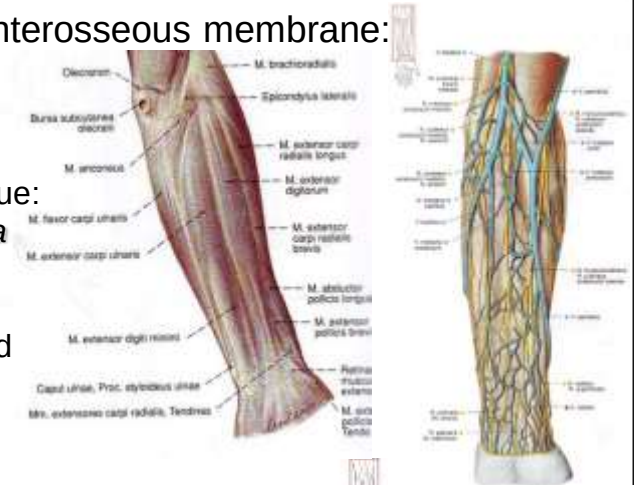
- ✓ fascia antebrachii

- ✓ posterior muscle group – two layers:

- superficial layer – *mm. extensores carpi radialis, longus et brevis, m. extensor digitorum, m. extensor digiti minimi, m. extensor carpi ulnaris*
- connective tissue space
- deep layer – *m. supinator, m. abductor pollicis longus, m. extensor pollicis brevis, m. extensor pollicis longus, m. extensor indicis*

- ✓ neurovascular bundle – between the two muscle layers:

- *ramus profundus n. radialis*
- *a. et vv. interossee posteriores*
- *a. interossea anterior* – in the inferior part



boundaries

topographic
regions

Carpus



The wrist, carpus

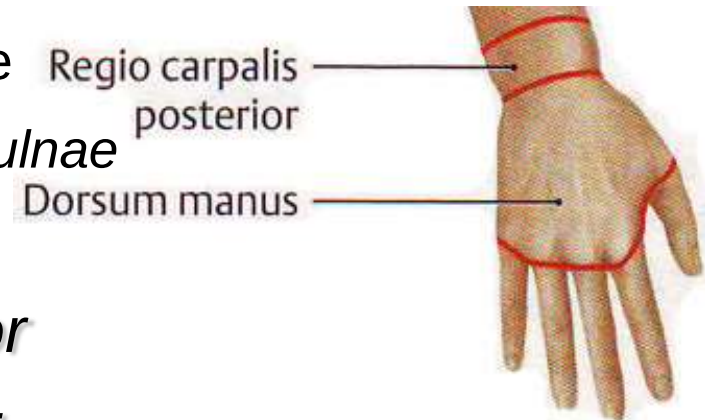
■ boundaries:

- ✓ proximal – 1 cm proximally from *processus styloidei, radii et ulnae*
- ✓ distal – distally from *os pisiforme*



■ topographic regions – the longitudinal lines through the *processus styloidei, radii et ulnae* and wrist margins:

- ✓ *regio carpalis anterior*
- ✓ *regio carpalis posterior*



topography
surface anatomy

Radial artery pulse



Vv. metacarpaceales palmares, Rete venosum palmare

Anterior region of wrist, *regio carpalis anterior*

■ surface anatomy:

- ✓ skin – thin, smooth and glabrous
- ✓ subcutaneous layer – sparse fat and loose connective tissue:
 - tributaries of v. *basilica* and v. *mediana antebrachii*
 - nn. *cutanei antebrachii, lateralis et medialis*
 - r. *palmaris n. mediani*
 - r. *cutaneus palmaris n. ulnaris*
- ✓ fascia *antebrachii* ⇒ *retinaculum mm. flexorum*
- ✓ the carpal tunnel, *canalis carpi*
- ✓ muscle layers – superficial and deep:

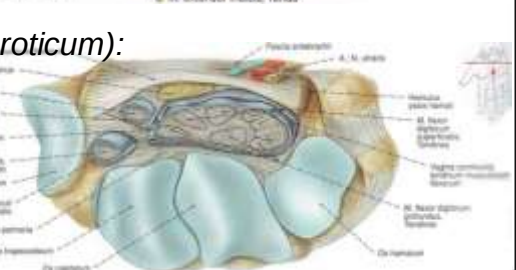
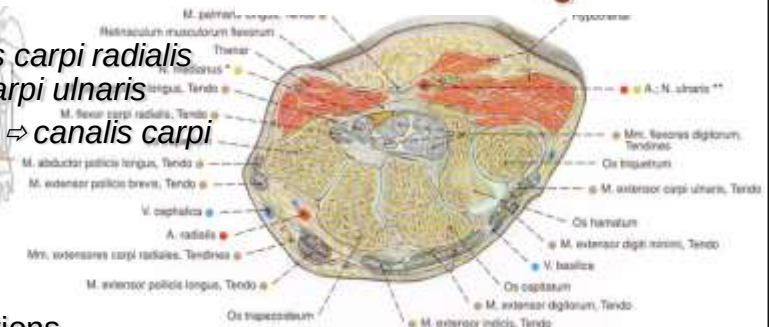
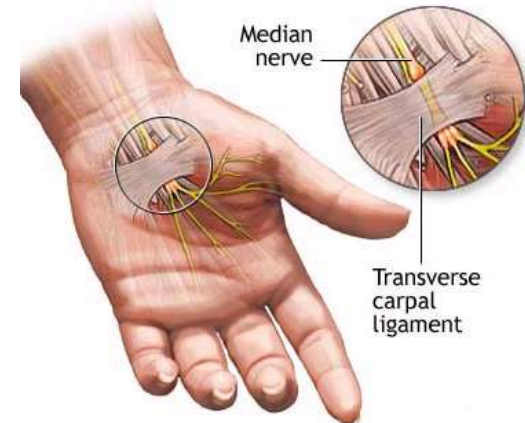
- m. *flexor carpi radialis* ⇒ *canalis carpi radialis*
m. *palmaris longus*, m. *flexor carpi ulnaris*
- m. *flexor digitorum superficialis* ⇒ *canalis carpi*
m. *flexor digitorum profundus*,
m. *flexor pollicis longus*
- n. *medianus*

