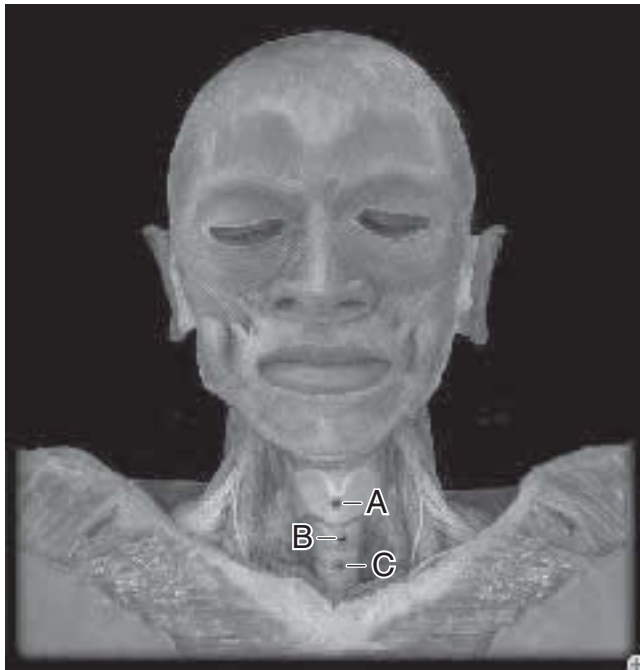


- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
 B. _____
 C. _____

Animations: Muscle Actions

SELECT ANIMATION

Buccinator Muscle

PLAY

After viewing this animation, select and view these additional animations:

- **Frontalis muscle**
- **Levator labii superioris alaeque nasi muscle**
- **Orbicularis oculi muscle**
- **Orbicularis oris muscle**
- **Trapezius muscle**

EXERCISE 6.2:

Skeletal Muscle—Head and Neck, Lateral View

SELECT TOPIC

Head and Neck

➔

SELECT VIEW

Lateral

- Click **LAYER 1** in the **LAYER CONTROLS** window and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____

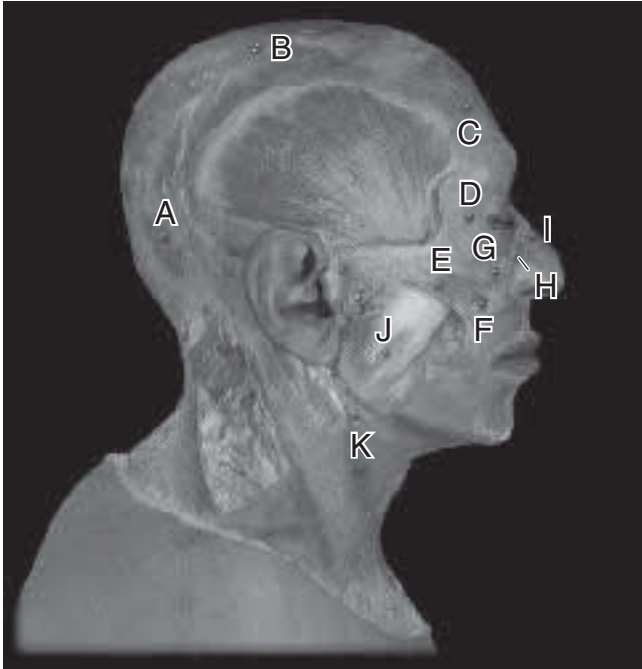
Nonmuscular System Structure (blue pin)

CHECK POINT

Head and Neck, Lateral View

1. What location on the mandible provides an attachment site for the masseter muscle?
2. What other muscle attaches at this point?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

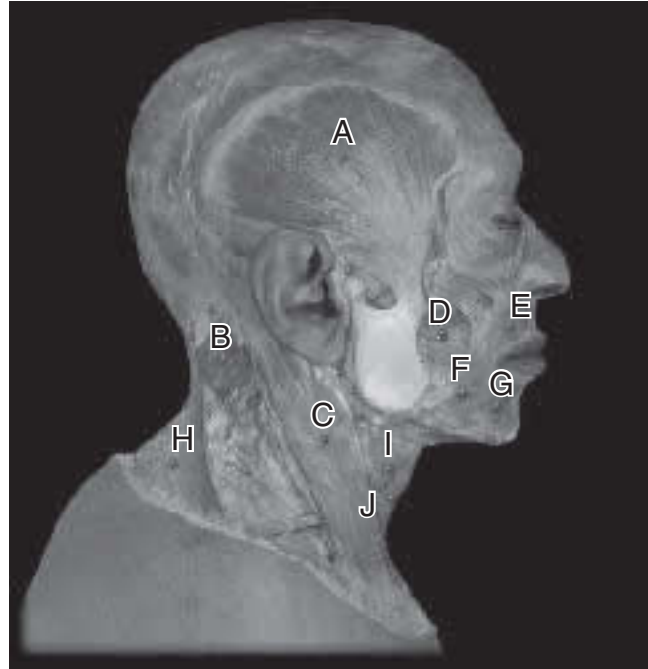
- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____
- K. _____

C H E C K P O I N T

Head and Neck, Lateral View, continued

- Name the muscle responsible for elevation of the upper lip in a sneer.
- Name the two muscles responsible for elevation of the upper lip in a smile.
- Name the muscle that elevates and creases the skin of the neck as well as depresses the lower lip and the angle of the mouth.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

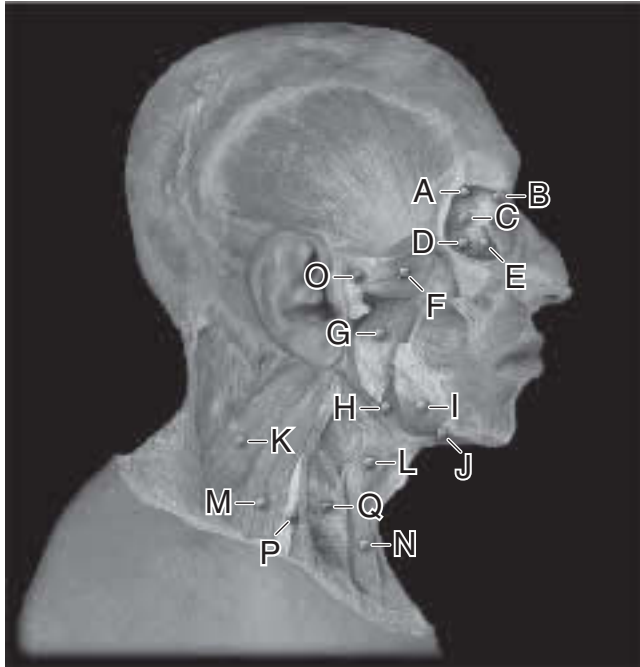
- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____

C H E C K P O I N T

Head and Neck, Lateral View, continued

- Name a muscle with two bellies (superior and inferior) joined by an intermediate tendon.
- What is the “kissing muscle”?

