

Skeletal Muscle Physiology



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1. Define each of the following terms:

- motor unit _____
- twitch _____
- threshold _____
- treppe _____
- summation _____
- tetanus _____
- fatigue _____
- isometric contraction _____
- isotonic contraction _____

2. Describe the process of excitation-contraction coupling.

3. What is the role of acetylcholine in a muscle contraction?

4. Describe the three phases of a muscle “twitch.”

5. What could be a chemical cause of fatigue?

6. In fatigue, what happens to force production over time?

7. If you were lifting a dumbbell, would your muscles be contracting isometrically or isotonicly?

8. What is the key variable in an isometric contraction?

9. Define the term *maximal stimulus*.

10. What has happened in the muscle when the maximal stimulus is achieved?

11. What is the difference between stimulus intensity and stimulus frequency?

12. Circle the correct boldfaced term.

At the threshold stimulus, sodium ions start to move **into** / **out of** the cell to bring about the membrane depolarization.