✓ neurovascular bundles:

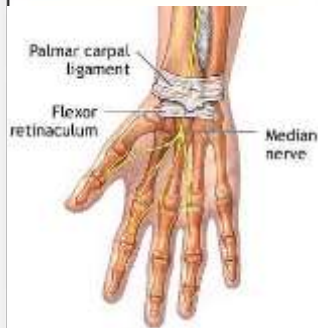
- radial – a. et v. *radialis* ⇒ pulsations
- ulnar – *canalis carpi ulnaris (spatium interaponeuroticum)*:
a. et v. *ulnaris*, r. *palmaris manus n. ulnaris*

■ **canalis carpi radialis:**

- ✓ os *scaphoideum* et os *trapezoideum*
- ✓ *retinaculum flexorum*
- ✓ tendo et vagina m. *flexoris carpi radialis*

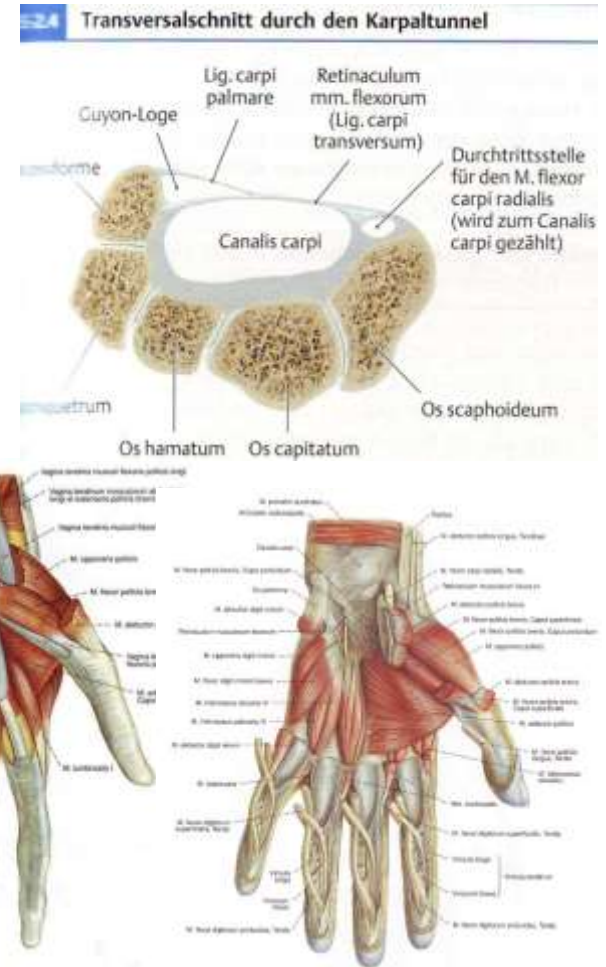


Canalis carpi



The carpal tunnel, *canalis carpi*

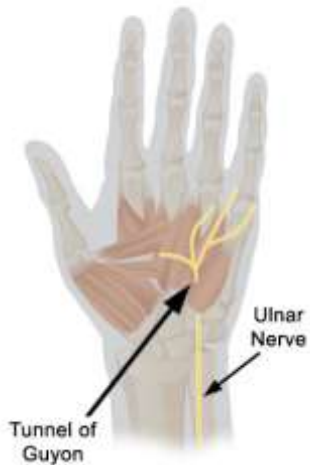
- borders:
 - ✓ *sulcus carpi*
 - ✓ *retinaculum mm. flexorum*
- content:
 - ✓ *vagina tendinis m. flexoris pollicis longi*
 - ✓ *vagina synovialis communis mm. flexorum*
 - ✓ *n. medianus*
 - ✓ *rete carpi palmare*
- carpal tunnel syndrome:
 - ✓ compression of the median nerve ⇒ pain, numbness, and tingling in the hand and arm



Jean Casimir Félix
Guyon (1831-1920)

