Gross Anatomy of the Muscular System

Classification of Skeletal Muscles

1. Several criteria were given relative to the naming of muscles. Match the criteria (column B) to the muscle names (column A). Note that more than one criterion may apply in some cases.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>e, g</td>
<td>1. gluteus maximus</td>
</tr>
<tr>
<td>a, g</td>
<td>2. adductor magnus</td>
</tr>
<tr>
<td>d, e</td>
<td>3. biceps femoris</td>
</tr>
<tr>
<td>e, f</td>
<td>4. transversus abdominis</td>
</tr>
<tr>
<td>a, c, e</td>
<td>5. extensor carpi ulnaris</td>
</tr>
<tr>
<td>b</td>
<td>6. trapezius</td>
</tr>
<tr>
<td>e, f</td>
<td>7. rectus femoris</td>
</tr>
<tr>
<td>e, f</td>
<td>8. external oblique</td>
</tr>
</tbody>
</table>

   a. action of the muscle  
   b. shape of the muscle  
   c. location of the origin and/or insertion of the muscle  
   d. number of origins  
   e. location of the muscle relative to a bone or body region  
   f. direction in which the muscle fibers run relative to some imaginary line  
   g. relative size of the muscle

2. When muscles are discussed relative to the manner in which they interact with other muscles, the terms shown in the key are often used. Match the key terms with the appropriate definitions.

Key:  a. antagonist  b. fixator  c. prime mover  d. synergist

   c: prime mover 1. agonist
   b: fixator 2. postural muscles, for the most part
   a: antagonist 3. reverses and/or opposes the action of a prime mover
   d: synergist 4. stabilizes a joint so that the prime mover may act at more distal joints
   d: synergist 5. performs the same movement as the prime mover
   b: fixator 6. immobilizes the origin of a prime mover
Muscles of the Head and Neck

3. Using choices from the list at the right, correctly identify muscles provided with leader lines on the diagram.

- a. buccinator
- b. corrugator supercilii
- c. depressor anguli oris
- d. depressor labii inferioris
- e. frontalis
- f. levator labii superioris
- g. masseter
- h. mentalis
- i. occipitalis
- j. orbicularis oculi
- k. orbicularis oris
- l. platysma
- m. trapezius
- n. zygomaticus major and minor

4. Using the terms provided above, identify the muscles described next.

- n — 1. used in smiling
- a — 2. used to suck in your cheeks
- j — 3. used in blinking and squinting
- c — 4. used to pout (pulls the corners of the mouth downward)
- e — 5. raises your eyebrows for a questioning expression
- b — 6. used to form the vertical frown crease on the forehead
- k — 7. your “kisser”
- g — 8. prime mover to raise the lower jaw bone
- l — 9. tenses skin of the neck during shaving
Muscles of the Trunk

5. Correctly identify both intact and transected (cut) muscles depicted in the diagram, using the terms given at the right. (Not all terms will be used in this identification.)

- a. biceps brachii
- b. brachialis
- c. coracobrachialis
- d. deltoïd (cut)
- e. external intercostals
- f. external oblique
- g. internal intercostals
- h. internal oblique
- i. latissimus dorsi
- j. pectoralis major (cut)
- k. pectoralis minor
- l. rectus abdominis
- m. rhomboids
- n. serratus anterior
- o. subscapularis
- p. teres major
- q. teres minor
- r. transversus abdominis
- s. trapezius

6. Using the key provided in question 5 above, identify the major muscles described next.

- 1. a major spine flexor
- 2. prime mover for pulling the arm posteriorly
- 3. prime mover for shoulder flexion
- 4. assume major responsibility for forming the abdominal girdle (three pairs of muscles)
- 5. pulls the shoulder backward and downward
- 6. prime mover of shoulder abduction
- 7. important in shoulder adduction; antagonists of the shoulder abductor (two muscles)
- 8. moves the scapula forward and downward
- 9. small, inspiratory muscles between the ribs; elevate the ribs
- 10. extends the head
- 11. pull the scapulae medially
Muscles of the Upper Limb

7. Using terms from the list on the right, correctly identify all muscles provided with leader lines in the diagram. (Note that not all the listed terms will be used in this exercise.)