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____
- K. _____
- L. _____
- M. _____
- N. _____

Nonmuscular System Structures (blue pins)

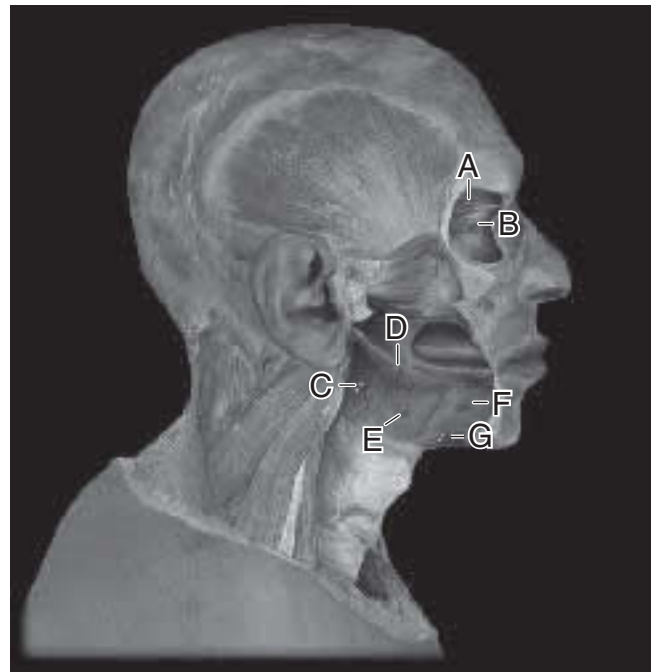
- O. _____
- P. _____
- Q. _____

CHECK POINT

Head and Neck, Lateral View, continued

8. Name a muscle responsible for the protrusion of the mandible.
9. Name a muscle responsible for the elevation of the scapula, as in shrugging the shoulders.
10. Name the muscle involved in abduction of the eyeball.

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

CHECK POINT

Head and Neck, Lateral View, continued

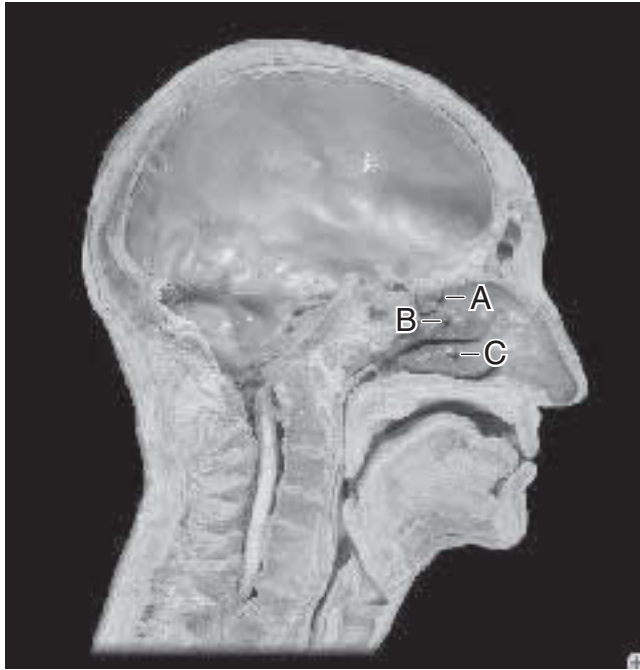
11. Name the muscle involved with adduction of the eyeball.
12. Name the muscle whose tendon passes through a trochlea.
13. Which muscle allows you to stick out your tongue?

CHECK POINT

Head and Neck, Mid-sagittal View

1. Name the muscular structure that separates the oropharynx from the nasopharynx.
2. Name a muscle that blends with the musculature of the tongue.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____

EXERCISE 6.4:

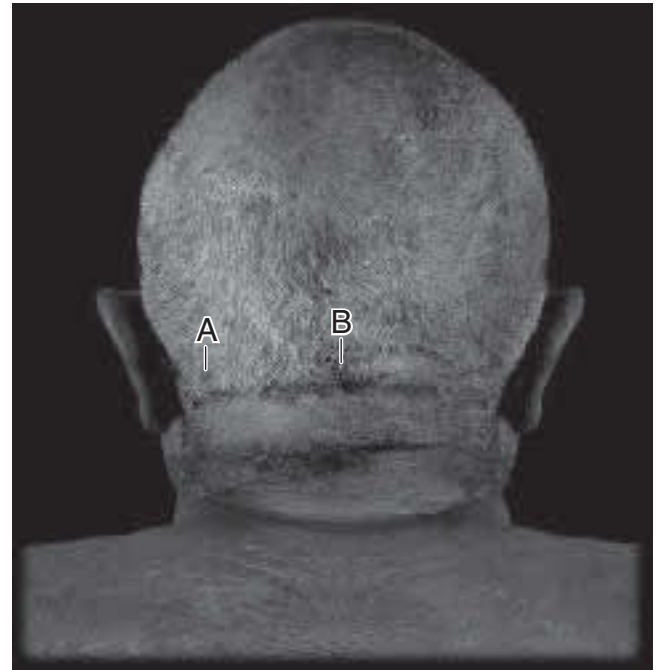
Skeletal Muscle—Head and Neck, Posterior View



SELECT TOPIC
Head and Neck

SELECT VIEW
Posterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

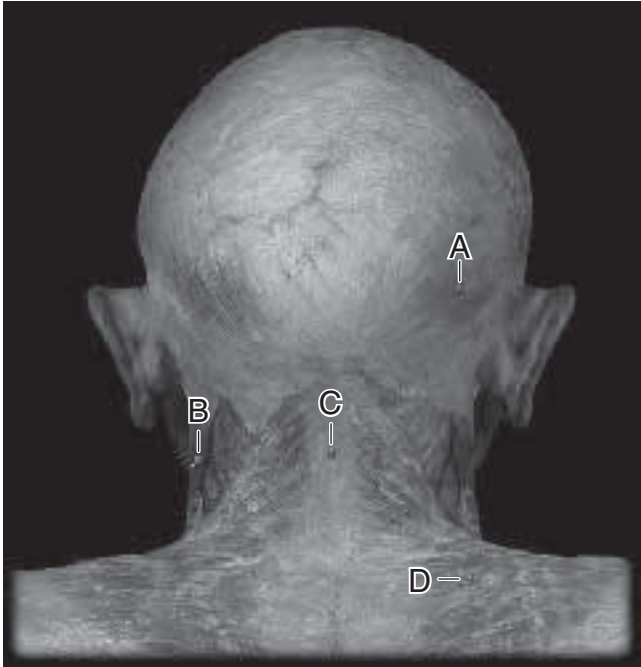
- A. _____
- B. _____

CHECK POINT

Head and Neck, Posterior View

1. Name the three muscles that attach to the mastoid process.
2. What is the attachment point to the skull for the nuchal ligament?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

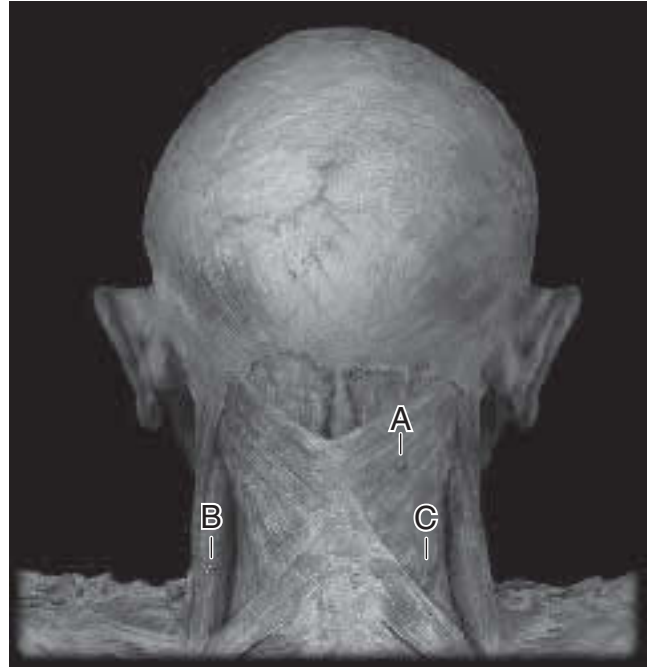
- A. _____
- B. _____
- C. _____
- D. _____

CHECK POINT

Head and Neck, Posterior View, continued

3. Name two muscles attached to the nuchal ligament.
4. Name the two origins and the one insertion for the sternocleidomastoid muscle.
5. Name the large superficial muscle located from the posterior neck to the shoulders and the posterior midline.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pin on the screen to find the information necessary to identify the following structure:

A. _____

- Click **LAYER 6** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

A. _____

B. _____

CHECK POINT

Head and Neck, Posterior View, *continued*

6. Name a muscle responsible for elevation of the pharynx during swallowing.

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction Chapter** for a reminder on how to access the **QUIZ** for this Study Area.

