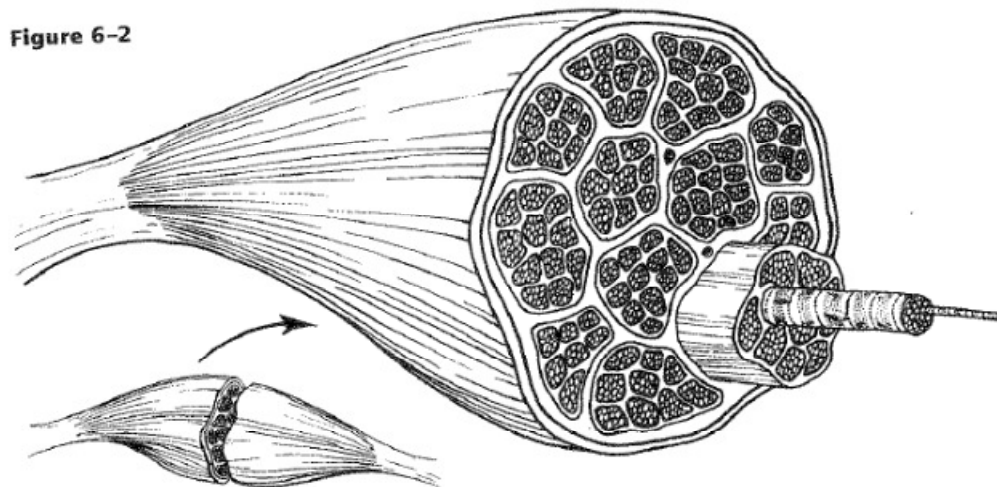


Chapter 6 Muscle Practice

1. Match the definitions in Column A with the terms in Column B.

Answers	Column A	Column B
	1. Connective tissue surrounding a fascicle	A. Endomysium
	2. Connective tissue ensheathing the entire muscle	B. Epimysium
	3. Contractile unit of muscle	C. Fascicle
	4. A muscle cell	D. Fiber
	5. Thin connective tissue investing each muscle cell	E. Myofilament
	6. Plasma membrane of the muscle cell	F. Myofibril
	7. A long, filamentous organelle found within muscle cells that has a banded appearance	G. Perimysium
	8. Actin or myosin containing structure	H. Sarcolemma
	9. cordlike extension of connective tissue beyond the muscle, serving to attach it to the bone	I. Sarcomere
	10. A discrete bundle of muscle cells	J. Sarcoplasm
		K. Tendon

2. Using Figure 6-2, identify the following muscle parts; *endomysium, epimysium, fiber, myofibril, perimysium, and tendon.*



3. Number the following statements in their proper sequence to describe the contraction mechanism in a skeletal muscle cell. The first step has already been identified as number 1.

1	A. Acetylcholine is released into the neuromuscular junction by the axonal terminal
	B. The action potential, carried deep into the cell, causes the sarcoplasmic reticulum to release calcium ions.
	C. The muscle cell relaxes and lengthens.
	D. Acetylcholine diffuses across the neuromuscular junction and binds to receptors on the sarcolemma
	E. The calcium ion concentration at the myofilaments increases; the myofilament slide past one another, and the cell shortens
	F. Depolarization occurs, and the action potential is generated
	G. As calcium is actively reabsorbed into the sarcoplasmic reticulum, its concentration at the myofilaments decreases.

4. Using the terminology for muscle movements (e.g. flexion, circumduction, etc..) fill in the spaces below. You can use pages 197- 200 in your textbook for help.

Standing on your toes as in ballet is (1) of the foot. Walking on your heels is (2) . Winding up for a pitch (as in baseball) can properly be called (3) . To keep your seat when riding a horse, the tendency is to (4) your thighs. In running, the action at the hip joint is (5) in reference to the leg moving forward and (6) in reference to the leg in the posterior position. When kicking a football, the action at the knee is (7) . In climbing stairs, the hip and knee of the forward leg are both (8) . You have just touched your chin to your chest; this is (9) of the neck. Using a screwdriver with a straight arm requires (10) of the arm. Consider all the movements of which the arm is capable of. One often used for strengthening all the upper arm and shoulder muscles is (11) . Moving the head to signify “ no” is (12) . Action that moves the distal end of the radius across the ulna is (13) Raising the arms laterally away from the body is called (14) of the arms.

