What is the primary function of cardiac muscle

- A. Regulating body temperature
- B. Digesting food
- C. Producing hormones
- D. Pumping blood throughout the body

Answer: D. Pumping blood throughout the body

What is the name of the protein responsible for the contraction of cardiac muscle

- A. Actin
- B. Tropomyosin
- C. Myosin
- D. Troponin

Answer: D. Troponin

How does calcium play a role in the contraction of cardiac muscle

- A. Calcium has no role in cardiac muscle contraction.
- B. Calcium binds to troponin, allowing for actin and myosin to interact and cause muscle contraction.
- C. Calcium inhibits muscle contraction in the heart.
- D. Calcium directly causes the muscle to contract.

Answer: B. Calcium binds to troponin, allowing for actin and myosin to interact and cause muscle c

What is the resting membrane potential of cardiac muscle cells

• A. -30mV

• B. -70mV

• C. -90mV

• D. -50mV

Answer: C. -90mV

How does the conduction system of the heart coordinate the contraction of cardiac m

• A. By contracting the muscles directly

• B. By increasing blood flow

• C. By releasing hormones

• D. By sending electrical signals

Answer: D. By sending electrical signals

What is the difference between systole and diastole in terms of cardiac muscle funct

• A. Systole is relaxation, diastole is contraction

• B. Systole is pumping blood out, diastole is filling with blood

• C. Systole is contraction, diastole is relaxation

• D. Systole is lower blood pressure, diastole is higher blood pressure

Answer: C. Systole is contraction, diastole is relaxation

How does the autonomic nervous system influence the function of cardiac muscle

• A. Regulates body temperature

• B. Regulates heart rate and contraction strength

• C. Influences skeletal muscle function

• D. Controls digestion

Answer: B. Regulates heart rate and contraction strength

How does the Frank-Starling mechanism regulate cardiac output

• A. By decreasing heart rate in response to increased venous return

• B. By decreasing contractility in response to increased venous return

• C. By increasing stroke volume in response to increased venous return

• D. By constricting blood vessels in response to increased venous return

Answer: C. By increasing stroke volume in response to increased venous return

What is the role of intercalated discs in cardiac muscle function

• A. Regulate blood pressure

• B. Control heart rate

• C. Facilitate synchronized contraction of cardiac muscle cells

• D. Store energy for muscle contraction

Answer: C. Facilitate synchronized contraction of cardiac muscle cells

How does the refractory period of cardiac muscle cells prevent tetany

• A. Increases muscle contraction strength

• B. Shortens the time between contractions

• C. Allows time for muscle to relax between contractions

• D. Causes continuous muscle contractions

Answer: C. Allows time for muscle to relax between contractions

What is the significance of the sinoatrial node in regulating heart rate

- A. Controls heart rate
- B. Produces insulin
- C. Regulates blood pressure
- D. Affects digestion

Answer: A. Controls heart rate

How does exercise impact the function of cardiac muscle

- A. Strengthens and improves function
- B. Causes damage
- C. Weakens function
- D. Has no impact

Answer: A. Strengthens and improves function

What is the role of troponin in regulating calcium in cardiac muscle cells

- A. Troponin breaks down calcium in cardiac muscle cells
- B. Troponin inhibits calcium release in cardiac muscle cells
- C. Troponin has no role in regulating calcium in cardiac muscle cells
- D. Troponin helps regulate calcium by binding to calcium ions to initiate muscle contraction

Answer: D. Troponin helps regulate calcium by binding to calcium ions to initiate muscle contracti

How does the sympathetic nervous system affect the contractility of cardiac muscle

- A. No effect on contractility

• B. Increases contractility

• C. Decreases contractility

• D. Causes relaxation of cardiac muscle

Answer: B. Increases contractility

What is the significance of the T-tubules in cardiac muscle cells

• A. Allow for simultaneous contractions

• B. Regulate blood pressure

• C. Facilitate gas exchange

• D. Store excess nutrients

Answer: A. Allow for simultaneous contractions

How does the renin-angiotensin-aldosterone system impact cardiac muscle function

• A. By decreasing oxygen delivery to the heart

• B. By increasing heart rate

• C. By directly stimulating cardiac muscle contraction

• D. By regulating blood pressure and fluid balance

Answer: D. By regulating blood pressure and fluid balance

What is the difference between isotonic and isometric contractions in cardiac muscl

• A. Isotonic contractions involve muscle tension without change in length, while isometric contractions involve muscle lengthening.

• B. Isotonic contractions involve muscle shortening, while isometric contractions involve muscle lengthening.

• C. Isotonic contractions involve muscle tension, while isometric contractions involve muscle

lengthening.

• D. Isotonic contractions involve muscle lengthening or shortening, while isometric contractions involve muscle tension without change in length.

Answer: D. Isotonic contractions involve muscle lengthening or shortening, while isometric contrac

How does the length-tension relationship impact the force of contraction in cardiac m

• A. The length-tension relationship only impacts skeletal muscle, not cardiac muscle.

• B. The length-tension relationship impacts the force of contraction in cardiac muscle by affecting the overlap of actin and myosin filaments.

• C. The length-tension relationship in cardiac muscle only affects the speed of contraction, not the force.

• D. The force of contraction in cardiac muscle is not affected by the length-tension relationship.

Answer: B. The length-tension relationship impacts the force of contraction in cardiac muscle by af

What is the role of mitochondria in providing energy for cardiac muscle contraction

• A. Converts glucose into proteins

• B. Regulates blood flow

• C. Produces ATP

• D. Stores nutrients

Answer: C. Produces ATP

How does the release of norepinephrine impact the function of cardiac muscle

• A. Increases contractility

• B. Causes muscle relaxation

• C. Decreases heart rate

• D. Has no effect on cardiac muscle

Answer: A. Increases contractility