- a. biceps brachii
- b. brachialis
- c. brachioradialis
- d. extensor carpi radialis longus
- e. extensor digitorum
- f. flexor carpi radialis
- g. flexor carpi ulnaris
- h. flexor digitorum superficialis
- i. flexor pollicis longus
- j. palmaris longus
- k. pronator quadratus
- l. pronator teres
- m. supinator
- n. triceps brachii

8. Use the terms provided in question 1 to identify the muscles described next.

- a, m 1. places the palm upward (two muscles)
- a 2. flexes the forearm and supinates the hand
- b, c 3. forearm flexors; no role in supination (two muscles)
- n 4. elbow extensor
- f 5. power wrist flexor and abductor
- h 6. flexes wrist and middle phalanges
- k, l 7. pronate the hand (two muscles)
- i 8. flexes the thumb
- d 9. extends and abducts the wrist
- e 10. extends the wrist and digits
- j 11. flat muscle that is a weak wrist flexor
Muscles of the Lower Limb

9. Using the terms listed to the right, correctly identify all muscles provided with leader lines in the diagram below. (Not all listed terms will be used in this exercise.)

- adductor group
- biceps femoris
- extensor digitorum longus
- fibularis brevis
- fibularis longus
- flexor hallucis longus
- gastrocnemius
- gluteus maximus
- gluteus medius
- rectus femoris
- semimembranosus
- semitendinosus
- soleus
- tensor fasciae latae
- tibialis anterior
- tibialis posterior
- vastus lateralis

10. Use the key terms in exercise 9 to respond to the descriptions below.

   f  1. flexes the great toe and inverts the ankle
   d, e  2. lateral compartment muscles that plantar flex and evert the ankle (two muscles)
   i, n  3. move the thigh laterally to take the "at ease" stance (two muscles)
   h  4. used to extend the hip when climbing stairs
   g, m  5. prime movers of ankle plantar flexion (two muscles)
   p  6. major foot inverter
   o  7. prime mover of ankle dorsiflexion
   a  8. allow you to draw your legs to the midline of your body, as when standing at attention
   c  9. extends the toes
   b, k, l  10. extend thigh and flex knee (three muscles)
   j  11. extends knee and flexes thigh
General Review: Muscle Recognition

11. Identify the lettered muscles in the diagram of the human anterior superficial musculature by matching the letter with one of the following muscle names:

1. adductor longus
2. biceps brachii
3. brachioradialis
4. deltoid
5. extensor digitorum longus
6. external oblique
7. fibularis longus
8. flexor carpi radialis
9. flexor carpi ulnaris
10. frontalis
11. gastrocnemius
12. gracilis
13. iliopsoas
14. internal oblique
15. latissimus dorsi
16. masseter
17. orbicularis oculi
18. orbicularis oris
19. palmaris longus
20. pectineus
21. pectoralis major
22. platysma
23. pronator teres
24. rectus abdominis
25. rectus femoris
26. sartorius
27. serratus anterior
28. soleus
29. sternocleidomastoid
30. sternohyoid
31. temporalis
32. tensor fasciae latae
33. tibialis anterior
34. transversus abdominis
35. trapezius
36. triceps brachii
37. vastus lateralis
38. vastus medialis
39. zygomaticus
12. Identify each of the lettered muscles in this diagram of the human posterior superficial musculature by matching its letter to one of the following muscle names:

   a. adductor magnus
   b. biceps femoris
   c. brachialis
   d. brachioradialis
   e. deltoid
   f. extensor carpi radialis longus
   g. extensor carpi ulnaris
   h. extensor digitorum
   i. external oblique
   j. flexor carpi ulnaris
   k. gastrocnemius
   l. gluteus maximus
   m. gluteus medius
   n. gracilis
   o. iliobibial tract (tendon)
   p. infraspinatus
   q. latissimus dorsi
   r. occipitalis
   s. semimembranosus
   t. semitendinosus
   u. sternocleidomastoid
   v. teres major
   w. trapezius
   x. triceps brachii

Review Sheet 15
General Review: Muscle Descriptions

13. Identify the muscles described below by completing the statements:

1. The deltoid_____________________, vasti_____________________, and gluteus maximus and medius__________
   are commonly used for intramuscular injections (three muscles).

2. The insertion tendon of the quadriceps______________________ group contains a large sesamoid bone, the patella.

3. The triceps surae insert in common into the calcaneal______________________ tendon.

4. The bulk of the tissue of a muscle tends to lie proximal______________________ to the part of the body it causes to move.

5. The extrinsic muscles of the hand originate on the humerus, radius, and ulna______________________.

6. Most flexor muscles are located on the anterior______________________ aspect of the body; most extensors
   are located posteriorly_______________________. An exception to this generalization is the extensor-flexor
   musculature of the knee______________________.