Import Settings:

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Information Field: Complexity

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Highest Answer Letter: D

Multiple Keywords in Same Paragraph: No

**Chapter: Cardiovascular Emergencies - Cardiovascular Emergencies - TBNK**

**Multiple Choice**

1. The point of maximal impulse usually can be felt on the:

A) medial aspect of the chest, just below the third intercostal space.

B) left lateral chest, in the midaxillary line, at the fourth intercostal space.

C) left anterior chest, in the midaxillary line, at the fifth intercostal space.

D) left anterior chest, in the midclavicular line, at the fifth intercostal space.

Ans: D

Complexity: Moderate

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

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Feedback: Anatomy and Physiology Review, page 961

2. What layer of the heart is responsible for cardiac contraction and efficient ejection of blood?

A) Myocardium

B) Endocardium

C) Epicardium

D) Pericardium

Ans: A

Complexity: Easy

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

Page: 963

Feedback: Anatomy and Physiology Review, page 963

3. The left main coronary artery subdivides into the:

A) left anterior ascending and descending arteries.

B) left anterior descending and circumflex arteries.

C) left posterior ascending and circumflex arteries.

D) right coronary and left posterior descending arteries.

Ans: B

Complexity: Easy

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

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Feedback: Anatomy and Physiology Review, page 963

4. The right atrium, right ventricle, and part of the left ventricle are supplied by the:

A) circumflex artery.

B) left anterior descending artery.

C) left main coronary artery.

D) right coronary artery.

Ans: D

Complexity: Easy

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

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Feedback: Anatomy and Physiology Review, page 963

5. The S1 heart sound represents:

A) closure of the mitral and tricuspid valves.

B) the end of ventricular contraction.

C) closure of the aortic and pulmonic valves.

D) the beginning of atrial contraction.

Ans: A

Complexity: Easy

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

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Feedback: Patient Assessment, page 968

6. A loud S3 heart sound, when heard in older adults, often signifies:

A) emphysema.

B) valve rupture.

C) heart failure.

D) pulmonary hypertension.

Ans: C

Complexity: Easy

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

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Feedback: Patient Assessment, page 968

7. Approximately 70% to 80% of ventricular filling occurs:

A) by gravity.

B) during systole.

C) when the semilunar valves are open.

D) when the AV valves close.

Ans: A

Complexity:Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 971

Feedback: Electrophysiology, page 971

8. Atrial kick is defined as:

A) the blood that flows passively into the ventricles.

B) pressure on the AV valves during ventricular contraction.

C) an attempt of the atria to contract against closed valves.

D) the volume of blood that the atria contract to the ventricles.

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 971

Feedback: Electrophysiology, page 971

9. Which of the following statements regarding the right side of the heart is correct?

A) It receives blood exclusively from the venae cavae.

B) The right side of the heart is a low-pressure system.

C) It pumps against the high resistance of the pulmonary circulation.

D) The right side of the heart pumps blood through the pulmonary veins.

Ans: B

Complexity: Moderate

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

Page: 963

Feedback: Anatomy and Physiology Review, page 963

10. In contrast to the right side of the heart, the left side of the heart:

A) drives blood out of the heart against the relatively high resistance of the systemic circulation.

B) is a high-pressure pump that sends blood through the pulmonary circulation and to the lungs.

C) is a relatively low-pressure pump that must stretch its walls in order to force blood through the aorta.

D) drives blood out of the heart against the relatively low resistance of the pulmonary circulation.

Ans: A

Complexity: Moderate

Ahead: Anatomy and Physiology Review

Subject: Cardiovascular Emergencies

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Feedback: Anatomy and Physiology Review, page 963

11. Under normal conditions, the strength of cardiac contraction is regulated by:

A) the heart rate.

B) the nervous system.

C) physical exertion.

D) the Frank-Starling mechanism.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 972

12. The area of conduction tissue in which electrical activity arises at any given time is called the:

A) myocyte.

B) pacemaker.

C) sinus node.

D) bundle of His.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 971

13. Which of the following statements regarding the SA node is correct?

A) The SA node is the dominant cardiac pacemaker in healthy patients.

B) SA nodal ischemia occurs when the left coronary artery is occluded.

C) The SA node is located in the superior aspect of the right ventricle.

D) Impulses generated by the SA node travel through the right atrium only.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 971

14. The AV junction:

A) includes the AV node but not the bundle of His.

B) is the dominant and fastest pacemaker in the heart.

C) receives its blood supply from the circumflex artery.

D) is composed of the AV node and surrounding tissue.

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 971

15. An electrical impulse is slightly delayed at the AV node so that the:

A) bundle of His can depolarize fully.

B) ventricles can contract completely.

