

Muscle Tissue Quiz PDF

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How does the phosphagen system contribute to muscle metabolism?

Which structure releases calcium ions to initiate muscle contraction?

- T-tubules
- Sarcoplasmic reticulum
- Myofibrils
- Sarcolemma

Explain the role of calcium ions in muscle contraction.

Which factors contribute to muscle fatigue?

- Lactic acid accumulation
- Oxygen debt
- Increased ATP production

- Depletion of glycogen stores

Which muscle tissue type is found in the walls of hollow organs?

- Skeletal Muscle
 Cardiac Muscle
 Smooth Muscle
 All of the above

What neurotransmitter is involved at the neuromuscular junction?

- Dopamine
 Serotonin
 Acetylcholine
 GABA

Which condition is characterized by a progressive loss of muscle mass due to aging?

- Muscular dystrophy
 Myasthenia gravis
 Sarcopenia
 Hyperplasia

Which muscle fiber type is more resistant to fatigue?

- Fast-twitch fibers
 Slow-twitch fibers
 Intermediate fibers
 None of the above

Which of the following are components of a motor unit?

- Single motor neuron
 All muscle fibers it innervates
 Intercalated discs
 T-tubules

Which disorders are associated with muscle tissue?

- Muscular dystrophy

- Osteoporosis
- Myasthenia gravis
- Arthritis

What is the function of satellite cells in muscle repair and regeneration?

What is the primary function of cardiac muscle?

- Movement of bones
- Pumping blood
- Digestion
- Heat production

Which type of muscle tissue is under voluntary control?

- Cardiac Muscle
- Smooth Muscle
- Skeletal Muscle
- None of the above

Which of the following are characteristics of skeletal muscle?

- Striated appearance
- Involuntary control
- Multinucleated cells
- Found in heart walls

What is the main energy source for muscle contraction?

- Glucose
- ATP
- Fatty acids

Protein

Describe the differences between hypertrophy and hyperplasia in muscle growth.

What processes are involved in muscle contraction according to the sliding filament theory?

- Actin and myosin interaction
- Release of calcium ions
- Breakdown of glycogen
- Use of ATP

What is the significance of intercalated discs in cardiac muscle?

Discuss the impact of aging on muscle tissue and how it leads to sarcopenia.

What are the roles of smooth muscle in the body?

- Peristalsis
- Blood flow regulation
- Heat production
- Movement of bones