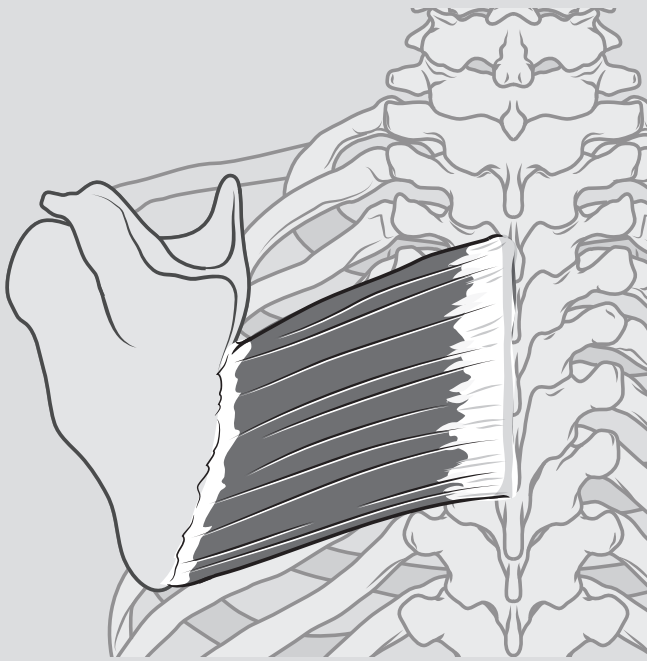


ACTIVITY



MUSCLES OF THE HEAD, NECK, AND UPPER LIMBS

OBJECTIVES

- **How to get ready:** Read CHAPTERS 11-12, MCKINLEY ET AL., *HUMAN ANATOMY*, 2024 RELEASE. All text references are for this textbook. Begin identifying muscles in your textbook BEFORE you come to the laboratory. You may want to fill in the muscle labeling activity on the next two pages. **You must bring gloves for this activity.**
- Identify muscles listed on models and/or donors.
- When indicated, identify the action and attachments for each muscle.
- **Before next class:** You will be working on muscles in the laboratory for two weeks, so continue your study of the muscle tables in preparation for your laboratory practical exam.

Activity 5

SKELETAL MUSCLE IDENTIFICATION

- You will be required to identify each of the following muscles or associated structures on the donors and/or models in lab.
- Muscle actions are required for each muscle.
- Remember: *Spelling is important!* Practice writing and rewriting the names of each muscle and associated structure.

Please note: The drawings provided are for guidance and orientation only. Use your textbook for more detailed drawings, including attachment sites.

You will be spending two weeks working on muscles. The first week you'll be focusing on superior muscles, and the next week you'll be focusing on inferior muscles.

TABLE 5-1. Muscles of facial expression: (8 muscles to identify) These muscles move skin rather than a joint upon contraction.

NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> frontalis (frontal belly of occipitofrontalis)	draws scalp forward, raises eyebrows, wrinkles forehead horizontally	FIG. 11.2A & B
<input type="checkbox"/> occipitalis (occipital belly of occipitofrontalis)	retracts scalp	FIG. 11.1B, 11.2B
<input type="checkbox"/> orbicularis oris	compresses and purses lips (kiss muscle)	FIG. 11.2A & B

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-1. Muscles of facial expression: (*8 muscles to identify*) These muscles move skin rather than a joint upon contraction.

NAME	ACTION	TEXT REFERENCES & NOTES
□ orbicularis oculi	closes eye	
□ platysma	pulls lower lip inferiorly, tenses skin of neck, aids in depressing mandible	
□ zygomaticus major	pulls corners of mouth superiorly (smiling muscle)	
□ zygomaticus minor	raises upper lip, exposing upper teeth	
□ buccinator	presses cheeks against molar teeth, holds food between teeth during chewing	FIG. 11.2A & B

Activity 5

TABLE 5-2. Muscles of mastication (chewing): (2 muscles to identify).