C) primary cardiac pacemaker can reset.

D) atria can empty into the ventricles.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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16. Thousands of fibrils that are distributed throughout the inner surfaces of the ventricles, which represent the end of the cardiac conduction system, are called the:

A) bundle branches.

B) internodal pathways.

C) Purkinje fibers.

D) cardiac myocytes.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 971

17. Depolarization, the process by which muscle fibers are stimulated to contract, occurs when:

A) cell wall permeability changes and sodium rushes into the cell.

B) calcium ions rapidly enter the cell, facilitating contraction.

C) potassium ions escape from the cell through specialized channels.

D) cardiac muscle relaxes in response to a cellular influx of calcium.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 968–969

Feedback: Electrophysiology, pages 968–969

18. Repolarization begins when:

A) the sodium and calcium channels close.

B) calcium ions slowly enter the cardiac cell.

C) potassium ions rapidly escape from the cell.

D) the inside of the cell returns to a positive charge.

Ans: A

Complexity: Easy

Ahead: Electrophysiology

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19. In order to ensure proper electrolyte distribution and maintain the polarity of the cell membrane, the sodium-potassium pump:

A) moves three sodium ions and three potassium ions back into the cell.

B) moves two sodium ions into the cell for every three potassium ions it moves out of the cell.

C) moves calcium and potassium ions back into the cell by a process called passive transport.

D) moves two potassium ions into the cell for every three sodium ions it moves out of the cell.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 969

20. Hypomagnesemia would MOST likely result in:

A) decreased cardiac conduction.

B) decreased myocardial irritability.

C) a decrease in cardiac contractility.

D) decreased myocardial automaticity.

Ans: A

Complexity: Easy

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 970

21. Which of the following electrolytes maintains the depolarization phase?

A) Sodium

B) Calcium

C) Potassium

D) Magnesium

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 970

22. During the refractory period:

A) the heart is in a state of partial repolarization.

B) the heart is partially charged, but cannot contract.

C) the cell is depolarized or in the process of repolarizing.

D) the heart muscle is depleted of energy and needs to recharge.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 970

23. In most patients, the SA node is supplied with blood from the:

A) right coronary artery.

B) left main coronary artery.

C) left circumflex coronary artery.

D) left anterior descending coronary artery.

Ans: A

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 971

24. The farther removed the conduction tissue is from the SA node:

A) the slower its intrinsic rate of firing.

B) the longer the PR interval will be.

C) the faster its intrinsic rate of firing.

D) the narrower the QRS complex will be.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 972

Feedback: Electrophysiology, page 972

25. If the heart's secondary pacemaker becomes ischemic and fails to initiate an electrical impulse:

A) the AV junction will begin pacing at 40 to 60 times/min.

B) you will see a brief period of bradycardia followed by asystole.

C) the P wave and PR interval will have an abnormal appearance.

D) you should expect to see a heart rate slower than 40 beats/min.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 972

26. The P wave represents:

A) SA nodal discharge.

B) atrial depolarization.

C) a delay at the AV node.

D) contraction of the atria.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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27. The brief pause between the P wave and QRS complex represents:

A) depolarization of the inferior part of the atria.

B) the period of time when the atria are repolarizing.

C) full dispersal of electricity throughout both atria.

D) a momentary conduction delay at the AV node.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 983

28. Which of the following ECG waveforms represents ventricular depolarization?

A) T wave

B) ST segment

C) QRS complex

D) U wave

Ans: C

Complexity: Easy

Ahead: Electrophysiology

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29. The PR interval should be no shorter than \_\_\_\_ seconds and no longer than \_\_\_\_ seconds in duration.

A) 0.12, 0.20

B) 0.14, 0.30

C) 0.16, 0.40

D) 0.18, 2.0

Ans: A

Complexity: Easy

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 983

30. Normally, the ST segment should be:

A) at the level of the isoelectric line.

B) elevated by no more than 1 mm.

C) depressed by no more than 2 mm.

D) invisible on a normal ECG tracing.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

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Pages: 984–985

Feedback: Electrophysiology, pages 984–985

31. Stimulation of the parasympathetic nervous system:

A) completely blocks the AV node, preventing ventricular depolarization.

B) causes a decrease in the production of epinephrine and norepinephrine.

C) is characterized by a large P wave and a PR interval that is shorter than normal.

D) slows SA nodal discharge and decreases conduction through the AV node.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

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32. Acetylcholinesterase is a naturally occurring chemical that:

A) increases epinephrine production.

B) breaks down acetylcholine in the body.

C) stimulates activity of the vagus nerve.

D) causes a natural slowing of the heart rate.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

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Page: 972

Feedback: Electrophysiology, page 972

33. Sympathetic nerves are regulated primarily by:

A) adrenaline.

