

Muscles of the upper extremity

Musculi humeri

Musculus subscapularis

ORIGIN: facies costalis
scapulae (fossa
subscapularis)

INSERTION:
tuberculum minus
humeri

INNERVATION: n.
subscapularis

FUNCTION: humeral
pronation, adduction

Musculus supraspinatus

- ORIGIN: fossa supraspinata
- INSERTION : tuberculum majus humeri
- INNERVATION: n. suprascapularis
- FUNCTION: humeral supination and abduction

Musculus infraspinatus

- **ORIGIN:** fossa infraspinata
- **INSERTION :** tuberculum majus humeri
- **INNERVATION:** n. suprascapularis
- **FUNCTION:** humeral supination

Musculus teres minor

- **ORIGIN:** margo lateralis scapulae
- **INSERTION :** tuberculum majus humeri
- **INNERVATION:** n. axillaris
- **FUNCTION:** humeral supination

Musculus teres major

- ORIGIN: angulus inferior scapulae
- INSERTION : crista tuberculi minoris
- INNERVATION: n. subscapularis
- FUNCTION: adduction, extension and humeral pronation

- Insertions of m. supraspinatus, infraspinatus, teres minor and subscapularis into the articular capsule of shoulder joint– ROTATOR CUFF

Musculus deltoideus

- **ORIGIN:** clavícula, acromion, spina scapulae
- **INSERTION :** tuberositas deltoidea humeri
- **INNERVATION:** n. axillaris
- **FUNCTION:** abduction, anteflexion, dorsiflexion in shoulder joint

Musculi brachii

Musculus brachialis

- ORIGIN: distal half of humeral body
- INSERTION :
tuberositas ulnae
- INNERVATION: n. musculocutaneus
- FUNCTION:
flexion of forearm
- It is covered by biceps

Musculus coracobrachialis

- ORIGIN: processus coracoideus scapulae
- INSERTION: internal side of corpus humeri
- INNERVATION: n. musculocutaneus
- FUNCTION: adduction and partial anteflexion

Musculus biceps brachii

- ORIGIN: caput longum-tuberculum supraglenoidale scapulae, caput breve-processus coracoideus scapulae
- INSERTION : tuberositas radii, aponeurosis m. bicipitis brachii (lacertus fibrosus)
- INNERVATION: n. musculocutaneus
- FUNCTION: flexion of forearm in supination, c. longum-abduction of arm, c. breve- anteflexion and adduction

Musculus triceps brachii

- ORIGIN: caput longum-tuberculum infraglenoidale scapulae, caput laterale-proximally from sulcus nervi radialis, caput mediale-distally from sulcus nervi radialis
- INSERTION : olecranon ulnae
- INNERVATION: n. radialis
- FUNCTION: extension of forearm, c. longum-adduction of arm

Musculus anconaeus

- ORIGIN: epicondylus lateralis humeri
- Ú INSERTION : olecranon ulnae
- INNERVATION: n. radialis
- FUNCTION: extension of forearm

Foramen humerotricipitale

Foramen omotricipitale

Fascia brachii

- It is proximal continuation of **fascia deltoidea** and distally continues as **fascia antebrachii**

septum intermusculare brachii mediale et laterale- they pull fascia into the depth → **sulcus m. bicipitis lateralis et medialis**

Fossa axillaris

Between lateral side of thorax and proximal part of arm

Anterior wall

- insertion of m. pectoralis major
- plica axillaris anterior

Medial wall

- lateral wall of thorax
- m. serratus anterior

Posterior wall

- insertion of m. latissimus dorsi
- plica axillaris posterior

Lateral wall

- humerus- caput breve m. biceps brachii
m. coracobrachialis

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!