1. Duchenne's muscular dystrophy  
   A. is an X-linked recessive trait.  
   B. most often affects women.  
   C. involves degeneration of smooth muscle.  
   D. All of the choices are correct.

2. ________ is characterized by continued attachment of myosin heads to actin filaments due to a lack of ATP during cell death.  
   A. Tetanus  
   B. Rigor mortis  
   C. ALS  
   D. Hypotonia  
   E. Treppe  
   F. Botulism

3. ________ occurs as a warm-up in muscle cells when stimulus frequency increases to produce a greater cumulative force of contraction with each stimulus, but still allows the muscle to relax in between stimuli.  
   A. Tetanus  
   B. Treppe  
   C. Summation  
   D. Muscle twitch  
   E. Rigor mortis  
   F. Oxygen debt

4. ________ occurs in muscle cells when stimulus frequency increases to produce a greater (but not maximal) force contraction, with frequency too great to allow muscle relaxation in between stimuli.  
   A. Tetanus  
   B. Treppe  
   C. Summation  
   D. Muscle twitch  
   E. Rigor mortis  
   F. Oxygen debt

5. A reserve of high energy phosphate, to regenerate ATP from ADP, is stored in muscle as  
   A. phosphocreatine.  
   B. adenosine triphosphate.  
   C. glucose 6-phosphate.  
   D. creatine kinase.

6. Myostatin is  
   A. a molecule that inhibits phosphorylation of ADP to ATP.  
   B. a molecule that stimulates phosphorylation of ADP to ATP.  
   C. a molecule that inhibits de-phosphorylation of ATP to ADP.  
   D. a molecule that stimulates de-phosphorylation of ATP to ADP.  
   E. a molecule that inhibits satellite cells and muscle growth.  
   F. a molecule that stimulates satellite cells and muscle growth.

7. The amount of muscle stretch is sensed by the  
   A. ligaments.  
   B. muscle tendons.  
   C. muscle spindle apparatus.  
   D. Golgi tendon organs.

8. A muscle disorder characterized by an autoimmune attack on ACh receptors on muscle.  
   A. Duchenne’s muscular dystrophy  
   B. Tetanus  
   C. ALS  
   D. Myasthenia gravis  
   E. Dermatomyositis

8. A muscle disorder characterized by a loss of motor neurons that stimulate muscle, and is thought to be due to a loss of superoxide dismutase and glutamate toxicity.  
   A. Duchenne’s muscular dystrophy  
   B. Tetanus  
   C. ALS  
   D. Myasthenia gravis  
   E. Dermatomyositis

10. Which isoform of CPK is associated with brain damage?  
    A. CPK MM  
    B. CPK BB  
    C. CPK MB
11. The inhibition of an antagonistic muscle so that the agonist can do the intended contraction is due to
   A. crossed-extensor reflex. C. reciprocal innervation.
   B. monosynaptic reflex. D. Hypotonia.

12. Muscle unit of scale composed of repeating units of sarcomeres.
   A. Organ D. Fascicle
   B. Myofibril E. Fiber
   C. Myofilament

13. Which of the following substances, which accumulate with muscle fatigue, is cleared from the bloodstream by the
Cori cycle?
   A. ADP E. Glycogen
   B. Phosphate F. Lactic acid
   C. CO2 G. Oxygen
   D. Myoglobin

14. ADP is used in the sliding between myofilaments actin and myosin by
   A. providing the energy to break the crossbridge between them.
   B. providing the energy to recycle ADP back into ATP.
   C. providing the energy to pump Ca+2 back into the sarcoplasmic reticulum.
   D. providing the energy for myosin to grab active sites and actin and pull.

**Take your time with this! Stop. Think. Work it out. What do you need to happen if you step on a tack with one foot?**

15. The double reciprocal innervation reflex, which occurs when you step on a tack with your right foot, causes
   A. Relaxation of the right hamstrings and contraction of the right quadriceps, while relaxing the left quadriceps and
contracting the right hamstrings. (right leg extends and left leg bends)
   B. Contracting the right hamstrings and relaxing the right quadriceps, while relaxing the left quadriceps and
contracting the right hamstrings. Right leg bends, left leg bends
   C. Relaxing the right hamstrings and contracting the right quadriceps, while relaxing the left hamstrings and
contracting the right quadriceps (both legs straight)
   D. Contracting the right hamstrings and relaxing the right quadriceps, while contracting the left hamstrings and
relaxing the left quadriceps (fall down)
   E. Contracting the right hamstrings and relaxing the right quadriceps, while contracting the right quadriceps and
relaxing the right hamstrings.
Ch 6. Answers:
1. A
2. B
3. B
4. C
5. A
6. E
7. C
8. D
9. C
10. B
11. C
12. B
13. F
14. D
15. E (updated 3/10/2021)

How did you do?