NAME	SUPERIOR ATTACHMENT (ORIGIN)	INFERIOR ATTACHMENT (INSERTION)	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> temporalis	parietal bone frontal bone	coronoid process of mandible	elevates and retracts mandible at jaw	FIG. 11.2B, 11.5
<input type="checkbox"/> masseter	zygomatic arch (made up of the temporal process of zygomatic bone and the zygomatic process of the temporal bone)	coronoid process, angle, and ramus of mandible	closes jaw; elevates mandible at jaw	FIG. 11.2A & B, 11.5

TABLE 5-3. Neck muscles: (3 muscles to identify)

NAME	INFERIOR ATTACHMENT (INSERTION)	SUPERIOR ATTACHMENT (ORIGIN)	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> sternocleidomastoid	<ul style="list-style-type: none"> • manubrium of sternum • sternal end of clavicle 	mastoid process of temporal bone	<p><i>one side:</i> laterally flexes & rotates head to opposite side of contracting muscle</p> <p><i>both sides:</i> flexes cervical portion of vertebral column</p>	FIG. 11.8, 11.9
<input type="checkbox"/> splenius capitis	ligamentum nuchae (connective tissue covering the spinal processes of the cervical vertebrae)	<ul style="list-style-type: none"> • occipital bone • mastoid process of temporal bone 	<p><i>one side:</i> rotate head to same side of contracting muscle</p> <p><i>both sides:</i> extend head & neck</p>	FIG. 11.10, 11.11

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-3. Neck muscles: (3 muscles to identify)

NAME	INFERIOR ATTACHMENT (INSERTION)	SUPERIOR ATTACHMENT (ORIGIN)	ACTION	TEXT REFERENCES & NOTES
□ splenius cervicis	spinous processes of T3–T6	transverse processes of cervical vertebrae	<i>one side:</i> rotate head to same side of contracting muscle <i>both sides:</i> extend head & neck	FIG. 11.10, 11.11

TABLE 5-4. Muscles that move the pectoral girdle: (6 muscles to identify) Muscles that are attached only to the axial skeleton and thus move the pectoral girdle. For summary of movements see TABLE. 12.1

NAME	ACTION	TEXT REFERENCES & NOTES
□ trapezius	superior fibers: elevate & upwardly rotate scapula; elevate clavicle; extend head	FIG. 11.1B, 12.2, 12.4B
	middle fibers: adduct scapula	
	inferior fibers: depress scapula	
□ levator scapulae	elevates scapula	FIG. 11.1B, 12.2, 12.3, 12.4B

Activity 5

TABLE 5-4. Muscles that move the pectoral girdle: (6 muscles to identify) Muscles that are attached only to the axial skeleton and thus move the pectoral girdle. For summary of movements see TABLE. 12.1

NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> rhomboid major	stabilizes, elevates, & adducts scapula; downwardly rotates scapula	FIG. 11.1B, 12.2, 12.4B
<input type="checkbox"/> rhomboid minor		
<input type="checkbox"/> serratus anterior	abducts & stabilizes scapula	FIG. 11.1B, 11.14A, 12.1, 12.4A
<input type="checkbox"/> pectoralis minor	abducts & depresses scapula	FIG. 11.1, 12.1, 12.4A

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-5. Muscles that attach to the axial skeleton or the scapula and to the humerus: (8 muscles plus one muscle group to identify). These muscles move the glenohumeral (shoulder) joint. For illustrations and summary of movement, see FIG. 12.5A-C, and TABLE 12.2 AND 12.3.

NAME	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	ACTION	TEXT REFERENCES & NOTES
Rotator cuff muscles (4 muscles with a common insertion point)				
□ supraspinatus	supraspinous fossa of scapula	greater tubercle of humerus	abducts arm	FIG. 12.2, 12.4
□ infraspinatus	infraspinous fossa of scapula		laterally rotates arm	FIG. 12.2, 12.4B
□ teres minor	lateral border of scapula		laterally rotates and weakly adducts arm	FIG. 12.2, 12.4B
□ subscapularis	subscapular fossa of scapula		medially rotates arm	FIG. 12.4A, 12.5

Activity 5

TABLE 5-5. Muscles that attach to the axial skeleton or the scapula and to the humerus: (8 muscles plus one muscle group to identify). These muscles move the glenohumeral (shoulder) joint. For illustrations and summary of movement, see FIG. 12.5A-C, and TABLE 12.2 AND 12.3.