IN REVIEW

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the head and neck. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name a muscle responsible for elevation of the larynx.
2. Name the muscle that flares the nostrils.
3. The scapula is elevated by which muscles?
4. When this muscle contracts, the head rotates so that the face turns downward and to the opposite side.
5. Name three muscles responsible for closing the mouth.
6. Name three muscles responsible for depression of the hyoid bone.
7. What muscle is responsible for flexion of the head to look downward?
8. Name the group of muscles responsible for the peristaltic waves of swallowing.
9. Name three muscles involved in moving the tongue.
10. Name the muscle involved in elevating the eyebrow and creasing the skin of the forehead.
11. Name a muscle responsible for depression of the larynx.
12. There is a muscle complex that lies deep to the scalp from the forehead to the posterior skull. What is the name of that complex and the two muscles that it consists of?
13. List all of the muscles involved with eye movement, and describe the movement involved with each muscle.
14. Name the anatomical structure commonly called the chin.

Muscular System: Trunk, Shoulder Girdle, and Upper Limb

EXERCISE 6.5:

Skeletal Muscle—Thorax, Anterior View

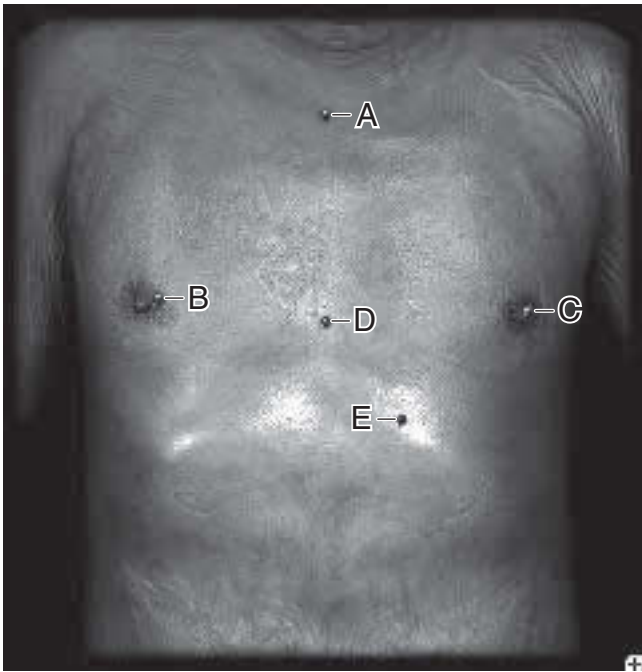
SELECT TOPIC

Thorax

SELECT VIEW

Anterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

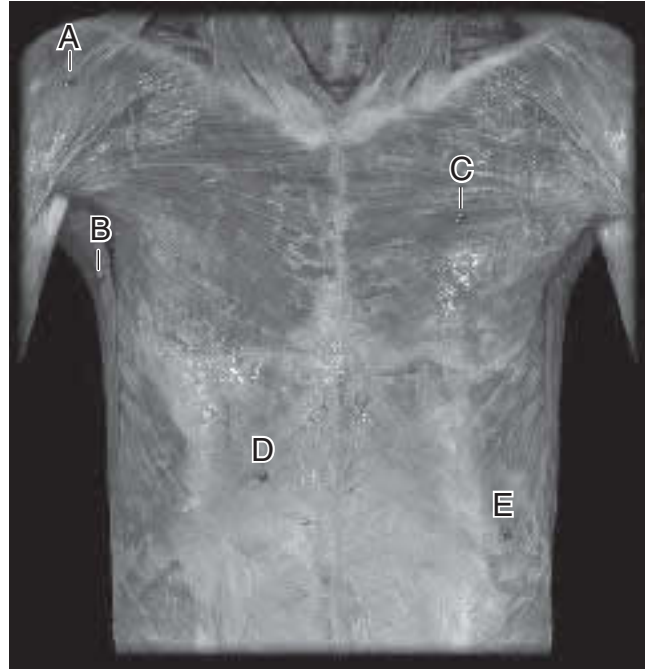
- _____
- _____
- _____
- _____
- _____

CHECK POINT

Thorax, Anterior View

1. What is the name for the superficially visible inferior border of costal cartilages 7–10?
2. What structures attach to this location?
3. What are the two names for the shallow notch in the superficially visible superior border of the manubrium?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- _____
- _____
- _____
- _____
- _____

CHECK POINT

Thorax, Anterior View, continued

4. Name the muscle involved with adduction, extension, and medial rotation of the arm.
5. Name the muscle involved with abduction, flexion, extension, and lateral and medial rotation of the arm.
6. What is the name for the fibrous compartment enclosing the rectus abdominis muscle?
7. What is an aponeurosis?

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____

CHECK POINT

Thorax, Anterior View, continued

8. Name the muscle that consists of three to four bellies, separated by tendinous intersections.
9. Name the muscle with its origin at the medial clavicle and the manubrium of the sternum and its insertion at the mastoid process.
10. Name the muscle that stabilizes the scapula and is involved in its lateral rotation.

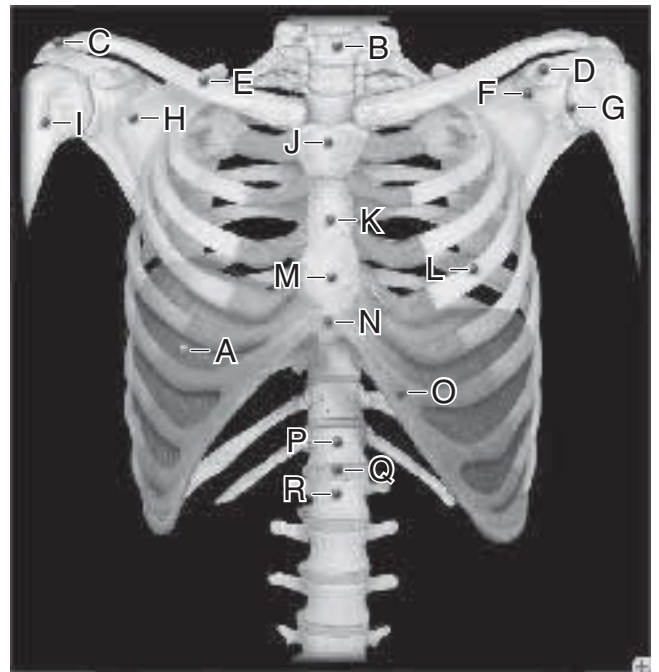
- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structure:

A. _____

Nonmuscular System Structures (blue pins)

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

H. _____

I. _____

J. _____

K. _____

L. _____

M. _____

N. _____

O. _____

P. _____

Q. _____

R. _____



After viewing this animation, select and view these additional animations:

- External abdominal oblique muscle
- Latissimus dorsi muscle
- Pectoralis major muscle
- Rectus abdominus muscle
- Serratus anterior muscle

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction Chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the thorax. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name the structure formed by the tendons of three abdominal muscles.
2. Name the three primary muscles of respiration.
3. Name the muscle responsible for the adduction, extension, and medial rotation of the humerus.
4. Name the two muscles that stabilize the scapula.
5. Name the muscle that is the site of intramuscular injections of the arm.