B) epinephrine.

C) cholinesterase.

D) norepinephrine.

Ans: D

Complexity: Easy

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 972

34. Common complaints in patients experiencing an acute coronary syndrome include all of the following, EXCEPT:

A) fatigue.

B) headache.

C) chest pain.

D) palpitations.

Ans: B

Complexity: Moderate

Ahead: Patient Assessment

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Feedback: Patient Assessment, page 964

35. Cardiac-related chest pain may be palliated by:

A) stress.

B) exertion.

C) nitroglycerin.

D) mild exercise.

Ans: C

Complexity: Easy

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

Page: 964

Feedback: Patient Assessment, page 964

36. Paroxysmal nocturnal dyspnea is defined as:

A) dyspnea that is brought on by excessive movement during sleep.

B) sitting upright in a chair in order to facilitate effective breathing.

C) the inability to function at night due to severe difficulty breathing.

D) acute shortness of breath that suddenly awakens a person from sleep.

Ans: D

Complexity: Moderate

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

Page: 965

Feedback: Patient Assessment, page 965

37. A patient with orthopnea:

A) experiences dyspnea during periods of exertion.

B) prefers a semisitting position to facilitate breathing.

C) experiences worsened dyspnea while lying down.

D) sleeps in a recliner due to severe right heart failure.

Ans: C

Complexity: Easy

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

Page: 965

Feedback: Patient Assessment, page 965

38. In the context of cardiac compromise, syncope occurs due to:

A) an increase in vagal tone.

B) a drop in cerebral perfusion.

C) a sudden cardiac dysrhythmia.

D) an acute increase in heart rate.

Ans: B

Complexity: Moderate

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

Page: 965

Feedback: Patient Assessment, page 965

39. Which of the following underlying medical conditions would be of LEAST pertinence when obtaining the past medical history from a patient who complains of acute chest pain or pressure?

A) Cancer

B) Diabetes

C) Renal disease

D) Hypertension

Ans: A

Complexity: Moderate

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

Page: 968

Feedback: Patient Assessment, page 968

40. A pulse that alternates in strength from one beat to the next beat is called:

A) pulse deficit.

B) pulsus alternans.

C) pulsus paradoxus.

D) paradoxical pulse.

Ans: B

Complexity: Easy

Ahead: Patient Assessment

Subject: Cardiovascular Emergencies

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Feedback: Patient Assessment, page 967

41. Which of the following conditions would MOST likely cause the blood pressure to vary between the left arm and right arm?

A) Cor pulmonale

B) Aortic aneurysm

C) Left heart failure

D) Cardiac tamponade

Ans: B

Complexity: Moderate

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42. Jugular venous distention in a patient sitting at a 45° angle:

A) is not clinically significant.

B) is a sign of reduced preload.

C) suggests left-sided heart failure.

D) indicates right-sided heart compromise.

Ans: D

Complexity: Moderate

Ahead: Patient Assessment

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43. Which of the following clinical findings is LEAST suggestive of left-sided heart failure?

A) An S3 gallop

B) Sacral edema

C) Crackles in the lungs

D) Shortness of breath

Ans: B

Complexity: Moderate

Ahead: Patient Assessment

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44. Myocardial ischemia occurs when the heart muscle:

A) is deprived of oxygen because of a blocked coronary artery.

B) undergoes necrosis because of prolonged oxygen deprivation.

C) suffers oxygen deprivation secondary to coronary vasodilation.

D) experiences a decreased oxygen demand and an increased supply.

Ans: A

Complexity: Moderate

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45. Atherosclerosis is a process in which:

A) the outer wall of a coronary artery becomes lined with masses of fatty tissue.

B) calcium precipitates into the arterial walls, greatly reducing the artery's elasticity.

C) plaque infiltrates the arterial wall, decreasing its elasticity and narrowing its lumen.

D) plaque ruptures from a distant location and lodges in one of the coronary arteries.

Ans: C

Complexity: Moderate

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46. Which of the following clinical findings is LEAST suggestive of a peripheral vascular disorder?

A) A bruit heard over the carotid artery

B) Pain in the calf muscle while walking

C) Swelling and pain along the course of a vein

D) An S3 sound during auscultation of the heart

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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Pages: 1064–1065

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1064–1065

47. Acute coronary syndrome is a term used to describe:

A) acute chest pressure or discomfort that subsides with rest or nitroglycerin.

B) a clinical condition in which patients experience chest pain during exertion.

C) any group of clinical symptoms consistent with acute myocardial ischemia.

D) a sudden cardiac rhythm disturbance that causes a decrease in cardiac output.