NAME	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	ACTION	TEXT REFERENCES & NOTES
□ teres major	lateral border and angle of scapula	lesser tubercle & intertubercular sulcus of humerus	extends, adducts, & medially rotates arm	FIG. 12.2, 12.4B
□ latissimus dorsi	<ul style="list-style-type: none"> • spinous processes of lower thoracic vertebrae • lower ribs (8–12) • iliac crest of illium 	intertubercular sulcus of humerus	extends, adducts, & medially rotates arm	FIG. 11.1B, 12.1, 12.2, 12.4B
□ deltoid	<ul style="list-style-type: none"> • acromial end of clavicle • acromion and spine of scapula 	deltoid tuberosity of humerus	<ul style="list-style-type: none"> • abducts, flexes, & extends arm • anterior fibers medially rotate arm • posterior fibers laterally rotate arm 	FIG. 11.1, 12.1, 12.2, 12.4A & B; TABLE 12.3
□ pectoralis major	<ul style="list-style-type: none"> • clavicle • costal cartilages 	intertubercular sulcus of humerus	flexes, adducts, & medially rotates arm	FIG. 11.1, 12.1, 12.4A

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-6. Posterior compartment of the arm: (2 muscles, one with 3 heads to identify)
For summary of actions at elbow, see TABLE 12.5.

NAME	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	ACTION	TEXT REFERENCES & NOTES
□ triceps brachii (triceps brachii has three heads)				
□ long head	infraglenoid tubercle of scapula	olecranon process of ulna	<ul style="list-style-type: none"> • long head assists in extension of arm • all three heads extend forearm 	FIG. 12.8
□ lateral head	posterior shaft of humerus			
□ medial head	distal two-thirds of posterior shaft of humerus			
□ anconeus			extends forearm	FIG. 12.8, 12.13A

Activity 5

TABLE 5-7. Anterior compartment of the arm: (5* muscles to identify) For summary of actions at elbow, see TABLE 12.4 AND 12.5.

NAME	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	ACTION	TEXT REFERENCES & NOTES
□ biceps brachii (biceps brachii has two heads)*				
□ long head	supraglenoid tubercle of scapula	radial tuberosity of radius	<ul style="list-style-type: none"> • long head flexes arm • flexes forearm • supinates forearm at radioulnar joint 	FIG. 12.7, TABLE 12.4
□ short head	coracoid process of scapula			
□ coracobrachialis	coracoid process of scapula	middle medial shaft of humerus	adducts & flexes arm	FIG. 12.7, TABLE 12.4
□ brachialis	distal, anterior surface of humerus	coronoid process of ulna	flexes forearm	
□ brachioradialis	lateral distal humerus	styloid process of radius	flexes forearm	FIG. 12.7, 12.11A

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-8. Anterior compartment of the forearm: (7 muscles plus 1 associated structure to identify) For summary of actions at wrist, see TABLE 12.8.

NOTE: MP = metacarpophalangeal IP = interphalangeal		PIP = proximal interphalangeal DIP = distal interphalangeal
NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> pronator teres	pronates forearm at radioulnar joint	FIG. 12.9, 12.11, 12.12
<input type="checkbox"/> flexor carpi radialis	flexes and abducts hand	FIG. 12.11, 12.12
<input type="checkbox"/> palmaris longus	<ul style="list-style-type: none"> • weakly flexes hand • tenses fascia of palm 	FIG. 12.11, 12.12
<input type="checkbox"/> flexor carpi ulnaris	flexes and adducts hand	FIG. 12.11, 12.12, 12.13A

Activity 5

TABLE 5-8. Anterior compartment of the forearm: (7 muscles plus 1 associated structure to identify) For summary of actions at wrist, see TABLE 12.8.

NOTE: MP = metacarpophalangeal PIP = proximal interphalangeal
 IP = interphalangeal DIP = distal interphalangeal

NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> flexor digitorum superficialis	<ul style="list-style-type: none"> • flexes hand • flexes middle phalanx of each finger at 2nd–5th MP & PIP joints 	FIG. 12.11B
<input type="checkbox"/> flexor digitorum profundus	<ul style="list-style-type: none"> • flexes hand • flexes distal and middle phalanges of each finger at 2nd–5th MP, PIP, & DIP joints 	FIG. 12.11C
<input type="checkbox"/> flexor pollicis longus	flexes distal phalanx of thumb at IP joint	FIG. 12.11C

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-8. Anterior compartment of the forearm: (7 muscles plus 1 associated structure to identify) For summary of actions at wrist, see TABLE 12.8.