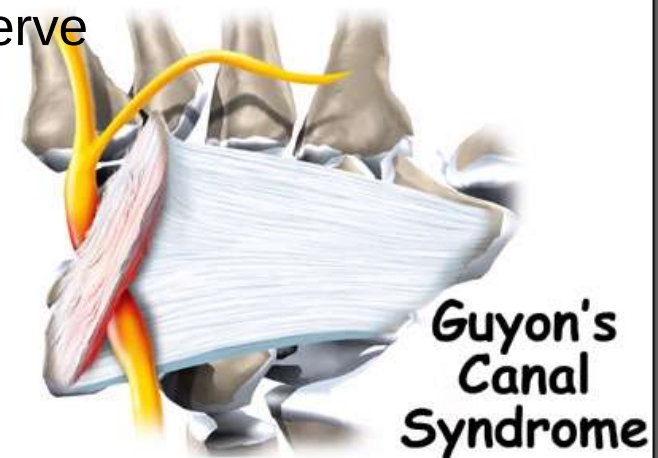
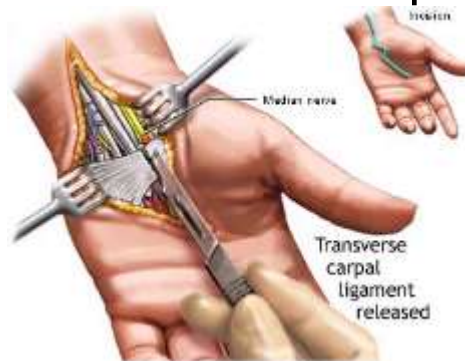
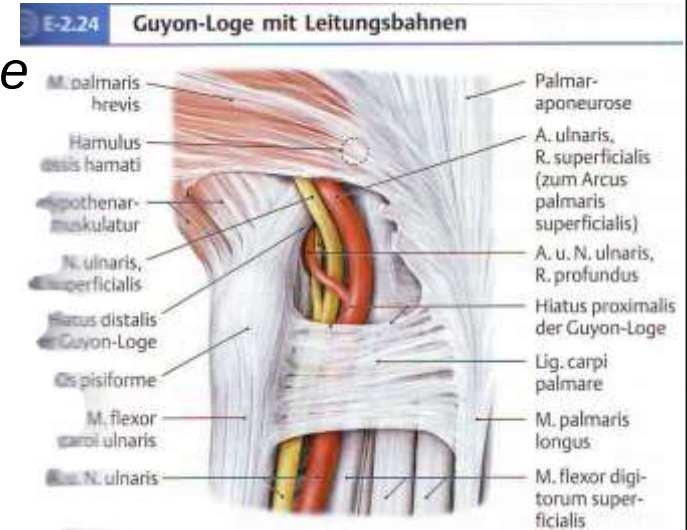


Guyon's Canal Syndrome
(Handlebar Palsy)



The ulnar tunnel (*Guyon's canal*), *canalis nervi ulnaris*

- borders:
 - ✓ *os hamatum et os pisiforme*
 - ✓ *lig. carpi palmare et lig. pisohamatum*
- content:
 - ✓ *a. et v. ulnaris*
 - ✓ *n. ulnaris – r. superficialis et r. profundus*
- *Guyon's canal syndrome*:
 - ✓ compression of the ulnar nerve
⇒ ulnar nerve entrapment



topography
surface anatomy

Regio carpi posterior



Posterior region of wrist, *regio carpalis posterior*

■ **important landmarks:**

- ✓ radial and ulnar elevations
- ✓ anatomical snuff box

■ **surface anatomy:**

- ✓ skin – thin and mobile
- ✓ subcutaneous layer:
 - tributaries of *v. cephalica et basilica*
 - *n. cutaneus antebrachii posterior*
 - *ramus superficialis n. radialis*
 - *ramus dorsalis manus n. ulnaris*

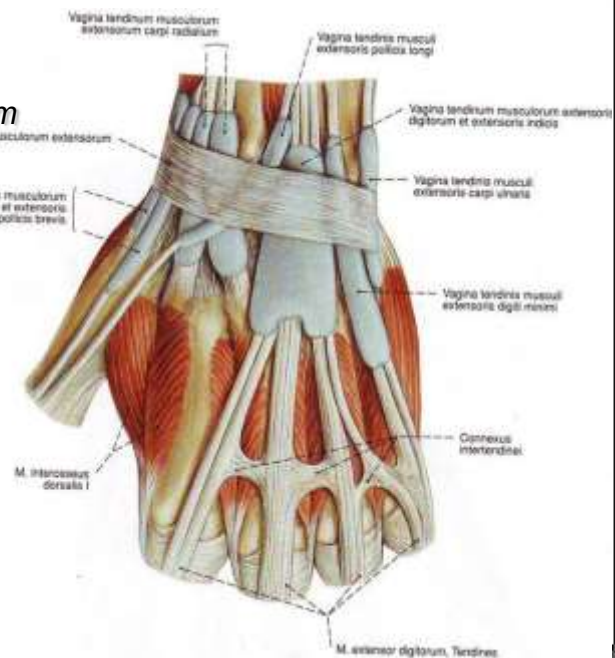
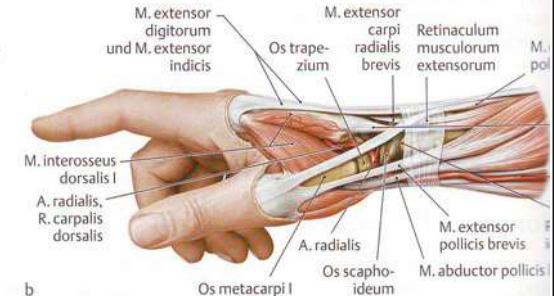
- ✓ *fascia antebrachii* ⇒ *retinaculum mm. extensorum*
- ✓ osseofibrous tunnels – synovial tendon sheaths (*vaginae tendinum*):

- I – *m. abductor pollicis longus*,
m. extensor pollicis brevis
- II – *mm. extensores carpi radialis*
- III – *m. extensor pollicis longus*
- IV – *m. extensor digitorum*,
m. extensor indicis
- V – *m. extensor digiti minimi*
- VI – *m. extensor carpi ulnaris*

- ✓ the anatomical snuff box:

- *v. et a. radialis* ⇒ *ramus carpeus dorsalis*
- floor – the scaphoid and trapezium bones

© E-2.26 Begrenzung der Fovea radialis (Tabatière)

