

QUIZ 3

~~E~~ ~~X~~ Which of the following statements is true concerning the depolarization of a cell in the SA node?

- A. The cell will not depolarize until it receives sympathetic stimulation
- B. The pacemaker potential is caused by calcium entering the cell via slow channels
- C. The pacemaker potential is slower in achieving threshold when acetylcholine is applied to the SA cells
- D. Both B and C
- E. None of the choices are true

C 2. Which of the following does not contribute to increased stroke volume during exercise?

- A. Increased contractility of cardiac muscle
- B. Increased venous return
- C. Increased length of filling time during diastole
- D. Increased sympathetic stimulation of ventricular muscle
- E. Increased end-diastolic volume

D 3. According to the Frank-Starling mechanism of the heart,

- A. The left ventricle ejects a larger volume of blood with each systole than the right ventricle
- B. The intrinsic rate of the heart's pacemaker is 100 beats/min
- C. Cardiac output increases with increased heart rate
- D. Stroke volume increases with increased venous return
- E. Both ventricles contract simultaneously

E 4. Which of the following occurs as a result of tapping one's patellar tendon?

- A. Alpha motor neurons stimulate contraction of intrafusal fibers in extensor muscles
- B. Alpha motor neurons stimulate contraction of extrafusal fibers in extensor muscles
- C. Alpha motor neurons that innervate ipsilateral flexor muscles are inhibited
- D. Both A and C
- E. Both B and C

E ^D ~~X~~ Golgi tendon organs

- A. Are located in the tendons joining muscle and bone
- B. Monitor the strength of muscle contractions
- C. Are associated with monosynaptic reflexes
- D. Both A and B
- E. All of the choices are correct

D 6. Normally, the hydrostatic pressure difference between capillary fluid and interstitial fluid favors movement of fluid (into/out of) the capillary. The osmotic pressure difference between capillary fluid and interstitial fluid favors movement of fluid (into/out of) the capillary.

- A. Into; into
- B. Into; out of
- C. Out of; out of
- D. Out of; into

D X C The fibers in a muscle spindle

- A. Are not true muscle fibers because they cannot contract
- B. Are innervated by gamma motor neurons
- C. Function to maintain tension on spindle receptors
- D. Both B and C
- E. All of the choices are correct

A 8. Rigor mortis occurs in a dead person because

- A. ATP, which is necessary for the detachment of cross bridges, is not being formed
- B. ATP, which is necessary for the formation of cross bridges, is not being formed
- C. ATP, which is necessary for the formation of cross bridges, continues to be formed for several hours after death
- D. Deterioration of muscle proteins prevents detachment of cross bridges
- E. None of the choices are correct

E X B 9. Which of the following is *not* true regarding the comparison of type I (slow oxidative) and type II b (fast-glycolytic) skeletal-muscle fibers?

- A. Type I fibers have more abundant mitochondria
- B. Type I fibers fatigue more readily
- C. Type I fibers have more abundant myoglobin
- D. Type I fibers have more abundant capillaries
- E. Type I motor units contain fewer fibers than type II b motor units

D X E 10. Cardiac output is the

- A. Volume of blood pumped per minute by both ventricles
- B. Volume of blood flowing through the systemic circulation each minute
- C. Product of the number of heartbeats per minute and the volume pumped per beat
- D. Both A and C
- E. Both B and C