NOTE: MP = metacarpophalangeal IP = interphalangeal		PIP = proximal interphalangeal DIP = distal interphalangeal
NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> flexor retinaculum (associated structure)	significance: fibrous band of connective tissue that covers the palmar surface of the carpal bones	FIG. 12.11A, 12.14A

TABLE 5-9. Posterior compartment of the forearm: (8 muscles plus 1 associated structure to identify)

NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> extensor carpi radialis longus	extends and abducts hand	FIG. 12.13A & B
<input type="checkbox"/> extensor carpi radialis brevis		

Activity 5

TABLE 5-9. Posterior compartment of the forearm: (8 muscles plus 1 associated structure to identify)

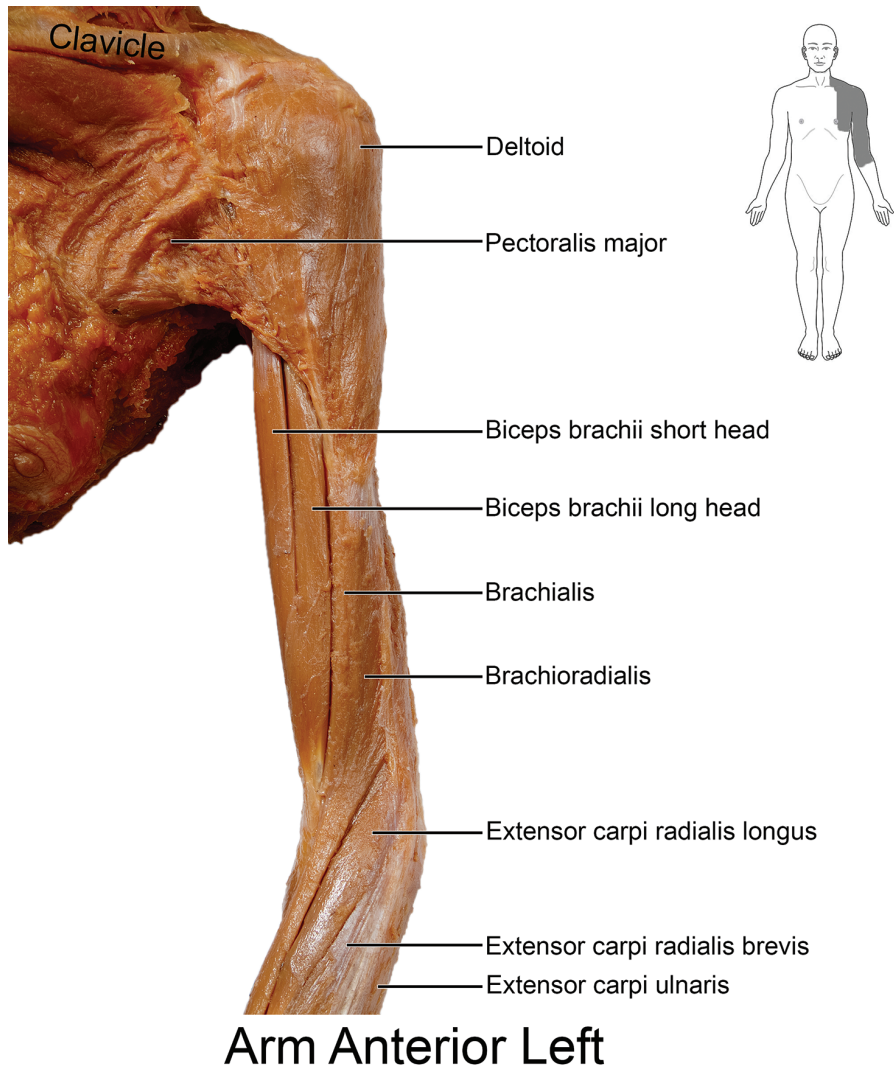
NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> extensor digitorum	<ul style="list-style-type: none"> • extends hand • extends distal and middle phalanges at 2nd–5th MP, PIP, & DIP joints 	
<input type="checkbox"/> extensor carpi ulnaris	<p>extends and adducts hand</p>	
<input type="checkbox"/> abductor pollicis longus	<ul style="list-style-type: none"> • abducts and extends thumb joint between carpals and metacarpals • weakly extends hand 	
<input type="checkbox"/> extensor pollicis brevis	<ul style="list-style-type: none"> • weakly extends hand • extends thumb at MP joint 	

