

Muscular System Lab Notes

head and neck

- **Buccinator** - Compression of cheek; origin is maxilla (lateral) and mandible (lateral)
- **Frontalis** - elevation of eyebrows; creases skin of forehead; moves scalp forward; origin is epicranial aponeurosis.
- **Nasalis** - widens naris; origin is maxilla.
- **Orbicular oculi** - closes eyelids; origin is frontal bone and maxilla.
- **Orbicular oris** - Closes lips, protrudes lips; origin is skin around mouth, mandible (midline), and maxilla (midline).
- **Scalene** - Anteriorly, elevation of rib 1, lateral flexion and rotation of neck; middle, elevation of rib 1, lateral flexion of neck; Posteriorly, elevation of rib 2, lateral flexion of neck; origin is transverse processes of C3-7 vertebrae
- **Sternocleidomastoid** - unilateral rotation of head so face turns to opposite side; bilateral flexion of neck and extension of head. origin is clavicle (medial) and sternum (manubrium).
- **Sternohyoid** - Depression of hyoid bone; origin is sternum (manubrium) and clavicle (medial end).
- **Sternothyroid** - Depression of larynx; origin is sternum (manubrium).
- **Thyrohyoid** - elevation of larynx, depression of hyoid bone; origin is thyroid cartilage of larynx.
- **Trapezius** - superior fibers, elevation of scapula, superior rotation of scapula; middle fibers, retraction of scapula; inferior fibers, depression of scapula; origin is occipital bone, nuchal ligament, vertebra prominens, spinous processes of T1-T2 vertebra.
- **Zygomaticus major** - elevation of mouth; origin zygomatic bone
- **Zygomaticus minor** - elevation of upper lip; zygomatic bone.
- **Occipitalis** - elevation of eyebrows, creases forehead, moves scalp backwards. origin is occipital bone.
- **Levator scapulae** - elevation of scapula, inferior rotation of scapula, lateral flexion of neck, origin transverse process of C1-C4 vertebrae.
- **Masseter** - elevation of mandible, protraction of mandible, origin zygomatic arch.
- **Occipitofrontalis** - elevation of eyebrows, creases skin forehead, moves scalp backward and forward.
- **Splenius capitis** - unilateral, rotation of head to same side; bilateral, extension of head and neck; origin, nuchal ligament, vertebra prominens.
- **Temporalis** - elevation of mandible, retraction of mandible, origin is temporal fossa.
- **Semispinalis capitis** - unilateral, rotation of head to opposite side; bilateral, extension of head and neck. origin is transverse process of C7-T6 vertebrae.

- **splenius capitalis** - unilateral rotation of head to same side; bilateral extension of head and neck; origin is nuchal ligament, vertebra prominens, spinous processes of T1-3.

Thorax

- **Deltoid** - Anterior part, flexion and medial rotation of arm; lateral part is abduction of arm; posterior part is extension and lateral rotation of arm. Origin is Anterior part of clavicle, lateral part is scapula, posterior is scapula.
- **external abdominal oblique** - unilateral rotation of trunk, bilateral flexion of trunk, compression of abdominal wall and viscera; origin is ribs and costal cartilages 5-12.
- **latissimus dorsi** - Abduction of arm, extension of arm, medial rotation of arm; origin is sacral and lumbar spines, ilium, ribs, spinous process T6-12 vertebrae, scapula.
- **Pectoralis major** - Adduction of arm, medial rotation of arm, clavicular head: flexion of arm, sternocostal head extension of arm. Origin is clavicular head, sternocostal head.
- **pectoralis minor** - stabilizes scapula, protection of scapula, lateral rotation of scapula; origin ribs 3-5.
- **rectus abdominis** - flexion of trunk, compression of anterior of abdominal wall; origin pubis.
- **Serratus Anterior** - protection of scapula, superior rotation of scapula, stabilizes scapula. Origin ribs 1-9.

abdomen

- **internal oblique** - rotation of trunk, flexion of trunk, compression of anterior abdominal wall. origin inguinal ligament, ilium, thoracolumbar fascia.
- **rectus abdominis** - flexion of trunk, compression of anterior abdominal wall; origin pubis.
- **transverse abdominis** - compression of anterior abdominal wall; origin ilium, inguinal ligament, thoracolumbar fascia, costal cartilage 7-12.