EXERCISE 6.6:
Skeletal Muscle—Abdomen, Anterior View

 **SELECT TOPIC**
Abdomen **SELECT VIEW**
Anterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pin on the screen to find the information necessary to identify the following nonmuscular system structure:

A. _____

CHECK POINT

Abdomen, Anterior View

1. Describe umbilicus variability.
2. What is the umbilicus a landmark for?
3. Where is it located on lean individuals?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____
 C. _____
 D. _____
 E. _____

Nonmuscular System Structure (blue pin)

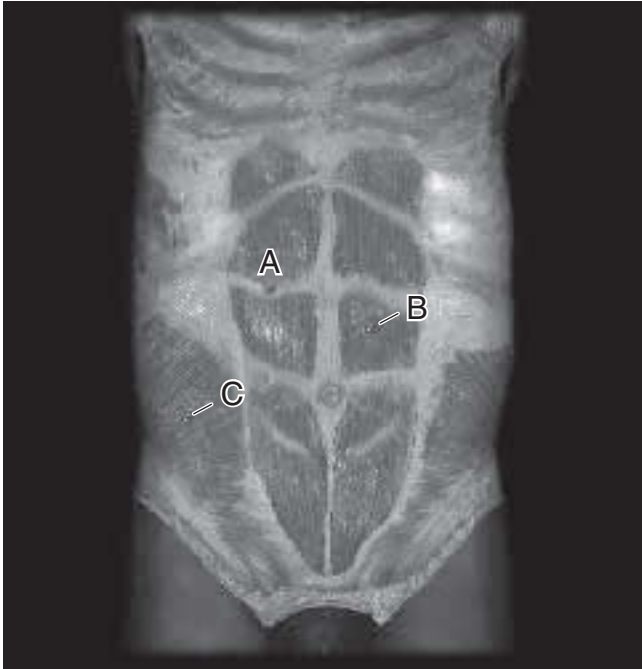
F. _____

CHECK POINT

Abdomen, Anterior View, continued

4. Name the common site for male inguinal hernias.
5. Opening the abdominal wall by incision through the _____ avoids cutting muscle fibers.
6. What abdominal muscle has its fibers running at right angles to the internal abdominal oblique?

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

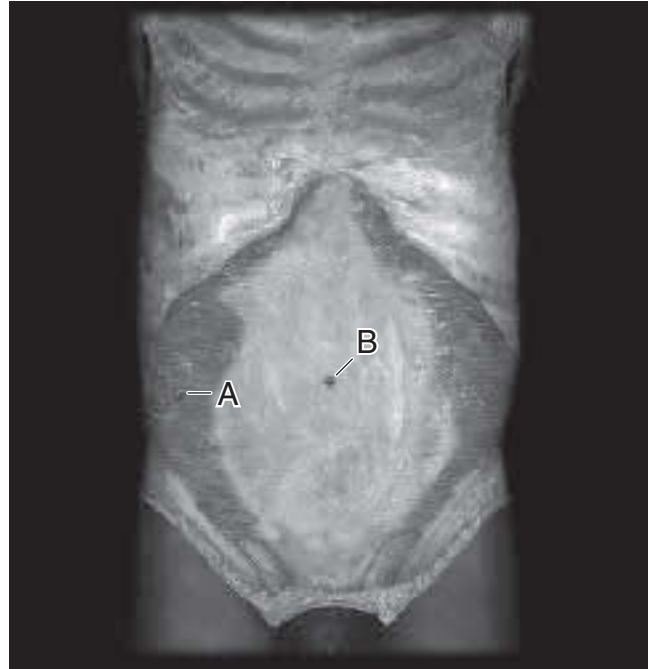
- A. _____
 B. _____
 C. _____

C H E C K P O I N T

Abdomen, Anterior View, continued

7. Name the structures that subdivide the rectus abdominis muscle into three to four bellies.
8. What abdominal muscle has its fibers running at right angles to the external abdominal oblique?
9. Name the abdominal muscles in this view important in straining and abdominal breathing.

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____

C H E C K P O I N T

Abdomen, Anterior View, continued

10. Name the abdominal muscle whose fibers run in a transverse plane.
11. What is the anatomical term for “flat tendons”?
12. What two structures come together to form the posterior rectus sheath?

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____
 C. _____

C H E C K P O I N T

Abdomen, Anterior View, continued

13. Name a muscle of the posterior abdominal wall involved in respiration.

SELECT ANIMATION

External Abdominal Oblique Muscle

PLAY

After viewing this animation, select and view these additional animations:

- **Iliacus muscle**
- **Rectus abdominis muscle**

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction Chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the thorax. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name the abdominal wall muscles responsible for abdominal breathing.
2. What is the term for a “seam” where two structures meet?
3. Two individual muscles of the abdomen unite to form a single muscle, the most powerful flexor of the hip. Name those two individual muscles and the muscle they unite to form.
4. Two pairs of abdominal wall muscles have their structures running at right angles to each other. What are those two pairs of muscles?
5. Name the abdominal wall muscles important in straining, such as while lifting.

EXERCISE 6.7:

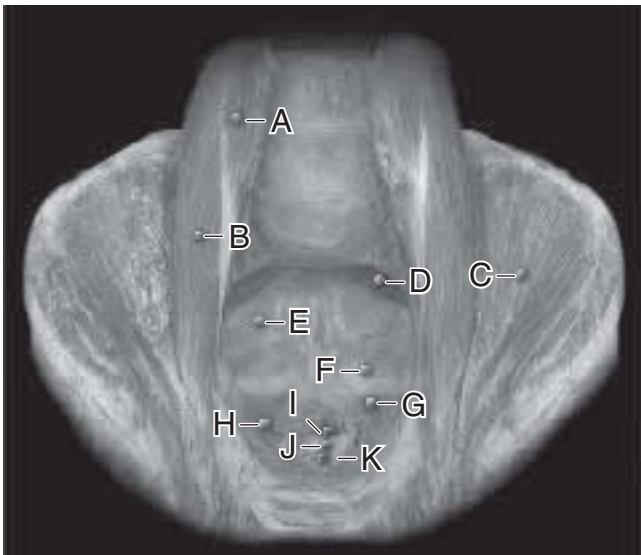
Skeletal Muscle—Pelvis, Superior View



SELECT TOPIC
Pelvis

SELECT VIEW
Superior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

Nonmuscular System Structures (blue pins)

- I. _____
- J. _____
- K. _____

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction Chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W


What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the pelvis. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name the pelvic muscle involved with lateral rotation of the femur and that exits the pelvis through the greater sciatic foramen.
2. Name the two muscles that make up the pelvic diaphragm. What are their functions?
3. Name the structure that serves as the origin for part of the levator ani muscle.

EXERCISE 6.8:

