

Muscles to Identify on the Cadaver and/or Models

- You are required to identify each of the following muscles or associated structures on the cadavers and/or models in lab.
- If the box is shaded in a particular table, it means you are not responsible for that particular origin or insertion.
- Muscle actions are required for every muscle
- Spelling is important! Practice writing and rewriting the names of each muscle and associated structure
- You are not responsible for innervation of the muscles until we get to the nervous system exercises in the lab. (Note: CN = cranial nerve)

AXIAL MUSCLES

Have both origins and insertions on the axial skeleton

Table 1 – Muscles of Facial Expression

Name	Action	Innervation
Buccinator	Presses cheek against molar teeth	Facial (CNVII)
Frontalis (frontal belly of epicranius)	Draws scalp forward, raises eyebrows, wrinkles forehead	Facial (CNVII)
Occipitalis (occipital belly of epicranius)	Draws scalp backward	Facial (CNVII)
Orbicularis oris	Compresses and purses lips (kiss muscle)	Facial (CNVII)
Orbicularis oculi	Closes eye (blink muscle)	Facial (CNVII)
Platysma	Pulls lower lip inferiorly, tense skin of neck	Facial (CNVII)
Zygomaticus	Pulls corners of mouth superiorly, smiling muscle	Facial (CNVII)

Table 2 – Muscles of Mastication (chewing)

Name	Origin	Insertion	Action	Innervation
Temporalis	Parietal and frontal bones (temporal fossa)	Coronoid process of mandible	Elevates and retracts mandible	Trigeminal (CNV)
Masseter	Zygomatic arch	Angle and ramus of mandible	Elevates and protracts mandible	Trigeminal (CNV)

Table 3 – Muscles of the Neck

Name	Origin	Insertion	Action	Innervation
Sternocleidomastoid	Sternum and clavicle	Mastoid process of temporal bone	One side: lateral flexion with rotation of head to opposite side both sides: flexes head & neck	Accessory nerve (CNXI)
Splenius capitis	Ligamentum nuchae(the connective tissue covering the spinal processes of the cervical vertebrae)	Occipital bone	One side: turns head to same side (rotation) both sides: extends head & neck	Dorsal rami of cervical spinal nerves

Table 4 – Muscles of Respiration

Name	Attachment	Action	Innervation
External intercostals	NA	Elevates ribs during normal inspiration	Ventral rami of thoracic spinal nerves
Internal intercostals	NA	Depresses ribs during forced exhalation; antagonist to external intercostals	Ventral rami of thoracic spinal nerves
Diaphragm	Central tendon	Contraction depresses(flattens) diaphragm and expands the thoracic cavity during normal inspiration	Phrenic nerves (from cervical plexus)

Table 5 – Abdominal Muscles

Name	Action	Innervation
External obliques	Both sides: flex vertebral column & compress abdominal wall One side: lateral flexion of vertebral column	Ventral rami of thoracic spinal nerves
Internal obliques	Both sides: flexes vertebral column & compresses abdominal wall One side: lateral flexion of vertebral column	Ventral rami of thoracic spinal nerves
Rectus abdominis	Flexes vertebral column & compresses abdominal wall	Ventral rami of thoracic nerve
Transversus abdominis	Both sides: flexes vertebral column & compresses abdominal wall One side: lateral flexion of vertebral column	Ventral rami of thoracic spinal nerves
Inguinal ligament (associated structure)		