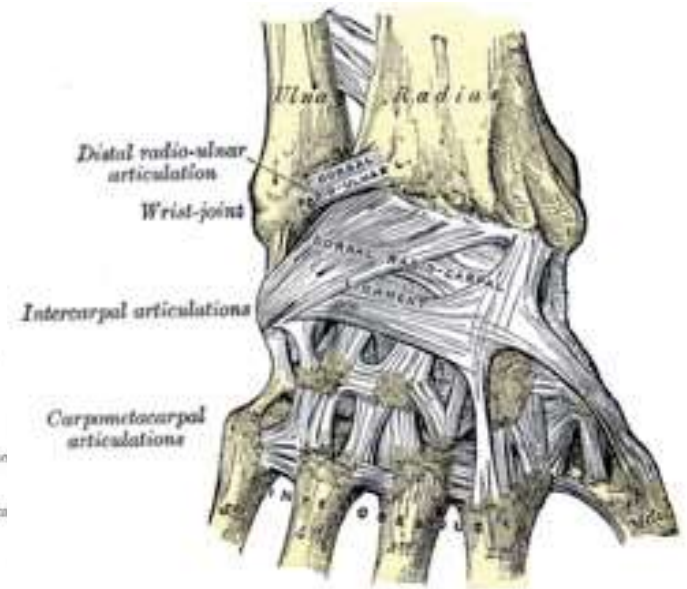
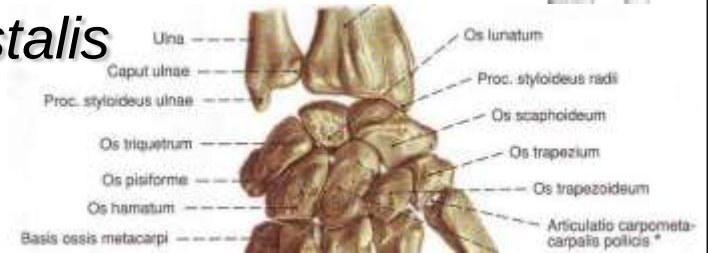
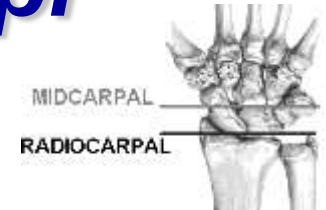
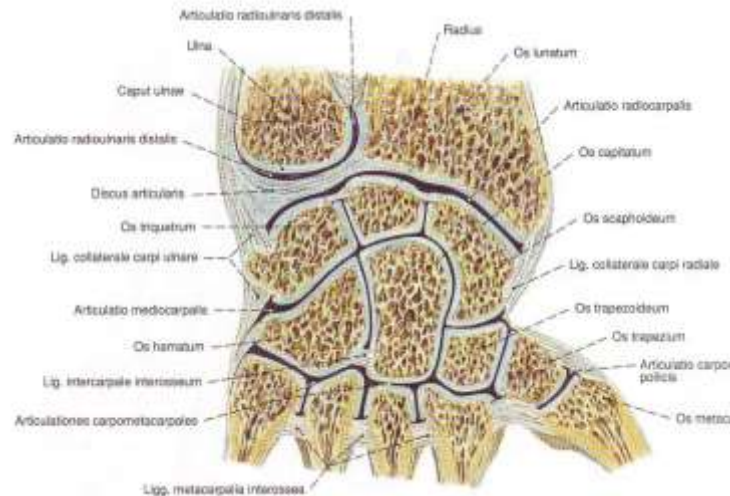
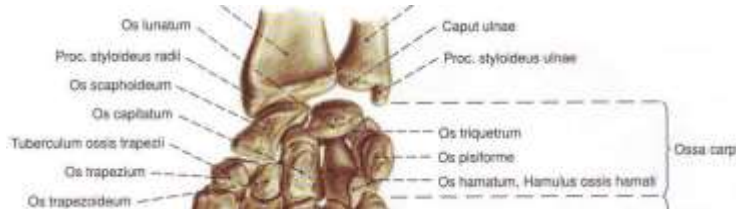


Osteoarthritis carpi



Joints of the wrist, *articulationes carpi*

- ✓ *articulatio radiocarpea*
- ✓ *articulatio mediocarpea*
- ✓ *articulatio radioulnaris distalis*