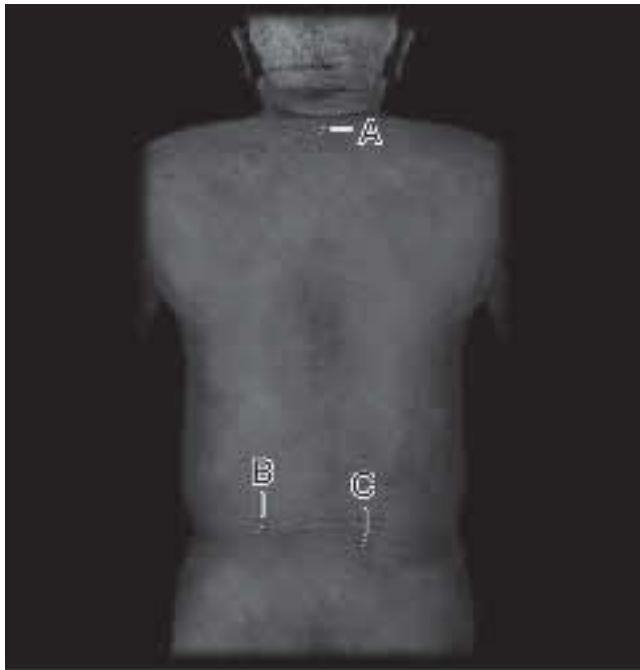
Skeletal Muscle—Back, Posterior View



SELECT TOPIC
Back

SELECT VIEW
Posterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

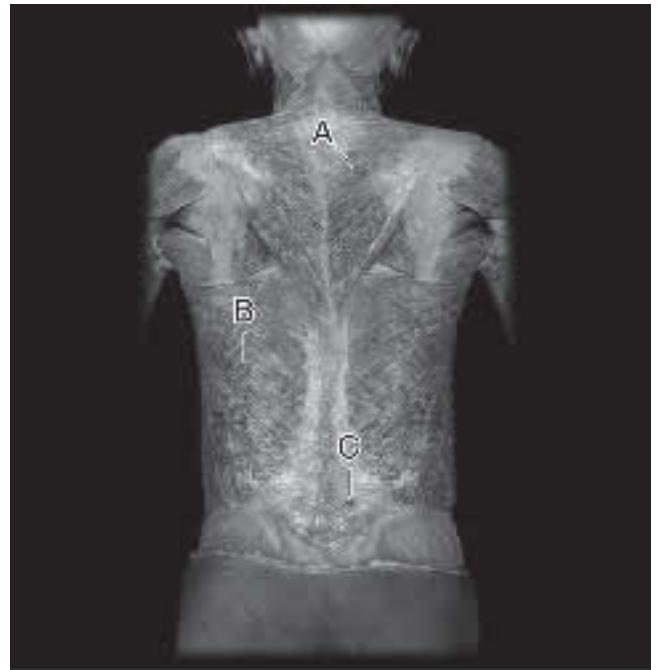
- A. _____
- B. _____
- C. _____

CHECK POINT

Back, Posterior View

1. Name the landmark for intramuscular injections of the hip.
2. The shallow skin depression (dimple) in the lower back marks what point?
3. What is the name for the prominent surface projection produced by the spinous process of vertebra C7?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

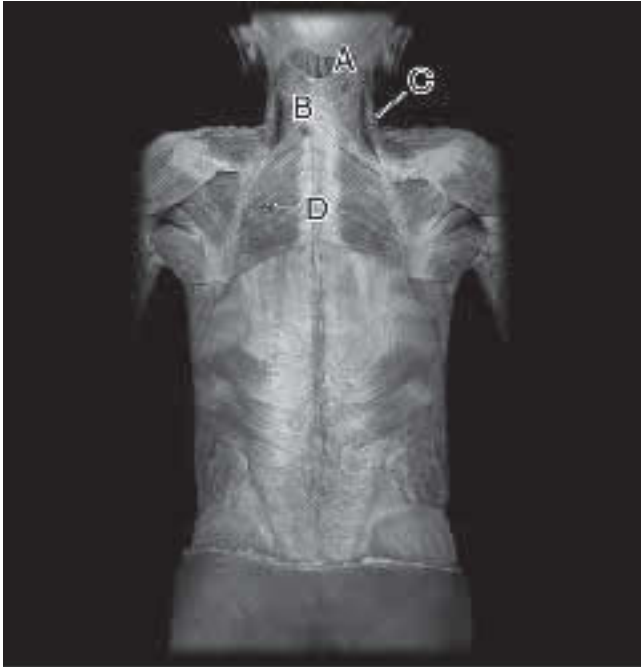
- A. _____
- B. _____
- C. _____

CHECK POINT

Back, Posterior View, continued

4. Name the superficial “kite-shaped” muscle of the back that spans from the nuchal line of the occipital bone to vertebra T12.
5. Name the deep fascia whose attached structures include the latissimus dorsi muscle.
6. Name the superficial muscle whose name describes its location as it spans from the back to the side of the body.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

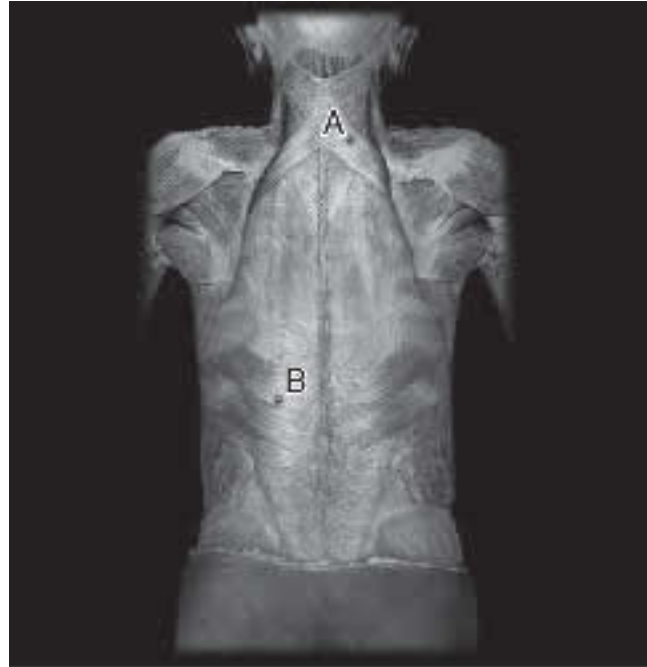
- A. _____
- B. _____
- C. _____
- D. _____

C H E C K P O I N T

Back, Posterior View, continued

7. Name two muscles involved in the retraction and elevation of the scapula.
8. Name a muscle that allows the shrugging of the shoulders.

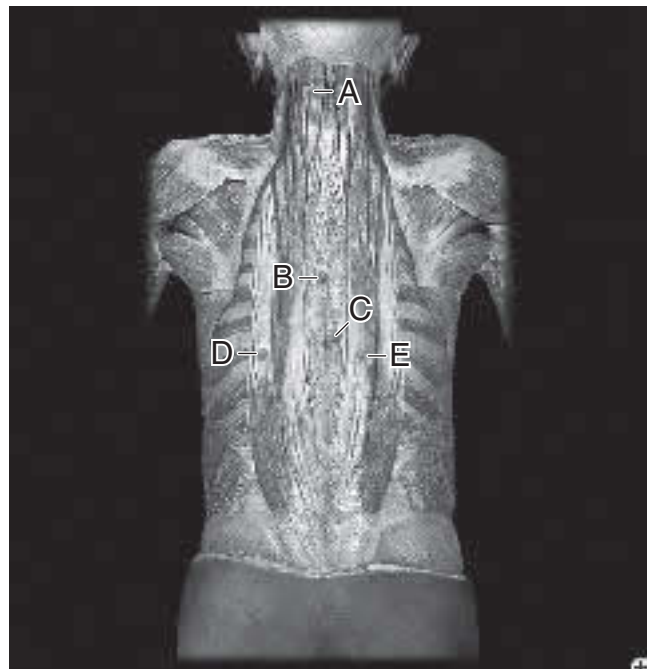
- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

C H E C K P O I N T

Back, Posterior View, continued

- 9. Name the muscle known as the “antigravity muscle.”
- 10. This muscle consists of three separate muscles. What are they?



SELECT ANIMATION

Erector Spinae Muscle (extension)

PLAY

After viewing this animation, select and view these additional animations:

- **Erector spinae muscle (lateral flexion)**
- **Infraspinatus muscle**
- **Latissimus dorsi muscle**
- **Rhomboid major and minor muscles**
- **Subscapularis muscle**
- **Supraspinatus muscle**
- **Trapezius muscle**

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction Chapter** for a reminder on how to access the **QUIZ** for this Study Area.