Ans: C

Complexity: Moderate

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48. Non-ST elevation myocardial infarction (NSTEMI):

A) is not generally treated with cardiac catheterization.

B) produces no signs of myocardial injury on the ECG.

C) has a statistically worse outcome than ST elevation MI.

D) produces no symptoms until permanent damage is done.

Ans: A

Complexity: Moderate

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49. Stable angina:

A) typically subsides within 10 to 15 minutes.

B) occurs after a predictable amount of exertion.

C) usually requires both rest and nitroglycerin to subside.

D) is characterized by sharp chest pain rather than pressure.

Ans: B

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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50. Unstable angina:

A) occurs following periods of strenuous exertion.

B) often awakens the patient from his or her sleep.

C) indicates that myocardial necrosis has occurred.

D) is less frequent but is associated with more pain.

Ans: B

Complexity: Easy

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51. Which of the following MOST accurately describes an acute myocardial infarction?

A) Death of the myocardium secondary to spasm of a major coronary artery

B) Injury to a portion of the heart muscle secondary to atherosclerotic disease

C) Damage to the left ventricle following occlusion of the left coronary artery

D) Necrosis of a portion of the myocardium due to a prolonged lack of oxygen

Ans: D

Complexity: Moderate

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52. Infarctions of the inferior myocardial wall are MOST often caused by:

A) blockage of the left coronary artery.

B) acute spasm of the circumflex artery.

C) occlusion of the right coronary artery.

D) a blocked left anterior descending artery.

Ans: C

Complexity: Moderate

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53. Cardiac arrhythmias following an acute myocardial infarction:

A) tend to originate from ischemic areas around the infarction.

B) typically manifest as atrial fibrillation or atrial tachycardia.

C) generally originate from the center of the infarcted tissues.

D) are uncommon within the first 24 hours after the infarction.

Ans: A

Complexity: Moderate

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54. The Levine sign is defined as:

A) pushing on the sternum with the fingertips.

B) rubbing the arm to which pain is radiating.

C) a subconsciously clenched fist over the chest.

D) a state of denial in patients with an acute myocardial infarction.

Ans: C

Complexity: Moderate

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55. The pain associated with an acute myocardial infarction:

A) radiates to the left or right arm in the majority of cases.

B) is not influenced by deep breathing or body movement.

C) is most often described as a sharp sensation in the chest.

D) is often relieved by two or three doses of sublingual nitroglycerin.

Ans: B

Complexity: Moderate

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56. Which of the following patients would MOST likely present with atypical signs and symptoms of an acute myocardial infarction?

A) 49-year-old obese man

B) 58-year-old diabetic woman

C) 60-year-old man with anxiety

D) 71-year-old woman with hypertension

Ans: B

Complexity: Moderate

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57. The presence of dizziness in a patient with a suspected myocardial infarction is MOST likely the result of:

A) fear and anxiety.

B) the effects of nitroglycerin.

C) acute left-sided heart failure.

D) a reduction in cardiac output.

Ans: D

Complexity: Moderate

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58. Which of the following would be considered an anginal equivalent in a patient with myocardial ischemia?

A) Severe headache

B) Bilateral leg pain

C) Acute hyperactivity

D) Generalized weakness

Ans: D

Complexity: Moderate

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59. Which of the following variables has the greatest impact on the efficacy of myocardial reperfusion therapy?

A) The patient’s blood pressure upon presentation

B) The duration from symptom onset to treatment

C) The patient’s past medical and surgical histories

D) Whether or not aspirin was given by paramedics

Ans: B

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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60. A 50-year-old man is experiencing an acute myocardial infarction. He has no prior history of cardiac problems, takes no medications, and has no drug allergies. His oxygen saturation is 96%. He should receive:

A) aspirin.

B) oxygen.

C) lidocaine.

D) nitroglycerin.

Ans: A

Complexity: Moderate

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61. Which of the following statements regarding oxygen administration for a patient experiencing an acute myocardial infarction is correct?

A) Evidence has shown that high (greater than 90%) concentrations of oxygen reduce mortality.

B) In order to prevent hypoxic injury, do not give any patient with an acute myocardial infarction more than 2 L/min of oxygen.

C) Treatment with oxygen should be individualized and titrated to maintain the SpO2 level above 94%.

D) Any patient experiencing an acute myocardial infarction should receive high-flow oxygen.

Ans: C

Complexity: Moderate

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62. When administering aspirin to a patient with an acute coronary syndrome, you should:

A) first check to make sure the patient is not severely hypertensive.

B) administer half the usual dose if the patient has a history of stroke.

C) have him or her chew and swallow 160 to 325 mg of baby aspirin.