Muscles of the Head, Neck, and Upper Limbs

TABLE 5-9. Posterior compartment of the forearm: (8 muscles plus 1 associated structure to identify)

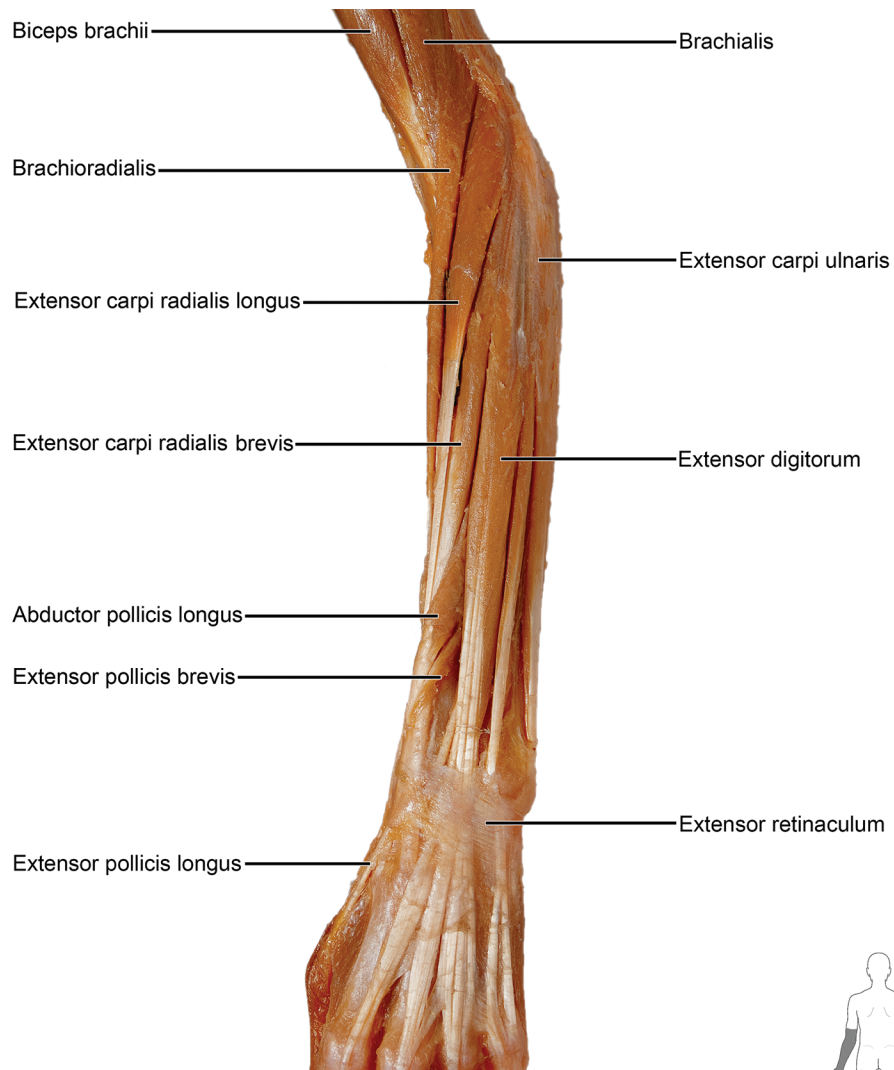
NAME	ACTION	TEXT REFERENCES & NOTES
<input type="checkbox"/> extensor pollicis longus	<ul style="list-style-type: none"> • weakly extends hand • extends thumb at MP & IP joints 	
<input type="checkbox"/> supinator	<p>supinates forearm at radioulnar joint</p>	<p>FIG. 12.9, 12.13B</p>
<input type="checkbox"/> extensor retinaculum (associated structure)	<p>significance: fibrous band of connective tissue that covers the dorsal surface of the carpal bones</p>	<p>FIG. 12.13A, 12.14C</p>

Activity 5



Photography/Graphic Design: Richard Gatt
Research/Preparation: Paulina Ross

FIGURE 5-3. Anterior chest, anterior arm, posterior forearm muscles.



