Quiz IVA February 3, 2006

1. The connective tissue coverings of skeletal muscle listed from the most internal to the most superficial are:

   a. Endomysium, perimysium and epimysium.
   b. Endomysium, epimysium and periysium.
   c. Epimysium, perimysium and endomysium.
   d. Epimysium, endomysium and perimysium.
   e. Permimysium, epimysium and endomysium.

2. A feature that is not a characteristic of a skeletal muscle cell:

   a. Large size compared to other muscle cells.
   b. A single nucleus.
   c. Thick and thin filaments.
   d. Transverse tubules.
   e. Sarcoplasmic reticulum.

3. A feature that is not a structure of the sarcomere is the:

   a. A band.
   b. H zone.
   c. Z line.
   d. T band.
   e. M line.

4. Proteins that are part of the thin filaments include:

   a. F actin.
   b. Nebulin.
   c. Tropomyosin.
   d. Troponin.
   e. All of the above.

5. The protein myosin:

   a. Has actin binding sites.
   b. Has ATPase activity.
   c. Has a long tail.
   d. Has a globular head group.
   e. All of the above.

6. When a skeletal muscle fiber contracts:

   a. H zones get bigger.
   b. I bands get bigger.
   c. Z lines get further apart.
   d. Zones of overlap get larger.
   e. A bands get larger.

7. The neurotransmitter that is released by a neuron into the synaptic terminal and alters the permeability of the sarcolemma is:

   a. Acetylcholinesterase.
   b. Choline.
   c. Acetyl CoA.
   d. Acetylcholine.
   e. None of the above.

8. Increasing the stimulation frequency high enough produces a sustained contraction (no relaxation) known as:

   a. Treppe.
   b. Incomplete tetanus.
   c. Wave summation.
   d. Complete tetanus.
   e. Twitch.

9. The majority source of the calcium that is used to trigger a skeletal muscle contraction is from the:

   a. Extracellular fluid.
   b. Nucleus.
   c. Mitochondria.
   d. Sarcoplasmic reticulum.
   e. Cytoplasm.

10. The smooth but steady increase in muscular tension produced by increasing the number of active motor units is called:

    a. Recruitment.
    b. Drafting.
    c. Assimilation.
    d. Summation.
    e. Treppe.

11. Contraction does not occur immediately after stimulation in a myogram because:

    a. Muscles require a warm up period to be able to twitch.
    b. Acetylcholinesterase activity is too high.
    c. It is the resting phase.
    d. It takes time for the action potential to propagate and to release calcium.
    e. It is the relaxation phase.

12. A muscle whose action opposes that of another muscle is known as a(an):

    a. Synergist.
    b. Agonist.
    c. Antagonist.
    d. Fixator.
    e. Prime mover.

13. The action of moving your arm away from your body is an example of:

    a. Abduction.
    b. Adduction.
    c. Hyperextension.
    d. Circumduction.
    e. Flexion.

14. Smooth muscle tissue is characterized as:

    a. A striated voluntary muscle.
    b. A striated involuntary muscle.
    c. Non-striated voluntary muscle.
    d. Non-striated involuntary muscle.
    e. None of the above.

15. Rigor mortis is characterized by:

    a. Calcium leaking from the sarcoplasmic reticulum trigger a sustained contraction.
    b. Without ATP cross bridges cannot detatch from the active sites on actin.
    c. Calcium leaking from the sarcolemma trigger a sustained contraction.
    d. The active transport mechanisms are no longer functional keeping calcium levels high.
    e. All of the above.

16. Which is a protein of a skeletal muscle fiber?

a. Titin.
b. Dihydropyridine receptor.
c. Nebulin.
d. Ryanodine receptor.
e. All of the above.

17. Which is not a correct subunit of the troponin complex?

a. Troponin I.
b. Tropinin C.
c. Troponin T.
d. Troponin A.
e. a and b are not correct subunits of troponin.

18. Which of the following proteins covers the active sites on actin from myosin:

a. Nebulin.
b. Titin.
c. Tropomyosin.
d. Troponin C.
e. None of the above.

19. A sudden change in the transmembrane potential of exciteable cells that propagates along the membrane is called an:

a. Twitch.
b. Action potential.
c. Tetanus.
d. Treppe.
e. Recruitment.

20. The observation of an increase in peak tension with each successive stimulus delivered shortly after the completion of the relaxation phase of the preceding twitch is called:

a. Incomplete tetanus.
b. Complete tetanus.
c. Wave summation.
d. Treppe.
e. Fatigue.

21. The type of contraction in which the tension rises but the resistance does not move is:

a. A wave summation.
b. A twitch.
c. An isotonic contraction.
d. An isometric contraction.
e. A concentric contraction.

22. The detachment of the myosin cross bridges is directly triggered by:

a. Repolarization of the T-tubules.
b. Attachment of ATP to the myosin heads.
c. Calcium ions.
d. Hydrolysis of ATP.
e. An action potential.

23. A specialized intercellular connection between a nerve and a skeletal muscle is the:

a. Synaptic cleft.
b. Motor end plate.
c. Neuromuscular junction.
d. Synaptic terminal.
e. None of the above.

24. Which of the following structures would contain vesicles filled with acetycholine?

a. Synaptic terminal.
b. Motor end plate.
c. Neuromuscular junction.
d. Synaptic cleft.
e. Transverse tubule.

25. Slow muscle fibers contains a red pigment called myoglobin that binds:

a. myosin.
b. Oxygen.
c. Actin.
d. ATP.
e. None of the above.