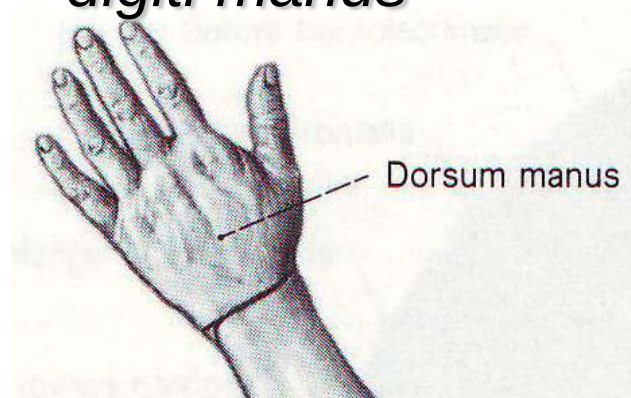
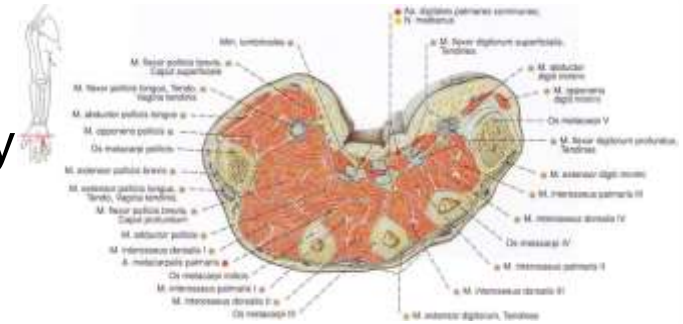
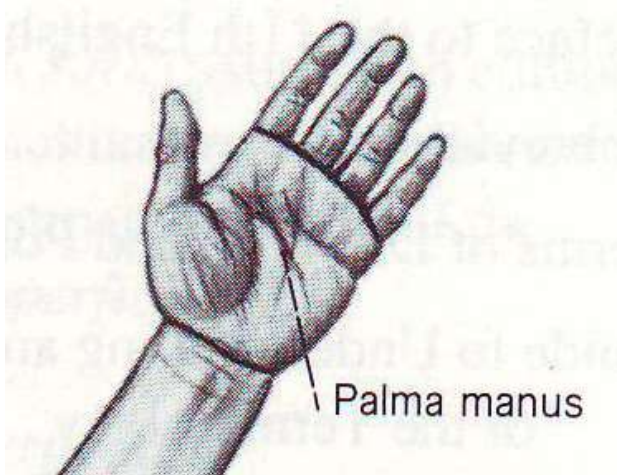
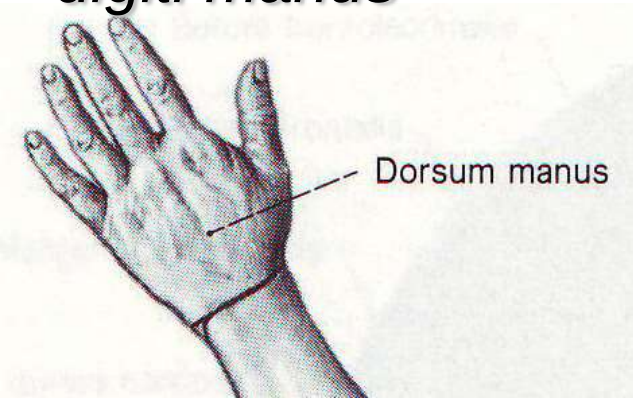
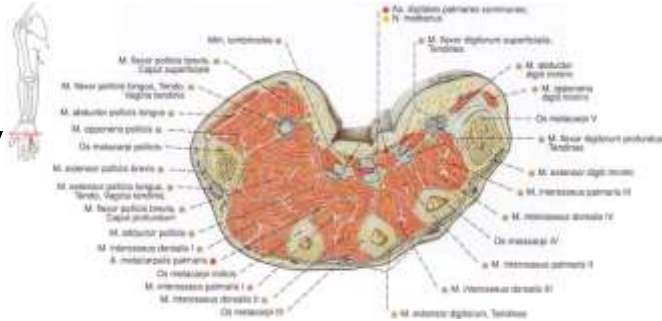


borders
topographic
regions



The hand, *manus*

- distally from the wrist
- borders:
 - ✓ proximal – the line distally from the pisiform
- topographic regions:
 - ✓ the palm, *palma manus*
 - ✓ the back (dorsal side) of the hand, *dorsum manus*
 - ✓ fingers of the hand, *digiti manus*



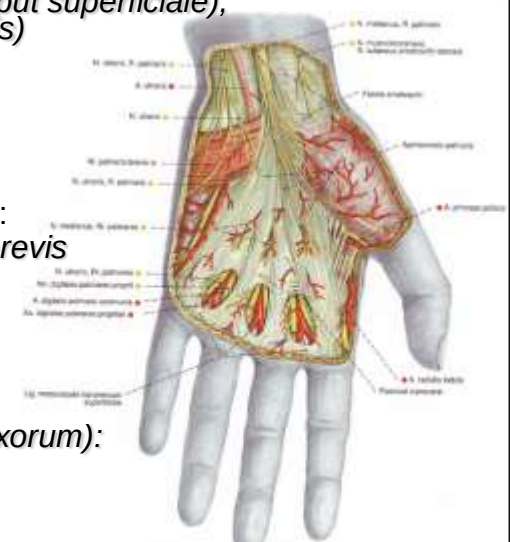
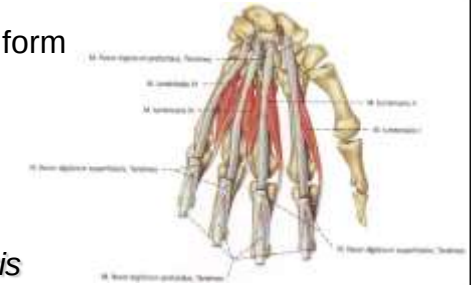
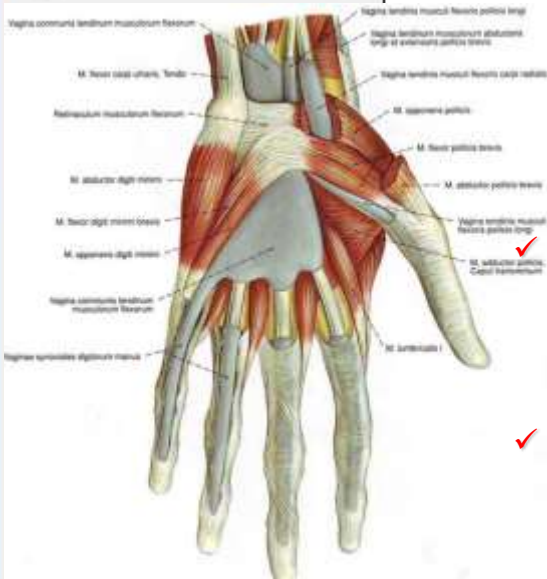
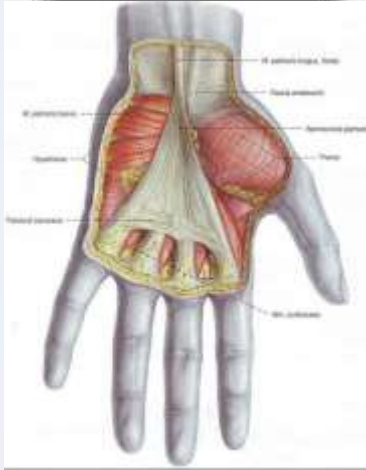
The palm, *palma (vola) manus*