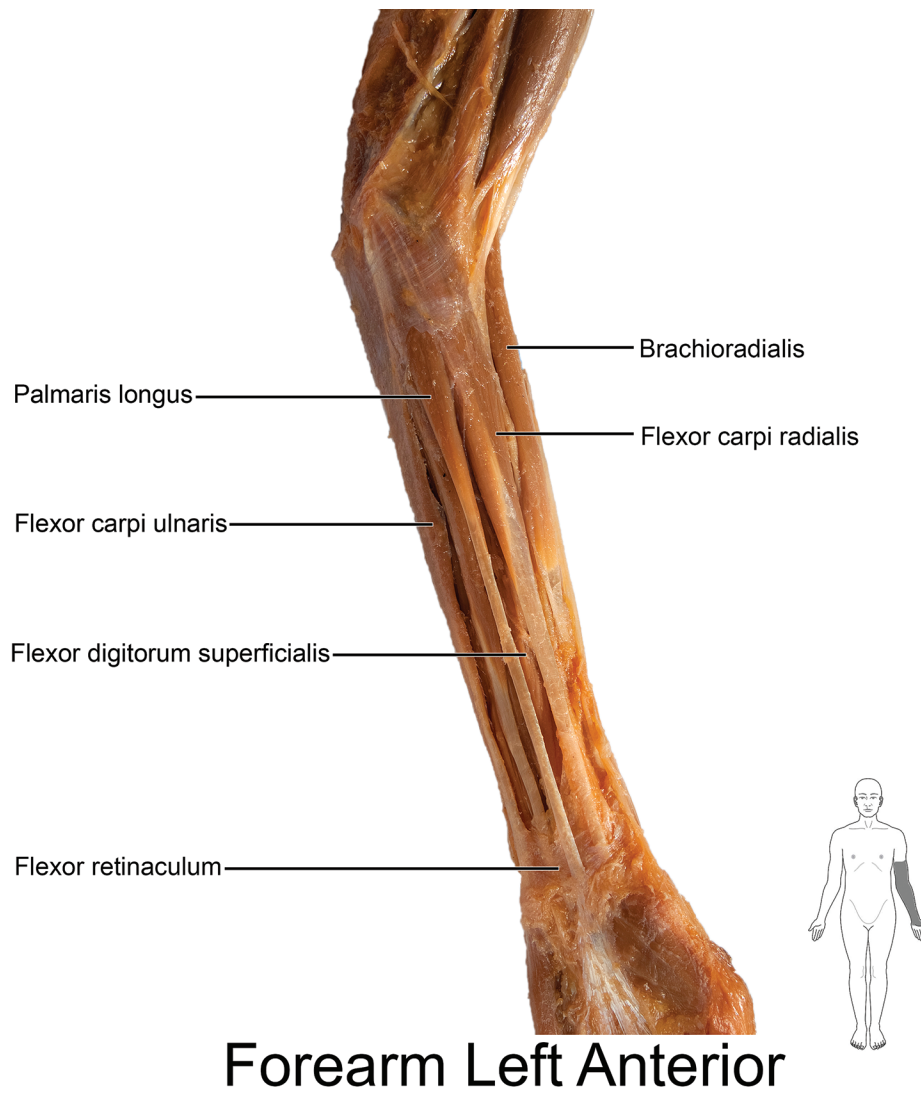
Forearm Left Posterior

Photography/Graphic Design: Richard Gatt
Research/Preparation: Paulina Ross



FIGURE 5-4. Posterior forearm muscles.

Activity 5



Photography/Graphic Design: Richard Gatt
Research/Preparation: Paulina Ross

FIGURE 5-5. Anterior forearm muscles.