APPENDICULAR MUSCLES

Control the movement of the upper and lower limbs, pelvic and pectoral girdles

Table 6 – Superficial Upper Body Muscles

Name	Action	Innervation (from brachial plexus, except CNXI)
Muscles that move the pectoral girdle		
Trapezius	Superior: elevates clavicle; elevates, retracts, rotates scapula; Inferior: depresses, extends the head	Accessory nerve (CN XI)
Serratus anterior	Protracts and stabilizes scapula	Long thoracic
Pectoralis minor	Protracts and depresses scapula	Medial pectoral
Muscles that move the glenohumeral (shoulder) joint.		
Rotator cuff muscles (4 muscles)		
Supraspinatus	Stabilize and rotate glenohumeral joint	
Infraspinatus		
Subscapularis		
Teres minor		
Teres major	Extends, adducts, and medially rotates arm	
Latissimus dorsi	Extends, adducts, and medially rotates arm; draws arm inferiorly and posteriorly (swimming, climbing rope, hammering)	Thoracodorsal
Deltoid	Abducts, flexes, extends, and rotates arm	Axillary
Pectoralis major	Flexes, adducts, and medially rotates arm	Lateral pectoral and medial pectoral

Table 7 – Anterior Compartment of the Arm

Name	Origin	Insertion	Action	Innervation (Brachial Plexus)
Biceps brachii				
Long head	Supraglenoid tubercle of scapula	Radial tuberosity	Flexes arm (glenohumeral joint) flexes and supinates forearm (elbow joint)	Musculocutaneous
Short head	Coracoid process of scapula			
Coracobrachialis	Coracoid process of scapula	Medial shaft of humerus	Adducts and flexes arm (glenohumeral joint)	Musculocutaneous
Brachialis	Distal, anterior surface of humerus	Coronoid process of ulna	Flexes forearm (elbow joint)	Musculocutaneous

Table 8 – Posterior Compartment of the Arm

Name	Origin	Insertion	Action	Innervation (Brachial Plexus)
Triceps brachii (long, lateral, and medial heads)				
Long head	Infraglenoid tubercle	Olecranon process of ulna	Extends forearm; assists in arm adduction and extension; stabilizes shoulder joint	Radial
Lateral head	Posterior shaft of humerus		Extends forearm	
Medial head	Posterior shaft of humerus distal to radial groove		Extends forearm	

Table 9 – Anterior Compartment of the Forearm

Name	Action	Attachment (origin)	Innervation
Pronator teres	Pronates hand	Medial epicondyle of humerus	Median
Flexor carpi radialis	Flexes wrist and abducts hand	Medial epicondyle of humerus	Median
Palmaris longus	Weak wrist flexor; tenses fascia of palm	Medial epicondyle of humerus	Median
Flexor carpi ulnaris	Flexes wrist and adducts hand	Medial epicondyle of humerus	Ulnar
Flexor digitorum superficialis	Flexes proximal interphalangeal joint	Medial epicondyle of humerus	Median
Flexor retinaculum (associated structure)			

Table 10 – Posterior Compartment of the Forearm

Name	Origin	Insertion	Action	Innervation (brachial plexus)
Brachioradialis	Lateral supracondylar ridge of humerus	Styloid process of radius	Flexes forearm (elbow joint)	Radial
Extensor carpi radialis longus			Extends wrist, abducts hand	Radial
Extensor carpi ulnaris			Extends wrist, adducts hand	Radial
Abductor pollicis longus			Abducts thumb; extends wrist	Radial
Extensor pollicis longus			Extends MP and IP joints of thumb; extends wrist	Radial

Table 11 – Anterior Compartment of the Thigh

Name	Origin	Insertion	Action	Innervation (lumbar plexus)
Sartorius	Anterior superior iliac spine	Tibial tuberosity, medial side	Flexes, abducts, and laterally rotates thigh; flexes leg and rotates leg medially (sitting cross-legged on floor)	Femoral
Quadriceps femoris group: four muscles with a common insertion point				
Rectus femoris	Anterior inferior iliac spine	Patella via quadriceps tendon and then tibial tuberosity via patellar ligament	Extends leg; flexes thigh	Femoral
Vastus lateralis			Extends leg	Femoral
Vastus medialis			Extends leg	Femoral
Vastus intermedius			Extends leg	Femoral

