

# CVS-Physiology

---

Archive

Lecture 1

Physiology of cardiac  
muscle 1

هذه الأسئلة ليست أرشيف و إنما أسئلة خارجية  
لعدم توافر أرشيف لهذه المحاضرة

Corrected By :

kareem obeidallah

# CVS-Physiology

## Lecture 1

1- The cardiac muscle fibers:

- A- are unstriated muscle fibers.
- B- Form true syncytium.
- C- Have low resistance bridges and tight gap junctions.
- D- poor in mitochondria.

Answer: C

2- Sympathetic stimulation causes all of the following in the heart except:

- a- increases heart rate.
- b- decreases the slope of the prepotential.
- c- decreases the conduction time in the AVN.
- d- increase the excitability of the heart.

Answer: B

3- About the pacemaker potential, all of the following are true except:

- A- Its RMP is about -80 or -90 mV.
- B- It is unstable during rest.
- C- The firing level is at a potential difference of about -45 mV.
- D- Repolarization is one slow phase.

Answer: A

4- The phase of the cardiac cycle at which the heart is not responsive is:

- A- Absolute refractory period.
- B- Relative refractory period.
- C- shorter than that of the skeletal muscle.
- D- extends all through the action potential.

Answer: A

5- Parasympathetic stimulation of the heart:

- a- increases excitability of the SAN.
- b- decreases the rate of the AN junctional fibers.
- c- prevents idioventricular rhythm.
- d- has no effect on atrial conduction.

Answer: b

6- In the heart, all of the following statements are true except:

- a- The excitation wave cannot spread directly from the atria to the ventricles.
- b- contraction normally begins in the right atrium.
- c- The ventricle contract almost simultaneously.
- d- There is more muscle in the left atrium than the right atrium.

Answer: d

# CVS-Physiology

## Lecture 1

7- Stimulation of the cardiac sympathetic nerves:

- a- decreases the slope of the pace maker potential.
- b- causes reduction in the coronary blood flow.
- c- slows the rate of conduction in the AVN.
- d- stimulates B1 adrenergic receptors.

Answer: D

8-Regarding the ARP in the heart, all of the following are true except:

- a- It lasts approximately as long as the cardiac contraction.
- b- It is longer than the ARP of the skeletal muscle.
- c- It corresponds to the whole time of the action potential.
- d- during it, the heart cannot be stimulated.

Answer: C

9-The importance of the vagal tone is mainly to:

- a- increase the arterial blood pressure
- b- increase the intestinal secretion.
- c- decrease the breathing rate.
- d- decrease the cardiac activity.

Answer: d

10-In the heart, all of the following statements are correct except:

- a- The pacemaker tissue has unstable RMP.
- b- The AV nodal delay is prolonged by vagal stimulation.
- c- Xanthines are negative bathmotropic
- d- Alkalosis is positive drommotropic.

Answer: C

11-Regarding syncytial function in the heart, which of the following statements is correct?

- a- The heart consists of right and left syncytia.
- b- Cardiac muscle fibers contract as one unit due to very rapid nerve fibers.
- c- Gap junctions are present between adjacent cardiac cells.
- d- The heart consists of true syncytia.

Answer: c

12-Regarding pacemaker potential, which of the following is correct?

- a- It consists of 5 phases.
- b- Phase 0 is due to rapid  $\text{Na}^+$  influx.
- c- Phase 4 is due to  $\text{Na}^+$  influx through funny  $\text{Na}^+$  channels
- d- Phase 3 is due to  $\text{Ca}^{++}$  influx.

Answer: C



# CVS-Physiology

## Lecture 1

13-Which of the following normally has slowly depolarizing prepotential? (Ganong)

- a- SAN
- b- Atrial muscle fibers.
- c- Bundle of HIS
- d- Pirkinji fibers.
- e- Ventricular muscle cells.

Answer: A

14-Currents caused by opening of which of the following channels contribute to the repolarization phase of the action potential of ventricular muscle fiber? (Ganong)

- a- Na<sup>+</sup> channels
- b- Cl<sup>-</sup> channels
- c- Ca<sup>++</sup> channels
- d- K<sup>+</sup> channels
- e- HCO<sub>3</sub><sup>-</sup> channels

Answer: D

15-Which of the following factors is negative bathmotropic?

- A- sympathomimetics
- B- fever
- C- hypokalemia
- D- hypercalcemia

Answer: D

16-Which of the following factors is positive dromotropic?

- a- acidosis
- b- ischemia
- c- thyroxin
- d- digitalis

Answer: C

17-Which of the following factors is positive chronotropic?

- a- Calcium channel blocker.
- b- Marked acidosis
- c- Digitalis
- d- hypokalemia

Answer: D

19-Which of the following factors is positive bathmotropic?

- a- Hyperkalemia
- b- Hypercalcemia
- c- Xanthines
- d- Acetylcholine

Answer: C



# CVS-Physiology

## Lecture 1

20-Regarding AV nodal conduction:

- a- it is characterized by rapid conduction of impulses.
- b- It has few gap junctions.
- c- It can transmit impulses in both directions.
- d- Its fibers are large in size

Answer: B

21-Which of the following statements is correct regarding the conductive system of the heart?

- a- Bundle of His is the normal pacemaker of the heart.
- b- The fastest conduction is present in Purkinji fibers.
- c- Alkalosis decreases the rate of conduction.
- d- Size of fibers in Purkinji fibers is small

Answer: B

22-Vagal tone:

- a- means continuous inhibitory discharge to the SAN
- b- Ventricles have no vagal supply.
- c- fixes the heart rate at 110 BPM
- d- prevent the heart from cardiac arrest.

Answer: a