EXERCISE 6.9:

Skeletal Muscle—Shoulder and Arm, Anterior View



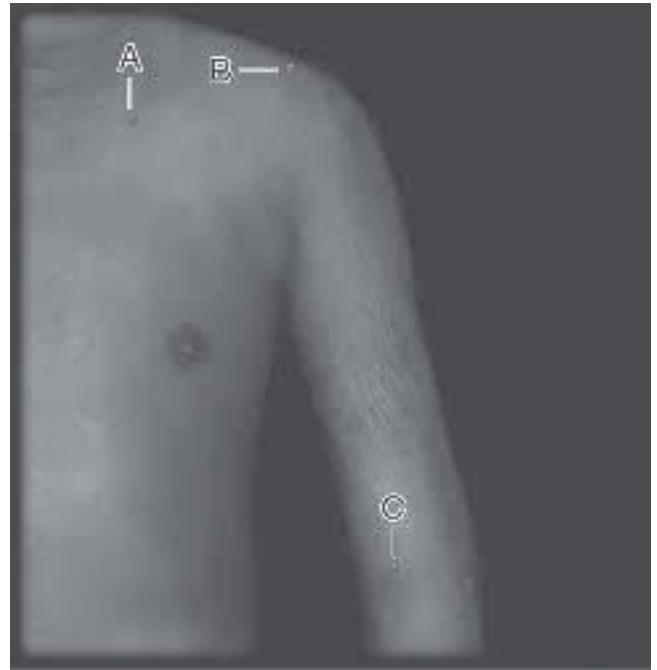
SELECT TOPIC

Shoulder and Arm

SELECT VIEW

Anterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____

C H E C K P O I N T

Shoulder and Arm, Anterior View

- 1. Name the structure referred to as the collar bone.
- 2. Name the structure that is the flattened, lateral part of the scapular spine.
- 3. What is the name for the triangular concavity of the anterior elbow?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____

C H E C K P O I N T

Shoulder and Arm, Anterior View, continued

4. Name the superficial muscle of the chest.
5. Name the muscle that contributes to the roundness of the shoulder.
6. Name the mostly posterior muscle that has its insertion at the clavicle and scapula.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____

Nonmuscular System Structure (blue pin)

- E. _____

C H E C K P O I N T

Shoulder and Arm, Anterior View, continued

7. Name the muscle of the arm that has two heads.
8. Name the tough fibrous envelope that surrounds the joint where the arm attaches to the pectoral girdle.
9. Name the two muscles referred to as the pecs.

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

C H E C K P O I N T

Shoulder and Arm, Anterior View, continued

10. Name the four rotator cuff muscles.
11. What is the function of the rotator cuff muscles?
12. Name the muscle deep to the biceps brachii.

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pin on the screen to find the information necessary to identify the following nonmuscular system structure:

- A. _____

SELECT ANIMATION

Biceps Brachii Muscle

PLAY

After viewing this animation, select and view these additional animations:

- **Brachialis muscle**
- **Deltoid muscle**
- **External abdominal oblique muscle**
- **Latissimus dorsi muscle**
- **Pectoralis major muscle**
- **Serratus anterior muscle**
- **Subscapularis muscle**
- **Teres major muscle**
- **Trapezius muscle**
- **Triceps brachii muscle**

EXERCISE 6.10:

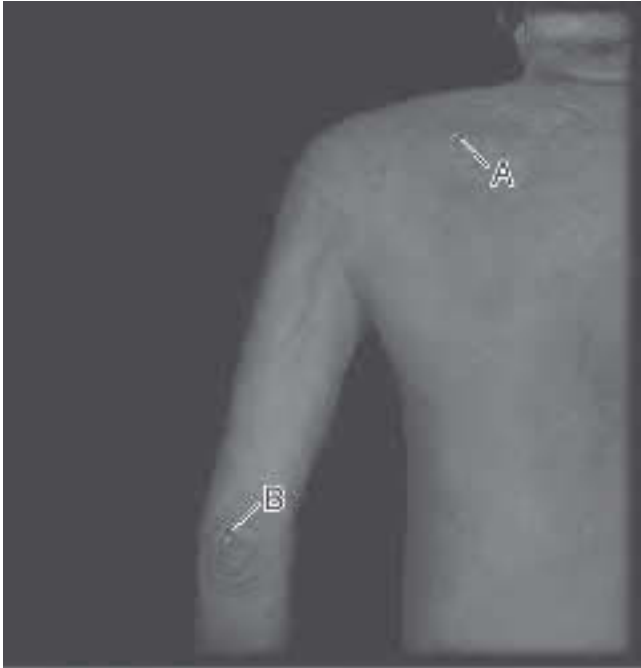
Skeletal Muscle—Shoulder and Arm, Posterior View



SELECT TOPIC
Shoulder and Arm

SELECT VIEW
Posterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____

C H E C K P O I N T

Shoulder and Arm, Posterior View

1. What is the name for the point of the elbow?
2. What specific structure of what bone constitutes the point of the elbow?
3. Name the prominent ridge on the posterior surface of the scapula.

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____

C H E C K P O I N T

Shoulder and Arm, Posterior View, continued

4. Name the triangle-shaped muscle of the shoulder.
5. Name the large lateral muscle responsible for adduction, extension, and medial rotation of the arm.
6. Name the muscle responsible for the elevation, medial rotation, adduction, and depression of the scapula.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____

C H E C K P O I N T

Shoulder and Arm, Posterior View, continued

7. Name the muscle of the arm with three heads.
8. Name the muscle found in the infraspinous fossa of the scapula.
9. Name two muscles with their insertions on the medial border of the scapula.

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structure:

- A. _____
- Nonmuscular System Structure (blue pin)**
- B. _____

C H E C K P O I N T

Shoulder and Arm, Posterior View, continued

10. Name the muscle located in the supraspinous fossa of the scapula.
11. Name a muscle that holds the head of the humerus in the glenoid cavity.

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction chapter** for a reminder on how to access the **QUIZ** for this Study Area.

SELECT ANIMATION
Extensor Digitorum Muscle **PLAY**

After viewing this animation, select and view this additional animation:

– **Flexor digitorum superficialis and profundus muscles**

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the wrist and hand. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name the thick, fleshy eminence at the base of the first digit.
2. Name the thick, fleshy eminence at the base of the fifth digit.
3. Name a muscle often missing on one or both forearms.
4. Name the only muscle that flexes the distal phalanx of the first digit.
5. Flexion of which joint makes the knuckles prominent?
6. What structures are visible as the knuckles?

EXERCISE 6.15:
Skeletal Muscles—Hip and Thigh, Anterior View

SELECT TOPIC
Hip and Thigh **SELECT VIEW**
Anterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____
- D. _____

C H E C K P O I N T

Hip and Thigh, Anterior View

1. Name the superficially visible anterior subcutaneous end of the iliac crest.
2. Name the point of attachment for the quadriceps femoris muscles by way of the patellar ligament.
3. Name the ligament that connects the patella to the tuberosity of the tibia.

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____
- I. _____
- J. _____
- K. _____

Nonmuscular System Structure (blue pin)

- L. _____

CHECK POINT

Hip and Thigh, Anterior View, continued

4. Name the muscle whose origin is the anterior superior iliac spine of the ilium and whose insertion is the proximal medial shaft of the tibia.
5. Name the four muscles of the quadriceps femoris.
6. Name the most powerful flexor of the thigh.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

CHECK POINT

Hip and Thigh, Anterior View, continued

7. Name the muscle of the thigh that is weak in humans and used in muscle transplants.
8. Name the muscle often involved in a “pulled groin.”

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____
 C. _____

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
 B. _____
 C. _____

Nonmuscular System Structures (blue pins)

- D. _____
 E. _____

CHECK POINT

Hip and Thigh, Anterior View, continued

9. Name the strongest ligament around the hip joint.
10. Name the ligament that resists excessive abduction of the hip.
11. Name the ligament that resists hyperextension of the hip joint.

