

# **Muscles of the upper extremity**

# Musculi antebrachii

## **ANTEBRACHIAL MUSCLES**

### **ANTERIOR GROUP OF MUSCLES**

**The anterior group work as flexors of hand and fingers, also pronators of forearm are here.**

# Musculus pronator teres

- **ORIGIN:** caput humerale-epicondylus medialis humeri, caput ulnare-processus coronoideus ulnae
- **INSERTION :** middle part of corpus radii
- **INNERVATION:** n. medianus
- **FUNCTION:** pronation and flexion of forearm

# Musculus flexor carpi radialis

- **ORIGIN:** epicondylus medialis humeri
- **INSERTION :** basis of 2nd and 3rd metacarpus
- **INNERVATION:** n. medianus
- **FUNCTION:** flexion of forearm, palmar flexion of hand and its radial duction

# Musculus palmaris longus

- ORIGIN: epicondylus medialis humeri
- INSERTION :  
aponeurosis palmaris
- INNERVATION: n. medianus
- FUNCTION: flexion of hand and forearm

# Musculus flexor carpi ulnaris

- **ORIGIN:** epicondylus medialis humeri, olecranon ulnae
- **INSERTION:** os pisiforme, ligamentum pisohamatum, ligamentum pisometacarpeum
- **INNERVATION:** n. ulnaris
- **FUNCTION:** flexion of forearm and hand, ulnar duction

# Musculus flexor digitorum superficialis

- **ORIGIN:** epicondylus medialis humeri, processus coronoideus ulnae and radius
- **INSERTION:** middle phalanx of 2nd-5th fingers, it forms chiasma tendinum
- **INNERVATION:** n. medianus
- **FUNCTION:** flexion of hand, middle phalanx and forearm



# Musculus flexor pollicis longus

- **ORIGIN:** anterior surface of radius and membrana interossea antebrachii
- **INSERTION :** distal phalanx of thumb
- **INNERVATION:** n. medianus
- **FUNCTION:** flexion of thumb and hand

# Musculus flexor digitorum profundus

- **ORIGIN:** anterior side of ulna and membrana interossea antebrachii
- **INSERTION :** distal phalanx of 2nd-5th fingers
- **INNERVATION:** n. medianus (2nd and 3th fingers), n. ulnaris (4th and 5th fingers)
- **FUNCTION:** flexion of hand and fingers

# Musculus pronator quadratus

- **ORIGIN:** anterior surface of ulna
- **INSERTION :** distal quarter of radius
- **INNERVATION:** n. medianus
- **FUNCTION:** pronation of forearm

# LATERAL GROUP OF ANTEBRACHIAL MUSCLES

# Musculus brachioradialis

- **ORIGIN:** lateral margin of distal part of humerus
- **INSERTION :** processus styloideus radii
- **INNERVATION:** n. radialis
- **FUNCTION:** flexion of forearm, it participates in pronation and supination

# Musculus extensor carpi radialis longus

- **ORIGIN:** distal part of humerus
- **INSERTION :** base of 2nd metacarpal bone
- **INNERVATION:** n. radialis
- **FUNCTION:** extension of hand and radial duction

# Musculus extensor carpi radialis brevis

- ORIGIN: epicondylus lateralis humeri
- INSERTION: base of 3rd metacarpal bone
- INERVACE: n. radialis
- FUNKCE: extension and radial duction of hand

# Musculus supinator

- **ORIGIN:** epicondylus lateralis humeri, ligamentum collaterale laterale, ligamentum anulare radii, crista muscoli supinatorii
- **INSERTION :** from tuberositas radii to the insertion of pronator teres
- **INNERVATION:** n. radialis
- **FUNCTION:** supinace of forearm



# POSTERIOR GROUP OF ANTEBRACHIAL MUSCLES

# Musculus extensor digitorum communis

- **ORIGIN:** epicondylus lateralis humeri
- **INSERTION :** dorsal aponeurosis (posterior side of all three phalanges)
- **INNERVATION:** n. radialis
- **FUNCTION:** extension of hand and fingers

# Musculus extensor digiti minimi

- ORIGIN: epicondylus lateralis humeri
- INSERTION : dorsal aponeurosis of 5th finger
- INNERVATION: n. radialis
- FUNCTION: extension of hand and 5th finger