D) give up to 325 mg of enteric-coated aspirin for the patient to swallow.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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63. Which of the following situations would contraindicate the administration of nitroglycerin?

A) Hypersensitivity to salicylates

B) Systolic BP less than 110 mm Hg

C) The presence of right ventricular infarct

D) Use of Plavix within the last 12 hours

Ans: C

Complexity: Moderate

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64. Why may fentanyl (Sublimaze) be preferred over morphine sulfate for pain management in patients experiencing acute myocardial infarction?

A) Longer half-life

B) Not a narcotic

C) Relatively short duration

D) More easily reversed with naloxone

Ans: C

Complexity: Moderate

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65. Which of the following medications would be the MOST acceptable alternative to morphine for analgesia in patients with an acute coronary syndrome?

A) Versed

B) Fentanyl

C) Diazepam

D) Ibuprofen

Ans: B

Complexity: Moderate

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66. Patients experiencing a right ventricular infarction:

A) may present with hypotension.

B) should not be given baby aspirin.

C) often require higher doses of morphine.

D) usually have anterior myocardial damage.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1047–1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1047–1048

67. When monitoring a patient's cardiac rhythm, it is important to remember that:

A) a heart rate below 60 beats per minute must be treated immediately.

B) most patients with acute myocardial infarction experience asystole.

C) the ECG does not provide data regarding the patient's cardiac output.

D) the presence of a QRS complex correlates with the patient's pulse.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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Page: 1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1045

68. Which of the following interventions would MOST likely be performed en route to the hospital during a lengthy transport of a patient with a suspected myocardial infarction?

A) Supplemental oxygen

B) Aspirin administration

C) IV therapy and analgesia

D) 12-lead electrocardiography

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1048

69. The MOST immediate forms of reperfusion therapy for an injured myocardium are:

A) high-dose aspirin and high-flow supplemental oxygen.

B) fibrinolytics and percutaneous coronary intervention.

C) angioplasty and coronary artery bypass grafting.

D) supplemental oxygen and an infusion of nitroglycerin.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1045

70. The MOST significant risk associated with the use of fibrinolytic therapy is:

A) reocclusion.

B) coagulation.

C) anaphylaxis.

D) hemorrhage.

Ans: D

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1045–1046

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1045–1046

71. Fibrinolytic medications are beneficial to certain patients with an acute myocardial infarction because they:

A) decrease circulating platelets and thin the blood.

B) convert plasminogen to plasmin and destroy a clot.

C) destroy a clot by releasing fibrin into the bloodstream.

D) break down the plasmin concentration inside a blood clot.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1045–1046

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1045–1046

72. Percutaneous coronary interventions involve:

A) recanalizing a blocked coronary artery by passing a balloon or stent through a catheter via a peripheral artery.

B) passing a 2-mm catheter through the femoral artery and administering a fibrinolytic agent through the catheter.

C) using a large vein from one of the lower extremities to reroute blood flow past an occluded coronary artery.

D) passing a guide wire through one of the external jugular veins to directly visualize an occluded coronary artery.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1045

73. In a patient with left ventricular failure and pulmonary edema:

A) the right atrium and ventricle pump against lower pressures, resulting in the systemic pooling of venous blood.

B) diffusely collapsed alveoli cause blood from the right side of the heart to bypass the alveoli and return to the left side of the heart.

C) increased pressure in the left atrium and pulmonary veins forces serum out of the pulmonary capillaries and into the alveoli.

D) an acute myocardial infarction or chronic hypertension causes the left ventricle to pump against decreased afterload, resulting in hypoperfusion.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1050–1051

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1050–1051

74. Common signs of left ventricular failure include all of the following, EXCEPT:

A) confusion.

B) tachycardia.

C) hypotension.

D) hypertension.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1051–1053

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1051–1053

75. A 68-year-old male who has COPD presents with edema to his feet and ankles, jugular venous distention, and an enlarged abdomen. What should you suspect?

A) Acute hepatic failure

B) Left ventricular failure

C) Acute renal failure

D) Right ventricular failure

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1051

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1051

76. In addition to supplemental oxygen, treatment of a patient with left ventricular failure includes:

A) a saline lock and a selective beta-2 adrenergic medication.

B) an IV of normal saline, a 20-mL/kg fluid bolus, and a diuretic medication.

C) a saline lock, fentanyl, and intubation facilitated by pharmacologic agents.

D) an IV of normal saline to keep the vein open and nitroglycerin.

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1054

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1054

77. Patients with a continuous-flow ventricular assist device:

A) cannot receive epinephrine if they are bradycardic.

B) may not have a palpable pulse, despite adequate perfusion.

C) have a BP that is 20 to 30 mm Hg higher than it actually is.