■ borders and landmarks:

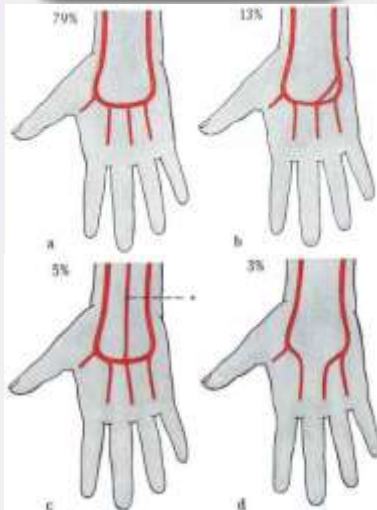
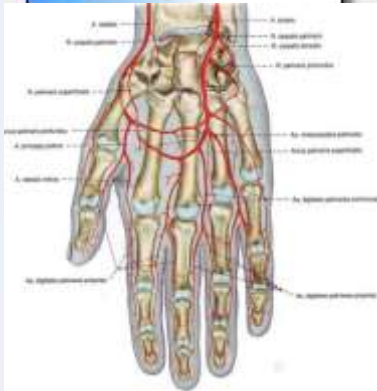
- ✓ ahead and between the metacarpals, distally from the pisiform
- ✓ medial and lateral eminences, *thenar et hypothenar*
- ✓ commissural pads – in the distal portion

■ surface anatomy:

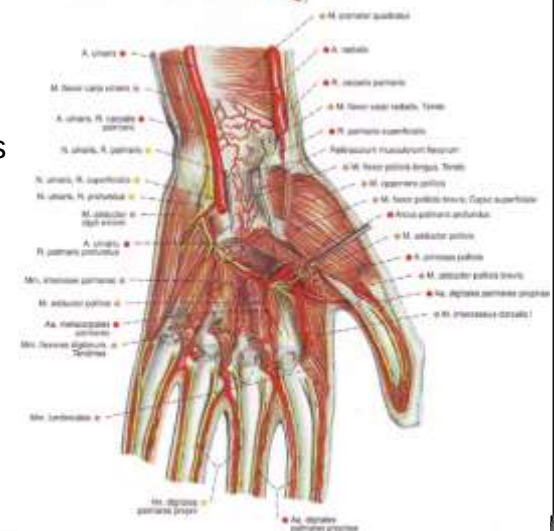
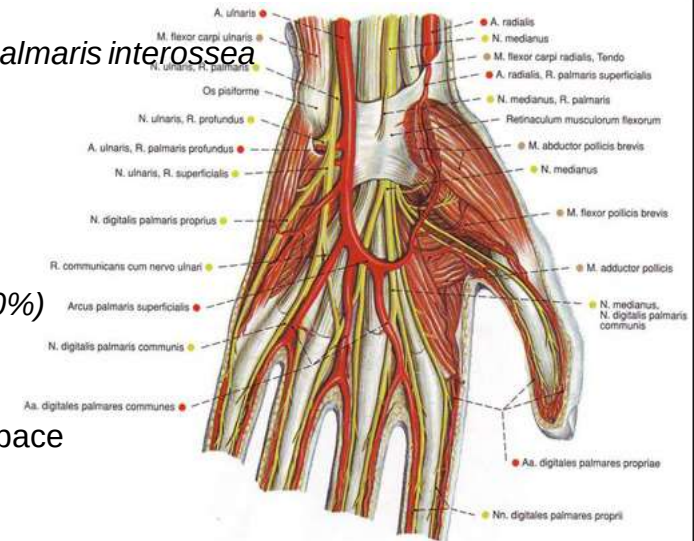
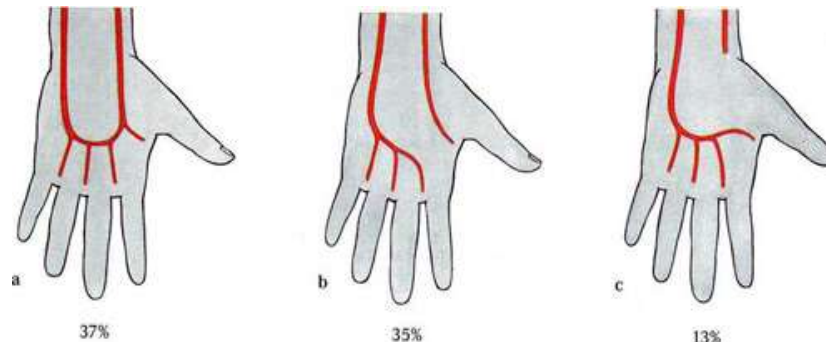
- ✓ skin – thick and glabrous
 - three skin lines
- ✓ subcutaneous layer – abundant fat and fibrous tissue:
 - *r. palmaris n. mediani*, *r. cutaneus palmaris n. ulnaris*
 - the palmar aponeurosis – superficial and deep layer
 - lateral intermuscular fibrous septum
 - medial intermuscular fibrous septum
 - fascia of the palm
 - deep palmar space
- ✓ lateral (thenar) compartment – four muscle layers:
 - *m. abductor pollicis brevis*,
m. opponens pollicis, *m. flexor pollicis brevis (caput superficiale)*,
tendo m. flexoris pollicis longus (vagina synovialis)
m. flexor pollicis brevis (caput profundum)
m. adductor pollicis
 - *r. muscularis n. mediani* ⇒ forbidden zone
 - *r. palmaris superficialis a. radialis*
 - superficial and deep space
- medial (hypothenar) compartment – two muscle layers:
 - *m. abductor digiti minimi*, *m. flexor digiti minimi brevis*
m. opponens digiti minimi
 - *r. palmaris n. ulnaris*
 - branches of *a. et vv. ulnares*
 - *m. palmaris brevis* – outside the compartment
- ✓ central compartment:
 - muscle tendons (*vagina synovialis communis flexorum*):
m. flexor digitorum superficialis et profundus
mm. lumbricales
 - the thenar and midpalmar space
- ✓ adductor compartment (the deepest muscular plane) – the adductor pollicis