EXERCISE 6.16:

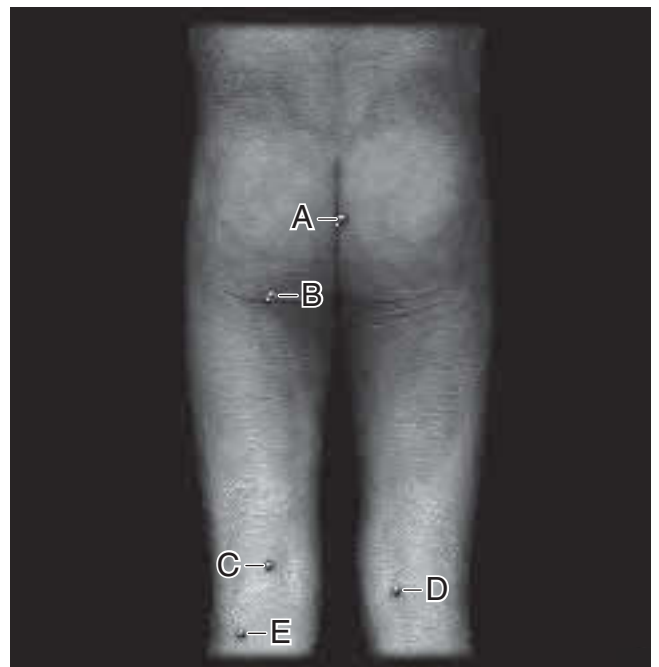
Skeletal Muscles—Hip and Thigh, Posterior View



SELECT TOPIC
Hip and Thigh

SELECT VIEW
Posterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

C H E C K P O I N T

Hip and Thigh, Posterior View

1. Name the muscle whose tendon is the lateral hamstring.
2. Name the muscles whose tendons are the medial hamstring.
3. Name the structure that provides attachment for the fibular collateral ligament of the knee and the biceps femoris muscle.
4. What is the natal cleft? What is its function?
5. What are the gluteal folds? What do they represent?

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

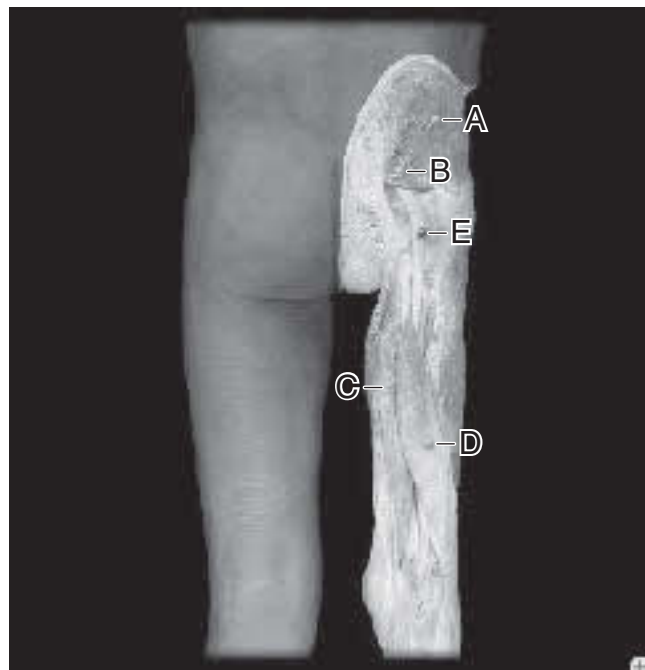
- A. _____
- B. _____

C H E C K P O I N T

Hip and Thigh, Posterior View, continued

6. Name a muscle of the posterior thigh not important in walking.
7. Name a muscle of the posterior thigh important for powerful extension of the femur as in running, climbing stairs, and rising from the seated position.
8. Name the structure that provides attachment for the tensor fascia latae and gluteus maximus muscles.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____

Nonmuscular System Structure (blue pin)

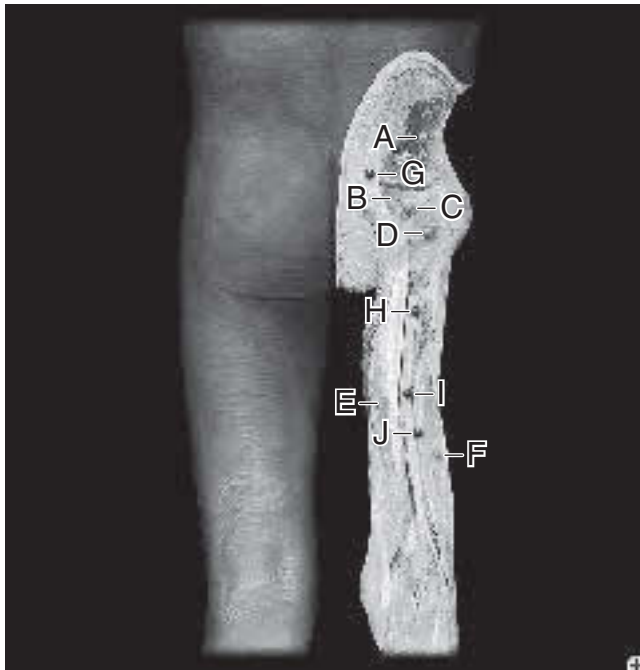
- E. _____

C H E C K P O I N T

Hip and Thigh, Posterior View, continued

9. Name the two muscles that allow the non-weight-bearing limb to swing forward during walking.
10. Name the two heads of the biceps femoris.
11. Name the largest nerve in the body.

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____

Nonmuscular System Structures (blue pins)

- G. _____
- H. _____
- I. _____
- J. _____

CHECK POINT

Hip and Thigh, Posterior View, continued

12. Name the structure that is an important anchor of the sacrum to the hip bone.
13. Name the two components of the sciatic nerve.

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pin on the screen to find the information necessary to identify the following nonmuscular system structure:

- A. _____

CHECK POINT

Hip and Thigh, Posterior View, continued

14. Name the thick fibrous band fused to the posterior surface of the hip joint capsule.
15. Name the ligament that resists hyperflexion of the hip.



SELECT ANIMATION

Adductor Magnus Muscle

PLAY

After viewing this animation, select and view these additional animations:

- **Short head of biceps femoris muscle**
- **Gluteus maximus muscle**

- **Gluteus medius muscle**
- **Hamstring muscles**
- **Quadriceps femoris muscle**
- **Sartorius muscle**

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the hip and thigh. Apply what you have learned to answer these questions on a separate piece of paper.

1. Name the four muscles of the quadriceps femoris.
2. Name the most powerful flexor of the hip joint.
3. Name the muscle of the thigh weak in humans and used in muscle transplants.
4. Name the muscle often involved in a pulled groin.
5. Name the strongest ligament around the hip joint.
6. Name a muscle of the posterior thigh important for powerful extension of the femur as in running, climbing stairs, and rising from the seated position.
7. Name the two muscles that allow the non-weight-bearing limb to swing forward during walking.
8. Name the two heads of the biceps femoris.
9. Name the thick fibrous band fused to the posterior surface of the hip joint capsule.

