

Muscles that act on the shoulder:

Trapezius

- O - occipital bone, spinous proc.'s of thoracic vert.
- I - clavicle, spine & acromion proc. of scapula
- A - elevate, depress, retract, adduct, & rotate scapula
-or- elevate clavicle, extend neck

Levator scapulae

- O - transverse proc.'s of cervical vert.
- I - vertebral border of scapula (superior)
- A - elevates scapula

Rhomboideus major & minor – primarily adducts scapula

Serratus anterior

- O - lateral aspect of upper 9 ribs
- I - anterior surface of vertebral border of scapula
- A - protracts shoulder, rotates scapula upward

Pectoralis minor

- O - anterior aspect of ribs #3-5
- I - coracoid process of scapula
- A - depresses/protracts shoulders
-or- rotates scapula downward

Muscles that act on the arm (extrinsic shoulder)

Deltoid

- O - clavicle, spine & acromion process of scapula
- I - deltoid tuberosity of humerus
- A - extend, flex, abduct arm

Pectoralis major

- O - clavicle, sternum, and cartilages of lower ribs
- I - greater tubercle of humerus
- A - flex, adduct, medially rotate arm

Latissimus dorsi

- O - spinous processes of thoracic/lumbar vert., iliac crest
- I - ant./lat. surface of humerus (intertubercular groove)
- A - extends, adducts, medially rotates arm

Intrinsic M.'s of the shoulder

Supraspinatus

- O - supraspinous fossa of scapula
- I - greater tubercle of humerus
- A - abduct arm

Infraspinatus

- O - infraspinous fossa of scapula
- I - greater tubercle of humerus
- A - lateral rotation of arm

Teres minor

- O - lateral border of scapula
- I - greater tubercle of humerus
- A - lateral rotation of arm

Subscapularis

- O - subscapular fossa of scapula
- I - lesser tubercle of humerus
- A - medial rotation of arm

Teres major

- O - lateral border of scapula
- I - lesser tubercle of humerus
- A - medial rotation of arm

Muscles that act on the forearm

Biceps brachii - two heads, both heads are biarticular

○ - (long head) - upper lip of glenoid cavity (scapula)

○ - (short head) - tip of coracoid process (scapula)

I - radial tuberosity of radius

A (@ elbow) - flex elbow, supinate forearm

A (@ shoulder) - flexes shoulder/arm

Triceps brachii - three heads, one is biarticular

○ - (long head) - lower lip of glenoid cavity (scapula)

○ - (lateral head) - superior/lateral margin of humerus

○ - (medial head) - inferior/medial margin of humerus

I - olecranon process of ulna

A (@ elbow) - extends elbow

A (@ shoulder) - extends shoulder/arm

Coracobrachialis - adducts arm & flexes shoulder

Brachialis - flexes elbow

Brachioradialis - flexes elbow

Muscles that act on wrist/fingers

Supinator - supinates hand

Pronator teres - pronates hand

Pronator quadratus - pronates hand

Flexors: (anterior side)

Flexor carpi radialis - flexes & aBducts wrist

Flexor carpi ulnaris - flexes & aDducts wrist

Palmaris longus - flexes wrist

Flexor digitorum (S&P) - flexes fingers

Flexor pollicis (L&B) - flexes thumb

Extensors: (posterior side)

Extensor carpi radialis (L&B) - extends & aBducts wrist

Extensor carpi ulnaris - extends & aDducts wrist

Extensor digitorum (S&P) - extends fingers

Extensor pollicis (L&B) - extends thumb

Interossei & Lumbricals

- a(B/D)duct metacarpals and proximal phalanges

Carpal tunnel syndrome

- restricted space btw. flexor retinaculum & carpus

- tendons to thumb fingers pass through "tunnel"

- over-use = inflames tissues that surround tendons

- tendonitis within restricted space is especially painful

Muscles that act on thigh

Gluteus

1. maximus

O - iliac crest, sacrum, coccyx

I - iliotibial tract, gluteal tuberosity*

A - extends & laterally rotates femur

2. medius & minimus

O - Iliac crest

I - greater trochanter

A - abducts femur

Tensor fasciae lata(e)

(Iliotibial tract = Iliotibial band = fascia latae)

- hip flexion, abduction of femur, tension on fascia latae

Adductors (magnus, longus, brevis) - adduct femur

O - pubic bone

I - linea aspera

A - adduct (medially -or- laterally rotate femur)

Gracilis

O - pubic bone

I - medial surface @ tibial tuberosity

A - adduct & medially rotate femur

Iliopsoas (Iliacus & psoas major) - flex hip

Muscles that act on leg

Quadriceps femoris

1. Vastus (lateralis, medialis, intermedius)

O - linea aspera

I - tibial tuberosity

A - extends knee

2. Rectus femoris (biarticular)

O - (anterior *inferior*) iliac spine

I - tibial tuberosity

A - extends knee, flexes hip

Sartorius (biarticular)

O - (anterior superior) iliac spine

I - medial surface @ tibial tuberosity

A - lateral rotation of femur, flexes knee

Long head biceps femoris (biarticular)

O - ischial tuberosity

I - head of fibula

A - extend hip, flex knee

Semimembranosus & Semitendinosus (biarticular)

O - ischial tuberosity

I - medial surface @ head of tibia

A - extend hip, flex knee

Muscles that act on the foot

Gastrocnemius (medial head) (both heads are biarticular)

O - near medial epicondyle of femur

I - calcaneus

A - plantar flexes foot, flexes knee

Gastrocnemius (lateral head) & **Plantaris**

O - near lateral epicondyle of femur

I - calcaneus

A - plantar flexes foot, flexes knee

Soleus

O - posterior surface of proximal tibia & fibula

I - calcaneus

A - plantar flexes foot

Muscles that act on the foot

Tibialis anterior

- O - proximal shaft of tibia
- I - dorsal surface of 1st metatarsal
- A - dorsiflexes and inverts the foot

Extensor digitorum

- O - anterior surface, proximal shaft of fibula
- I - dorsal surface of phalanges
- A - extends digits

Fibularis (Peroneus) longus & brevis

- everts & plantar flexes foot

Tibialis posterior - inverts & plantar flexes foot

Flexor digitorum

- O - posterior surface, proximal shaft of tibia
- I - ventral surface of phalanges
- A - flexes digits