D) should be defibrillated with a higher-than-normal energy setting.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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Page: 1055

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1055

78. Cor pulmonale is MOST often the result of:

A) COPD.

B) acute MI.

C) stable angina.

D) hypertension.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1051

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1051

79. A patient with right ventricular failure would most likely present with:

A) an enlarged liver.

B) collapsed jugular veins.

C) rhonchi in the lungs.

D) pulmonary edema.

Ans: A

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1051

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1051

80. Cardiac tamponade can be differentiated from a tension pneumothorax by the presence of:

A) equal breath sounds.

B) jugular venous distention.

C) a narrowing pulse pressure.

D) alterations in the QRS amplitude.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1056

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1056

81. The treatment for cardiogenic shock is generally focused on:

A) infusing enough IV fluid to maintain a systolic BP of 110 mm Hg.

B) strengthening cardiac contractility without increasing the heart rate.

C) increasing the heart rate to improve cardiac output and cerebral perfusion.

D) administering nitroglycerin to improve perfusion to the myocardium.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1057

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1057

82. A patient with cardiogenic shock and pulmonary edema should be positioned:

A) in the Trendelenburg position.

B) in a semi-Fowler position.

C) supine with the legs elevated.

D) in a lateral recumbent position.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1057

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1057

83. A patient in cardiogenic shock without cardiac arrhythmias will benefit MOST from:

A) supplemental oxygen.

B) a high-dose vasopressor infusion.

C) a 250-mL bolus of a crystalloid solution.

D) rapid transport to an appropriate hospital.

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

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84. Vasoactive medications for cardiogenic shock should be titrated to achieve a minimum systolic blood pressure of:

A) 80 mm Hg.

B) 90 mm Hg.

C) 100 mm Hg.

D) 120 mm Hg.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1057

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1057

85. The process of aortic dissection begins when:

A) the intimal layer of the aortic wall is torn.

B) hypertension causes acute rupture of the aorta.

C) the aorta is weakened due to excessive pressure.

D) blood accumulates between the layers of the aorta.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

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86. In contrast to the pain associated with an acute myocardial infarction, pain from a dissecting aortic aneurysm:

A) often waxes and wanes.

B) gradually becomes severe.

C) is maximal from the onset.

D) is preceded by other symptoms.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1063

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87. Disruption of blood flow into the left common carotid artery would MOST likely produce signs and symptoms of a(n):

A) ischemic stroke.

B) pericardial tamponade.

C) hemorrhagic stroke.

D) myocardial infarction.

Ans: A

Complexity: Moderate

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Subject: Cardiovascular Emergencies

Page: 1063

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88. Disruption of blood flow through the innominate artery due to dissection is likely to produce:

A) pulse or blood pressure deficits.

B) a rapid, irregular pulse.

C) collapsed jugular veins.

D) a widened pulse pressure.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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Page: 1063

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89. In addition to prompt transport, the goal of prehospital management for a patient with a suspected aortic dissection includes:

A) lowering the blood pressure.

B) IV fluid boluses.

C) high-flow oxygen.

D) adequate pain relief.

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

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90. If a patient's aortic aneurysm is not compressing on any adjacent structures:

A) the pain is often confined to the back.

B) he or she will likely be asymptomatic.

C) a pulsatile mass will usually be absent.

D) his or her pain will likely be less severe.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1063

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91. Hypertension is present when the blood pressure:

A) increases by 20 mm Hg above a person's normal blood pressure.

B) is consistently greater than 140/90 mm Hg while at rest.

C) is above 160 mm Hg systolic during strenuous exertion.

D) rises acutely during an emotionally stressful situation.

Ans: B

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1058

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1058

92. Which of the following mechanisms causes hypertension?

A) Arteriosclerosis results in increased elasticity of the arteries, causing vasodilation and increased arteriolar capacity.

B) Atherosclerotic plaque narrows one or more of the coronary arteries, resulting in increased cardiac perfusion.

C) Increased afterload stimulates the Frank-Starling reflex, which raises the pressure behind the blood leaving the heart.

D) Heart rate that is persistently above 80 beats/min causes an increase in cardiac output and a resultant increase in blood pressure.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

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93. Hypertensive disease is characterized by:

A) persistent elevation of the diastolic pressure.

B) a diastolic blood pressure above 90 mm Hg.

C) constant fluctuation in the systolic blood pressure.

D) a systolic blood pressure greater than 140 mm Hg.

Ans: A

Complexity: Easy

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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94. Your patient has a BP of 220/110. What is this patient’s mean arterial pressure (MAP)?

A) 129 mm Hg

B) 147 mm Hg

C) 158 mm Hg

D) 166 mm Hg

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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95. A hypertensive emergency is MOST accurately defined as:

A) an increase in the blood pressure due to medication noncompliance.