EXERCISE 6.17:

Skeletal Muscles—Leg and Foot, Anterior View



SELECT TOPIC
Leg and Foot

SELECT VIEW
Anterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- *Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:*

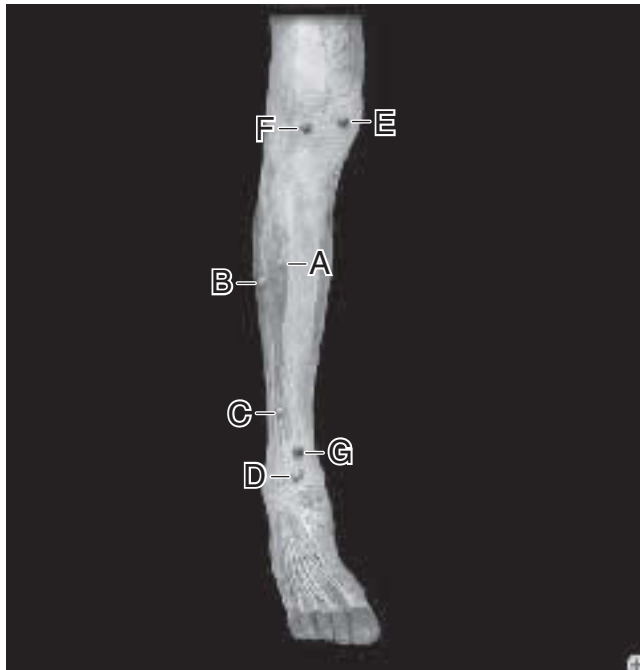
- A. _____
- B. _____

C H E C K P O I N T

Leg and Foot, Anterior View

1. Name the bony elevation of the anterior proximal tibia.
2. Name the lateral subcutaneous projection that contributes to the ankle joint.

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____
- C. _____
- D. _____

Nonmuscular System Structures (blue pins)

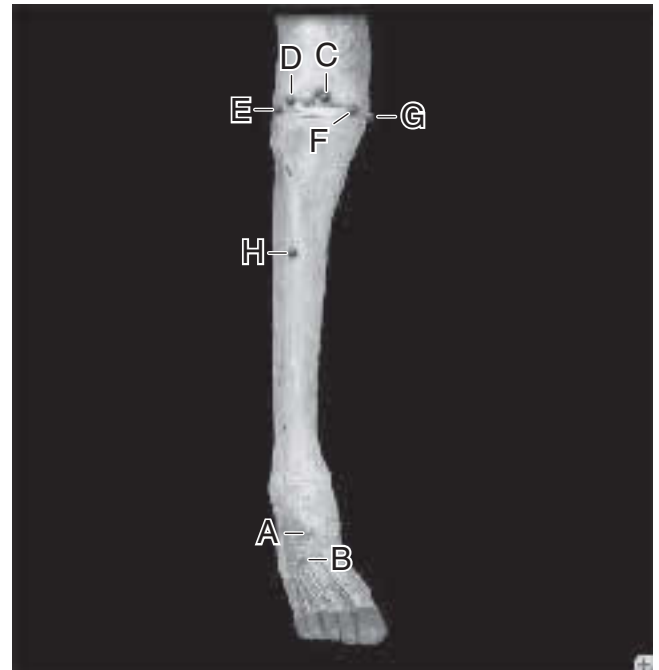
- E. _____
- F. _____
- G. _____

C H E C K P O I N T

Leg and Foot, Anterior View, continued

3. What is the anatomical term for the first toe?
4. The tendons of which muscles are subcutaneous on the dorsum of the foot?
5. Name the structure that serves to bind in place the tendons from the anterior compartment of the leg as they cross the ankle joint.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____

Nonmuscular System Structures (blue pins)

- C. _____
- D. _____
- E. _____
- F. _____
- G. _____
- H. _____

C H E C K P O I N T

Leg and Foot, Anterior View, continued

6. Name the thick sheet of connective tissue between the tibia and fibula.
7. What is the function of this sheet of connective tissue?
8. Name the structures referred to as the unhappy triad.

EXERCISE 6.18:

Skeletal Muscles—Leg and Foot, Posterior View



SELECT TOPIC
Leg and Foot

SELECT VIEW
Posterior

- Click **LAYER 1** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____

CHECK POINT

Leg and Foot, Posterior View

1. Name the strongest tendon in the body.
2. Give an example of this tendon's strength from the **STRUCTURE INFORMATION** window.
3. Name the tendon also known as the "Achilles" tendon.

- Click **LAYER 2** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

- A. _____
- B. _____

CHECK POINT

Leg and Foot, Posterior View, continued

4. The tendons of which two muscles contribute to the calcaneal tendon?
5. Name the calf muscle that consists of a medial and a lateral belly.
6. Name the superficial calf muscle.

- Click **LAYER 3** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

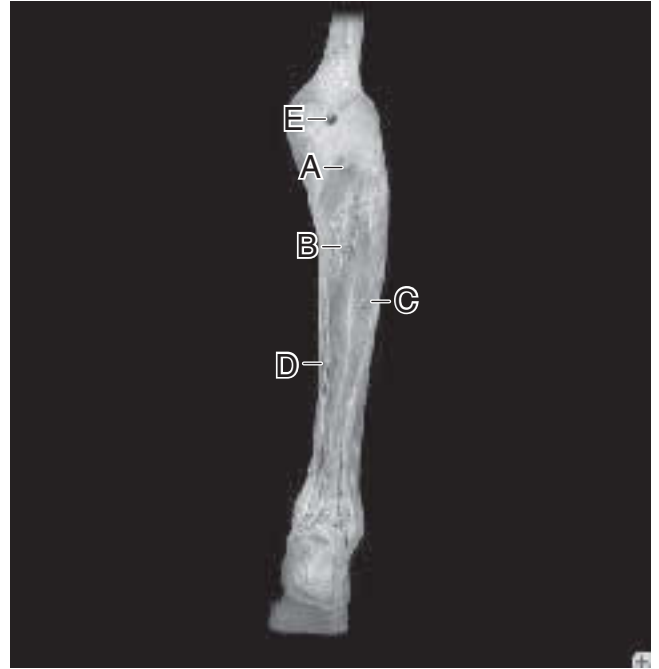
A. _____
 B. _____

C H E C K P O I N T

Leg and Foot, Posterior View, continued

7. Name the calf muscle deep to the gastrocnemius.
8. Name the long thin tendon that is a common source for tendon transplants.

- Click **LAYER 4** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following structures:

A. _____
 B. _____
 C. _____
 D. _____

Nonmuscular System Structure (blue pin)

E. _____

C H E C K P O I N T

Leg and Foot, Posterior View, continued

9. Name the muscle that helps “unlock” the knee joint from full extension.
10. Name the two structures that maintain the position of the femur on the tibia in full knee flexion such as squatting.
11. Name the powerful muscle for “push-off” of the foot during walking or running.

- Click **LAYER 5** in the **LAYER CONTROLS** window, and you will see the following image:



- Mouse-over the pins on the screen to find the information necessary to identify the following nonmuscular system structures:

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____
- G. _____

C H E C K P O I N T

Leg and Foot, Posterior View, continued

12. Name the thinner and weaker of the cruciate ligaments.
13. Name the cartilaginous structure on the tibia that articulates with the medial condyle of the femur.
14. Name the structure that limits rotation between the femur and the tibia.

SELECT ANIMATION

Fibularis Longus and Brevis Muscle

PLAY

After viewing this animation, select and view this additional animation:

– **Gastrocnemius muscle**

Self-Quiz

Take this opportunity to check your progress by taking the **QUIZ**. See the **Introduction chapter** for a reminder on how to access the **QUIZ** for this Study Area.

I N R E V I E W

What Have I Learned?

The following questions cover the material that you have just learned, the muscles of the leg and foot. Apply what you have learned to answer these questions on a separate piece of paper.

1. What is the anatomical term for the first toe?
2. Name the thick sheet of connective tissue between the tibia and fibula. What is its function?
3. Name the structure that serves to bind the tendons from the anterior compartment of the leg in place as they cross the ankle joint.
4. Name the strongest tendon in the body.
5. The tendons of which two muscles contribute to the calcaneal tendon?
6. Name the long thin tendon that is a common source for tendon transplants.
7. Name the powerful muscle for “push-off” of the foot during walking or running.
8. Name the cruciate ligaments. Which of the two is thinner and weaker?