Table 12 – Iliopsoas Group

Name	Origin	Insertion	Action	Innervation (lumbar plexus)
Iliacus	Iliac fossa	Lesser trochanter of femur	Flexes thigh	Femoral
Psoas major	T ₁₂ -L ₅ vertebrae	Lesser trochanter of femur	Flexes thigh	Branches of lumbar plexus

Table 13 – Medial Compartment of the Thigh

Name	Origin	Insertion	Action	Innervation (lumbar plexus)
Pectineus			Adducts thigh; flexes (weak) thigh	Femoral or obturator
Adductor longus			Adducts thigh; flexes(weak) thigh	Obturator
Adductor magnus			Adducts thigh; flexes or extends and laterally rotates thigh depending on starting position	Obturator nerve and tibial division of sciatic nerve
Adductor brevis			Adducts thigh	Obturator
Gracilis	Inferior ramus and body of pubis	Upper medial surface of tibia	Adducts & flexes (weak) thigh; flexes leg	Obturator

Table 14 – Posterior Compartment of the Thigh

Name	Origin	Insertion	Action	Innervation (sacral plexus)
Hamstrings group: (3 muscles)				
Semitendinosus	Ischial tuberosity	Proximal medial surface of tibia	Extends thigh & flexes leg; medially rotates leg	Tibial division of sciatic nerve
Semimembranosus	Ischial tuberosity	Medial condyle of tibia	Extends thigh & flexes leg; medially rotates leg	Tibial division of sciatic nerve
Biceps femoris (long head)	Ischial tuberosity	Head of fibula	Extends thigh; flexes and laterally rotates leg	Tibial division of sciatic nerve

Table 15 – Gluteal Muscles

Name	Origin	Insertion	Action	Innervation (sacral plexus)
Gluteus maximus	Iliac crest, sacrum, coccyx	Iliotibial tract of tensor fascia lata	Extends thigh; laterally rotates thigh	Inferior gluteal
Gluteus medius	Iliac crest	Greater trochanter of femur	Abducts thigh; medially rotates thigh	Superior gluteal
Gluteus minimus	Lateral surface of ilium	Greater trochanter of femur	Abducts thigh; medially rotates thigh	Superior gluteal
Tensor fascia latae	Iliac crest & anterior superior iliac spine	Iliotibial tract	Abducts thigh; medially rotates thigh	Superior gluteal
Iliotibial tract (associated structure)				

Table 16 – Anterior Compartment of the Leg

Name	Origin	Insertion	Action	Innervation (sacral plexus)
Tibialis anterior	Lateral condyle and proximal shaft of tibia	Metatarsal I and first (medial) cuneiform	Dorsiflexes foot; inverts foot	Deep fibular
Extensor digitorum longus			Extends toes 2-5; dorsiflexes foot	Deep fibular
Extensor hallucis longus			Extends great toe; dorsiflexes foot	Deep fibular

Table 17 – Lateral Compartment of the Leg

Name	Action	Innervation (sacral plexus)
Fibularis (peroneus) longus	Everts foot; weak plantar flexor	Superficial fibular
Fibularis (peroneus) brevis	Everts foot; weak plantar flexor	Superficial fibular

Table 18 – Posterior Compartment of the Leg

Name	Origin	Insertion	Action	Innervation (sacral plexus)
Gastrocnemius	Lateral and medial condyles of femur	Calcaneus via calcaneal tendon	Plantar flexes foot and flexes leg	Tibial
Soleus	Head and proximal shaft of fibula; medial border of tibia	Calcaneus via calcaneal tendon	Plantar flexes foot	Tibial
Tibialis posterior			Plantar flexes foot; inverts foot	Tibial
Flexor digitorum longus			Plantar flexes foot; flexes MP, PIP, and DIP joints of toes 2-5	Tibial
Flexor hallucis longus			Plantar flexes foot; flexes MP, PIP, and DIP joints of great toe	Tibial