B) an elevated blood pressure that is accompanied by a frontal headache.

C) a blood pressure greater than 170/90 mm Hg with a severe nosebleed.

D) an acute elevation in blood pressure with signs of end-organ damage.

Ans: D

Complexity: Easy

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96. Abnormal neurologic signs that accompany hypertensive encephalopathy occur when:

A) pressure in the brain causes transient dysfunction of the parietal lobe and cerebral vasodilation.

B) the mean arterial pressure exceeds 100 mm Hg and blood is forced from the brain and into the spinal cord.

C) neurons sustain permanent damage secondary to a single increase in blood pressure above 200/130 mm Hg.

D) pressure causes a breach in the blood-brain barrier and fluid leaks out, causing an increase in intracranial pressure.

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

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Pages: 1058–1059

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1058–1059

97. If the paramedic must initiate drug therapy in the field for hypertensive encephalopathy, he or she should:

A) maintain the patient in a supine position.

B) administer a 500-mL normal saline bolus first.

C) measure the BP at least every 5 to 10 minutes.

D) first ensure that the heart rate is less than 100/min.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1059

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1059

98. It is MOST important to evaluate a cardiac dysrhythmia in the context of the:

A) patient's heart rate.

B) patient's medical history.

C) patient's overall clinical condition.

D) width of the QRS complex.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 974

Feedback: Electrophysiology, page 974

99. A decreased cardiac output secondary to a heart rate greater than 150 beats/min is caused by:

A) myocardial stretching due to increased preload.

B) decreases in stroke volume and ventricular filling.

C) increased automaticity of the cardiac pacemaker.

D) ectopic pacemaker sites in the atria or ventricles.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 992

Feedback: Electrophysiology, page 992

100. Bombardment of the AV node by more than one impulse, potentially blocking the pathway for one impulse and allowing the other impulse to stimulate cardiac cells that have already depolarized, is called:

A) fusion.

B) reentry.

C) ectopy.

D) excitability.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 994

Feedback: Electrophysiology, page 994

101. If a patient's ECG rhythm shows any artifact, you should:

A) ensure the electrodes are applied firmly to the skin.

B) reverse the limb leads to obtain a clearer ECG tracing.

C) place the ground lead in a different anatomic location.

D) remove the negative lead and reassess the cardiac rhythm.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 976

Feedback: Electrophysiology, page 976

102. An electrical wave moving in the direction of a positive electrode will:

A) cause a positive deflection on the ECG.

B) produce a significant amount of artifact.

C) cause a negative deflection on the ECG.

D) manifest with narrow QRS complexes.

Ans: A

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 982

Feedback: Electrophysiology, page 982

103. When applying the limb leads, the negative lead should be placed on the:

A) left arm.

B) left leg.

C) right arm.

D) right leg.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 978

Feedback: Electrophysiology, page 978

104. According to the Einthoven triangle, lead II is assessed by placing the:

A) negative lead on the left arm and the positive lead on the left leg.

B) positive lead on the left leg and the negative lead on the right arm.

C) positive lead on the left arm and the negative lead on the right arm.

D) negative lead on the right arm and the positive lead on the left leg.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 978

Feedback: Electrophysiology, page 978

105. On the ECG graph paper, amplitude is measured in \_\_\_\_\_\_\_\_\_\_\_\_\_ and width is measure in \_\_\_\_\_\_\_\_\_\_\_\_.

A) centimeters, seconds

B) milliseconds, millimeters

C) seconds, centimeters

D) millimeters, milliseconds

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 982

Feedback: Electrophysiology, page 982

106. On the ECG graph paper, 6 seconds is represented by how many large boxes?

A) 20

B) 30

C) 40

D) 50

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 982

Feedback: Electrophysiology, page 982

107. If a particular interval on the ECG graph paper is 1.5 small boxes in width, the interval would be measured as:

A) 0.06 seconds.

B) 2 millimeters.

C) 45 milliseconds.

D) 600 milliseconds.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

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Feedback: Electrophysiology, page 982

108. The normal P wave duration is less than \_\_\_ milliseconds and the amplitude is less than \_\_\_ millimeters tall.

A) 110; 2.5

B) 120; 3.0

C) 130; 3.5

D) 140; 4.0

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 982–983

Feedback: Electrophysiology, pages 982–983

109. A prolonged PR interval:

A) is greater than 120 milliseconds.

B) indicates that the AV node was bypassed.

C) indicates an abnormal delay at the AV node.