1.	8.
2.	9.
3.	10.
4.	11.
5.	12.
6.	13.
7.	14.

5. Match the following terms with the definitions or descriptions. Answers can be used more than once.

A. Antagonist B. Fixator C. Prime mover D. Synergist

	1. Agonist
	2. Postural muscles for the most part
	3. Stabilizes a joint so that the prime mover can act at more distal joints
	4. Performs the same movement as the prime mover
	5. Reverses and/or opposes the action of a prime mover
	6. Immobilizes the origin of the prime mover

6. In class we discussed various criteria used in naming muscles. Identify which criteria in Column B pertain to the muscles listed in Column A. There will be two answers for each muscle. Letters can be used more than once.

Answers	Column A	Column B
	1. Gluteus maximus	A. Action of the muscle
	2. Adductor magnus	B. Shape of the muscle
	3. Biceps femoris	C. Location of the muscle's origin and/or insertion
	4. Transversus abdominis	D. Number of origins
	5. Extensor carpi ulnaris	E. Location of muscle relative to a bone or body region
	6. Trapezius	F. Direction in which the muscle fibers run relative to some imaginary line
	7. Rectus femoris	G. Relative size of the muscle
	8. External oblique	

7. In Figure 6-6, identify the following muscles; *frontalis*, *orbicularis oculi*, *orbicularis oris*, *masseter*, *sternocleidomastoid*, and *zygomaticus*.

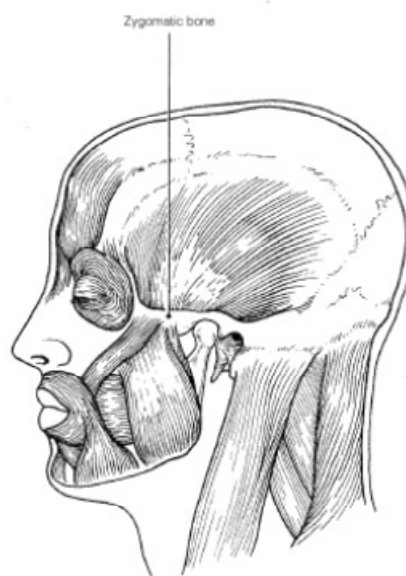


Figure 6-6

8. In Figures 6-7 and Figure 6-8, identify the following muscles; *sternocleidomastoid*, *latissimus dorsi*, *deltoid*, *pectoralis major*, *trapezius*, *serratus anterior*, *internal oblique*, *external oblique*, and *rectus abdominis*.