Back

- **iliocostalis part of erector spinae** - lateral flexion of vertebral column, extension of vertebral column, depression of ribs; origin ribs.
- **levator scapulae** - elevation and inferior rotation of scapula, flexion of neck; origin transverse process of C1-4.
- **longissimus** - lateral flexion of vertebral column and rotation of head; depresses ribs; origin iliac crest, dorsal sacrum, sacral and lumbar spinous process, supraspinous ligament.
- **rhomboid major** - retraction and elevation of scapula, origin spinous processes of T2-T5

- **rhomboid minor** - retraction and elevation of scapula, origin is spinous process C7-T1
- **semispinalis capitis** - rotation of head, extension of head and neck, origin, transverse process C7-T6
- **splenius capitis** - rotation of head, extension of head and neck, origin nuchal ligament, vertebra prominens.
- **Trapezius** - elevation of scapula, retraction and depression of scapula. origin, occipital bone, nuchal ligament,

arms

- **Biceps brachii** - supination of forearm, flexion of forearm, flexion of arm; origin is the scapula.
- **Brachialis** - flexion of forearm; origin is humerus.
- **brachioradialis** - flexion, pronation, supination of forearm.
- **Pectoralis major** - Adduction, medial rotation, flexion and extension of the arm.

shoulder and arm

- **infraspinatus** - lateral rotation of arm, holds head of humerus in glenoid cavity.
- **Triceps brachii** - extension of forearm.
- **supraspinatus** - Abduction of arm, holds humerus in place
- **teres major** - medial rotation of arm, adduction and extension of arm.
- **teres minor** - Lateral rotation, adduction of arm, holds humerus.

forearm and hand

- **flexor carpi radialis** - flexion of wrist, abduction of hand.
- **flexor carpi ulnaris** - flexion of wrist adduction of hand.
- **flexor digitorum profundus** - flexion of fingers 1-5, flexion of wrist.
- **Palmaris longus** - flexion of wrist, tense palmar aponeurosis.

hip and thigh

- **Adductor brevis** - adduction of thigh.
- **Adductor longus** - Adduction of thigh.
- **Adductor magnus** - Adduction and extension of thigh.
- **Gracilis** - Adduction of thigh, flexion of leg.
- **Quadriceps femoris** - extension of leg, flexion of thigh at hip joint.
- **rectus femoris** - extension of leg, flexion of thigh.
- **Sartorius** - flexion, rotation, abduction of thigh; flexion of leg.
- **tensor fasciae latae** - flexion, abduction, rotation of femur, stabilizes knee in full extension.
- **vastus intermedius** - extension of leg
- **vastus lateralis** - extension of leg.
- **vastus medialis** - extension of leg
- **Gluteus maximus** - extension, rotation, and abduction of thigh.
- **Gluteus medius** - abduction of thigh, lowers pelvis.
- **Gluteus minimus** - Abduction of thigh, lowers pelvis

- Long head of biceps femoralis - flexion of leg, extension of thigh.
- Semimembranosus - flexion of leg, extension of thigh.
- Semitendinosus - flexion of leg, extension of thigh.

leg and foot

- extensor digitorum longus - extension of toes 2-5, dorsiflexion, eversion.
- fibularis longus and brevis - eversion of foot, plantar flexion
- tibialis anterior - dorsiflexion, inversion of foot.
- flexor hallucis longus - flexion of great toe, plantar flexion of foot, and inversion of foot.
- gastrocnemius - plantar flexion of foot, flexion of leg.
- soleus - plantar flexion of foot.
- fibularis posterior - plantar flexion of foot, inversion of foot.