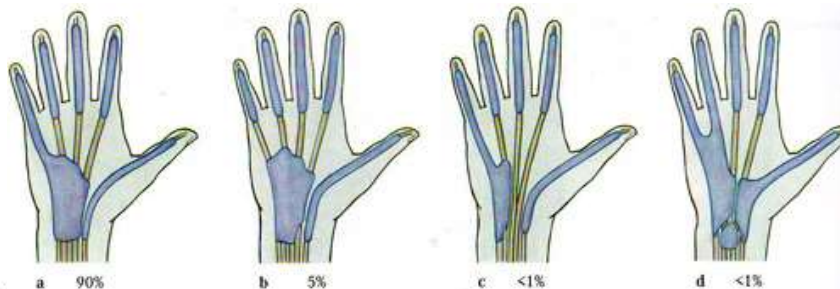
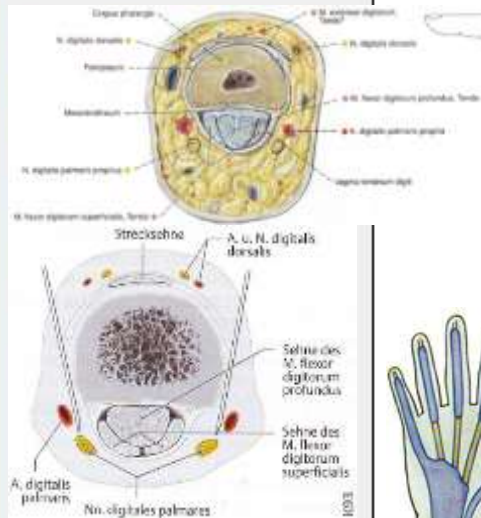
Arcus palmares



- superficial space:
 - ✓ between *aponeurosis palmaris* and *fascia palmaris interossea*
 - ⇒ interfascial canals – distally
- content:
 - ✓ *aa. et vv. digitales palmares communes*
 - ✓ *nn. digitales palmares communes* ⇒ *nn. digitales palmares proprii*
 - ✓ *arcus palmaris superficialis*:
 - *a. ulnaris* (60%)
 - *r. palmaris superficialis a. radialis* (30%)
 - *a. mediana* (10%)
- deep (infratendon) space:
 - ✓ three *aa. et vv. metacarpeae palmares*
 - ✓ communication with the Pirogow-Parona space
- deep compartment of the palm:
 - ✓ beneath the *fascia palmaris interossea*
 - ✓ *arcus palmaris profundus*:
 - *a. radialis*
 - *r. palmaris profundus a. ulnaris*
 - ✓ *rr. perforantes* ⇒ *aa. metacarpeae dorsales*
 - ✓ *r. palmaris profundus n. ulnaris*
 - ✓ *mm. interossei palmares* – three unipennate muscles



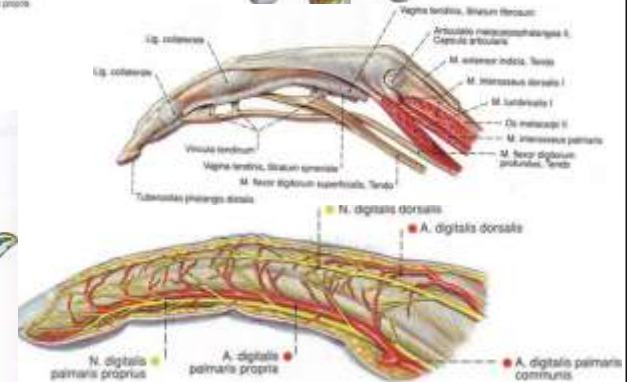
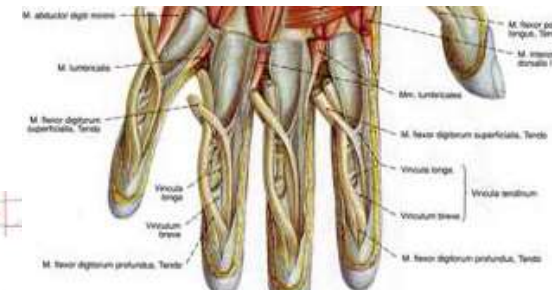
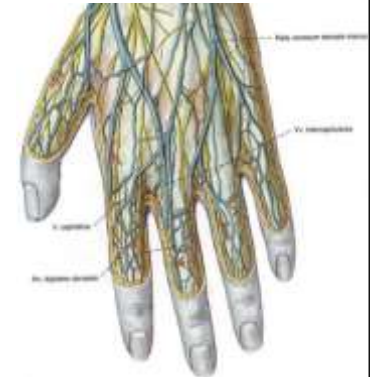
Digitus manus