# Musculus extensor carpi ulnaris

- **ORIGIN:** epicondylus lateralis humeri
- **INSERTION :** base of 5th metacarpal bone
- **INNERVATION:** n. radialis
- **FUNCTION:** extension and ulnar duction of hand

# Musculus abductor pollicis longus

- **ORIGIN:** prox. part of ulna, membrana, prox. part of radius
- **INSERTION :** base of 1st metacarpal bone
- **INNERVATION:** n. radialis
- **FUNCTION:** abduction of thumb

# Musculus extensor pollicis brevis

- **ORIGIN:** radius, membrana
- **INSERTION :** dorsal side of prox. phalanx of thumb
- **INNERVATION:** n. radialis
- **FUNCTION:** extension and abduction of thumb

# Musculus extensor pollicis longus

- **ORIGIN:** ulna, membrana
- **INSERTION :** distal phalanx of thumb
- **INNERVATION:** n. radialis
- **FUNCTION:** extension of thumb

# Musculus extensor indicis

- **ORIGIN:** ulna,  
membrana, most  
distally
- **INSERTION :** dorsal  
aponeurosis of  
**INNERVATION:** n.  
radialis
- **FUNCTION:** extension  
of 2nd finger



# Musculi manus

# Musculus abductor pollicis brevis

- **ORIGIN:** eminentia carpi radialis
- **INSERTION:** radial sesamoidal bone
- **INNERVATION:** n. medianus
- **FUNCTION:** abduction of thumb

# Musculus flexor pollicis brevis

- ORIGIN: eminentia carpi radialis
- INSERTION: radial sesamoidal bone
- INNERVATION: c. superficiale-n. medianus, c. profundum-n. ulnaris
- FUNCTION: flexion of proximal phalanx and opposition of the thumb

# Musculus opponens pollicis

- ORIGIN: eminentia carpi radialis
- INSERTION: lateral margin of 1st metacarpal bone
- INNERVATION: n. medianus
- FUNCTION: opposition of the thumb

# Musculus adductor pollicis

- ORIGIN: c. obliquum-  
eminentia, c.  
transversum-palmar side  
of 3rd metacarpal bone
- INSERTION: ulnar  
sesamoidal bone
- INNERVATION: n.  
ulnaris
- FUNCTION: adduction  
of the thumb

# Musculus palmaris brevis

- **ORIGIN:** ulnar margin of palmar aponeurosis
- **INSERTION:** skin of hypothenar
- **INNERVATION:** n. ulnaris
- **FUNCTION:** transversal skin grooves

# Musculus abductor digiti minimi

- ORIGIN: os pisiforme
- INSERTION: base of prox phalanx of 5th finger
- INNERVATION: n. ulnaris
- FUNCTION: abduction of 5th finger

# Musculus flexor digiti minimi

- **ORIGIN:** hamulus ossis hamati
- **INSERTION:** base of prox phalanx of 5th finger
- **INNERVATION:** n. ulnaris
- **FUNCTION:** flexion of 5th finger



# Musculus opponens digiti minimi

- **ORIGIN:** eminentia carpi ulnaris
- **INSERTION:** ulnar margin of 5th metacarpal bone
- **INNERVATION:** n. ulnaris
- **FUNCTION:** mild opposition of the 5th finger

# Mm. interossei palmares I.-III.

- ORIGIN: bodies of metacarpal bones
- INSERTION: base of prox. phalanx and dorsal aponeurosis
- INNERVATION: n. ulnaris
- FUNCTION: adduction of fingers, flexion of proximal phalanges

# Musculi lumbricales

- ORIGIN: tendons of m. flexor digitorum profundus
- INSERTION: radial margin of base of prox. phalanx, dorsal aponeurosis of the 2nd-5th fingers
- INNERVATION: I. and II.-n. medianus; III. and IV.- n. ulnaris
- FUNCTION: finger inclining in radial direction, participation in proximal phalangeal flexion

# Mm. interossei dorsales I.-IV.

- ORIGIN: with two heads on bodies of adjacent metacarpal bones
- INSERTION: base of prox. phalanx and dorsal aponeurosis
- INNERVATION: n. ulnaris
- FUNCTION: abduction of fingers, flexion of prox. phalanx

# FASCIA MANUS

## **Dorsal side**

- fascia dorsalis manus interossea
- fascia dorsalis manus superficialis

## **Palmar side**

- fascia palmaris interossea
- fascia palmaris superficialis
  - aponeurosis palmaris

# CANALIS CARPI

**Thank you for your attention!**