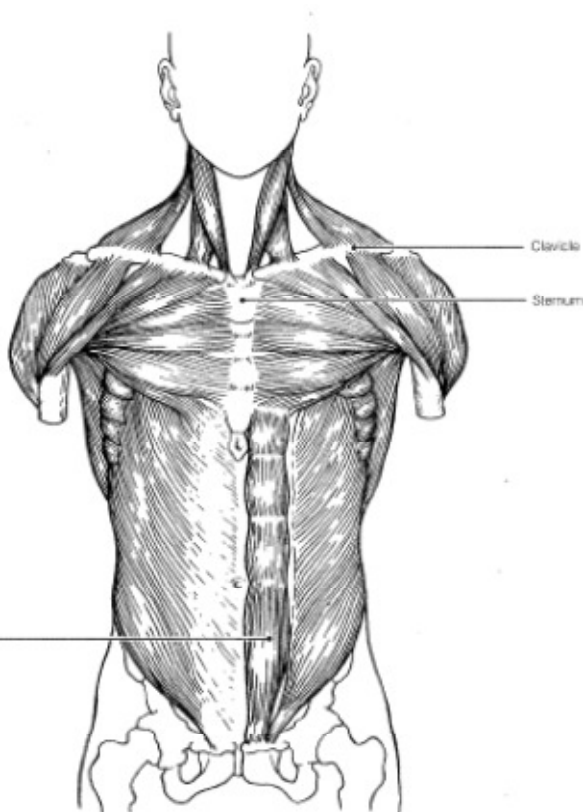


Figure 6-7

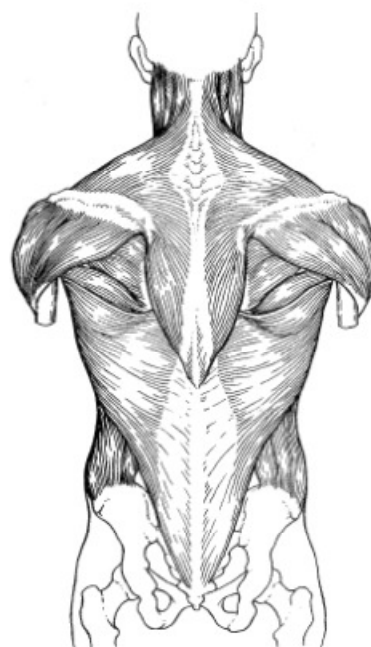


Figure 6-8

9. In Figure 6-9, identify the following muscles; *gluteus maximus*, *biceps femoris*, *semintendinosus*, *semimembranosus*, *rectus femoris*, *sartorius*, *gastrocnemius*, *soleus*, *vastus medialis*, *vastus intermedis*, *vastus intermedius*, and *tibialis anterior*.

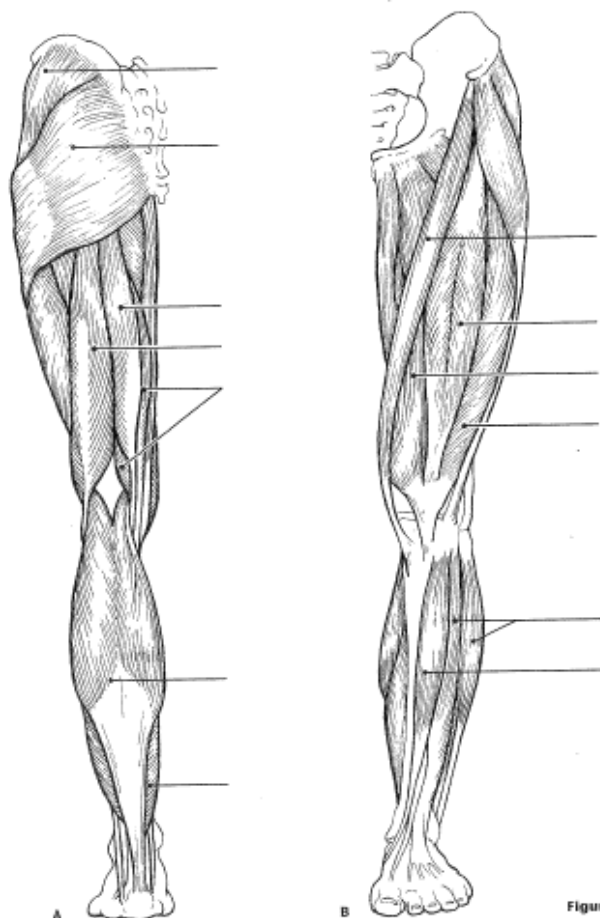


Figure 6-9



Figure 6-10

10. In Figure 6-10 (above), identify the following muscles; *biceps brachii*, *triceps brachii*, *flexor carpi ulnaris*, and *deltoid*.

11. Circle the term that **DOES NOT** belong in each of the following groupings.

- | | | | |
|--------------------------|-----------------------|------------------|------------------|
| A. Vastus lateralis | Vastus medialis | Knee extension | Biceps femoris |
| B. Latissimus dorsi | Pectoralis major | Should adduction | Antagonists |
| C. Frontalis | Masseter | Mastication | Temporalis |
| D. Internal intercostals | External intercostals | Diaphragm | Pectoralis major |

12. During an overambitious workout, a high school athlete pulled some muscles by forcing his knee into extension when his hip is already fully flexed. What muscles did he pull?

13. An emergency appendectomy is performed on Mr. Greiger. The incision was made at the lateral edge of the right iliac abdominopelvic region. Was his rectus abdominis cut? Explain

14. Susan, a massage therapist, was giving Mr. Graves a back massage. What two broad superficial muscles of the back were receiving the bulk of her attention?

15. When kicking a football, at least three major actions of the lower limb are involved. Name the major muscles (or muscle groups) responsible for the following:

A. Flexing the hip joint: _____

B. Extending the knee: _____

C. Dorsiflexing the foot: _____