Fingers, *digiti manus*

- Surface anatomy:

- ✓ **skin** – dorsally thin and mobile, ventrally thick and sleeky, no hairs and sebaceous glands, abundant sudoriferous glands, sensory receptors, both encapsulated and unencapsulated
 - ✓ **subcutaneous tissue** – abundant lobulated fat tissue palmarly, scant loose and adipose connective tissue dorsally:
 - anastomosing venous network, predominantly dorsally
 - neurovascular bundles – two palmar and dorsal each:
 - palmar – *aa. et nn. digitales palmares proprii*
 - dorsal – *aa. et nn. digitales dorsales*
 - ✓ **fascia manus** – synovial sheath, *vagina fibrosa*
 - ✓ **vagina synovialis tendinis** – palmarly in tendon sheaths:
 - *mesotendineum*
 - *vincula tendineum*
 - ✓ **aponeurosis dorsalis** – tendons of:
 - *m. extensor digitorum*
 - *mm. lumbricales*
 - *mm. interossei*
- 

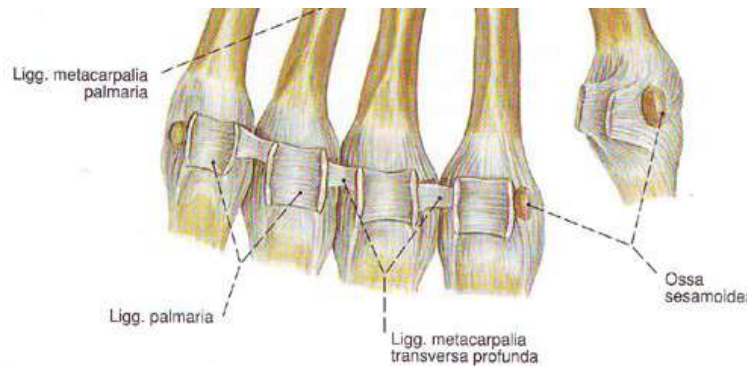
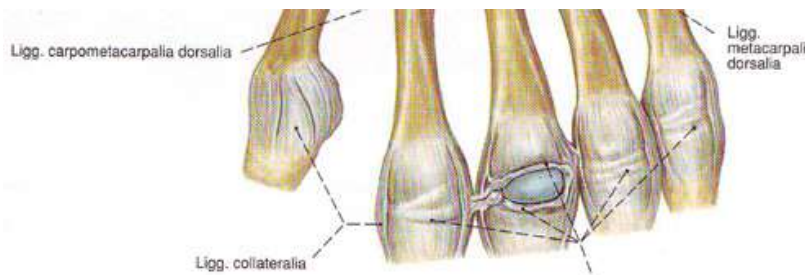


Articulationes digiti



Finger joints, articulationes digitorum

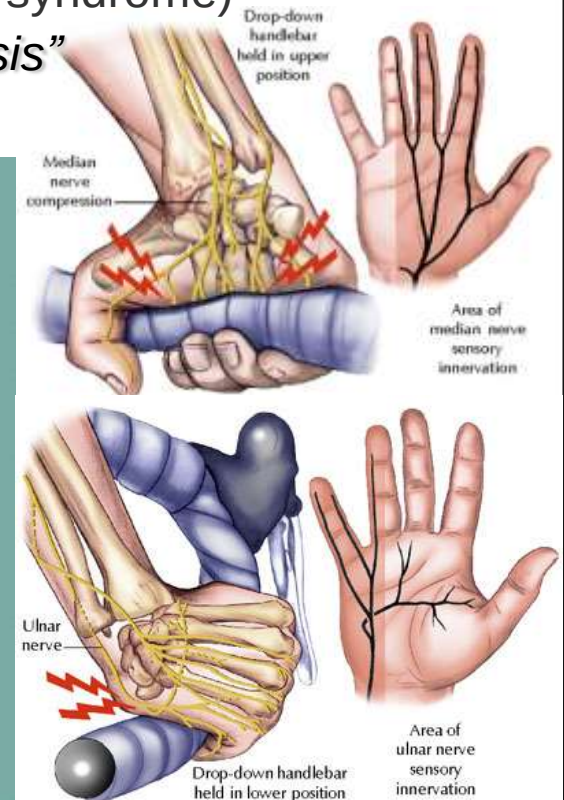
- ✓ articulationes metacarpophalangeae
- ✓ articulationes interphalangeae manus



Clinical significance

■ Nerve injury to:

- ✓ *n. ulnaris* – ‘claw hand’ = causing paralysis of the lumbricals, handlebar palsy – cyclist’s hands
- ✓ *n. medianus* – “*accoucheur’s hand*”, median neuropathy (Carpal tunnel syndrome)
- ✓ *n. radialis* – “*Saturday night paralysis*” wrist drop



Thank you ...