D) is a sign of rapid atrial depolarization.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 983

Feedback: Electrophysiology, page 983

110. The duration of the QRS complex should be \_\_\_\_ milliseconds or less in a healthy adult.

A) 100

B) 110

C) 120

D) 130

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 983

Feedback: Electrophysiology, page 983

111. A wide QRS complex that is preceded by a normal P wave indicates:

A) that the rhythm is ventricular in origin.

B) rapid conduction through the ventricles.

C) a delay in conduction at the AV junction.

D) an abnormality in ventricular conduction.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 982–983

Feedback: Electrophysiology, pages 982–983

112. Q waves are considered abnormal or pathologic if they are:

A) greater than 0.02 seconds wide and consistently precede the R wave.

B) more than one-third the overall height of the QRS complex in lead II.

C) not visible in leads I or II when the QRS gain sensitivity is increased.

D) present in a patient who is experiencing chest pressure or discomfort.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 983

Feedback: Electrophysiology, page 983

113. The \_\_\_\_\_\_\_\_\_\_ represents the end of ventricular depolarization and the beginning of repolarization.

A) J point

B) T wave

C) ST segment

D) T-P interval

Ans: A

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 984

Feedback: Electrophysiology, page 984

114. The second half of the T wave:

A) is the point of ventricular repolarization to which a defibrillator is synchronized to deliver electrical energy.

B) is the strongest part of ventricular depolarization and is often the origin of dangerous ventricular arrhythmias.

C) represents a state of absolute ventricular refractoriness in which another impulse cannot cause depolarization.

D) represents a vulnerable period during which a strong impulse could cause depolarization, resulting in a lethal arrhythmia.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 985

Feedback: Electrophysiology, page 985

115. In males, the QT interval is considered prolonged if it is \_\_\_\_\_\_ milliseconds or longer.

A) 390

B) 400

C) 430

D) 450

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 985

Feedback: Electrophysiology, page 985

116. A prolonged QT interval indicates that the heart:

A) has a shorter-than-normal refractory period, increasing the likelihood of severe bradycardia.

B) is experiencing an extended refractory period, making the ventricles more vulnerable to dysrhythmias.

C) is depolarizing too quickly, which significantly increases the potential for reentry in the AV junction.

D) has a shortened refractory period and may be caused by factors such as hypocalcemia or pericarditis.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1038

Feedback: 12-Lead ECGs, page 1038

117. The QT interval would MOST likely be prolonged in patients:

A) who take digitalis.

B) who are hypocalcemic.

C) with a rapid heart rate.

D) who are hypercalcemic.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1038

Feedback: 12-Lead ECGs, page 1038

118. The 6-second method for calculating the rate of a cardiac rhythm:

A) involves counting the number of QRS complexes in a 6-second strip and multiplying that number by 10.

B) is an accurate method for calculating the heart rate if the cardiac rhythm is grossly irregular and very fast.

C) will yield an estimated heart rate that is typically within 2 to 3 beats per minute of the actual heart rate.

D) takes longer than other methods of calculating the rate and is thus impractical to use with critical patients.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 986

Feedback: Electrophysiology, page 986

119. If the R-R interval spans \_\_\_ large boxes or less, the heart rate is greater than 100/min.

A) 3

B) 4

C) 5

D) 6

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 987

120. If the R-R interval spans more than \_\_\_\_ large boxes on the ECG graph paper, the heart rate is less than 60/min.

A) 1.5

B) 2

C) 3.5

D) 5

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 987

121. When analyzing a cardiac rhythm strip in lead II, you should routinely evaluate all of the following components, EXCEPT the:

A) QRS width.

B) PR interval.

C) ST segment.

D) R-R interval.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 985

Feedback: Electrophysiology, page 985

122. Normal sinus rhythm is characterized by all of the following, EXCEPT:

A) minimal variation between the R-R intervals.

B) QRS complexes that are up to 140 milliseconds.

C) consistent PR intervals and upright P waves.

D) a consistent heart rate between 60 and 100 beats/min.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 987–988

Feedback: Electrophysiology, pages 987–988

123. In sinus bradycardia, the:

A) heart rate is less than 70 beats/min.

B) pacemaker site is the SA node.

C) QRS complexes are often wide.

D) P waves are consistently upright.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 988

Feedback: Electrophysiology, page 988

124. Which of the following would MOST likely cause bradycardia?

A) Exercise

B) Hyperthermia

C) Amphetamines

D) Beta-blocker use

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 988

Feedback: Electrophysiology, page 988

125. Which of the following statements regarding sinus bradycardia is correct?

A) Treatment focuses on the patient's tolerance to the bradycardia.

B) Symptomatic bradycardia is often caused by a decreased atrial rate.

C) Sinus bradycardia often requires multiple doses of atropine to correct it.

D) Sinus bradycardia is caused by decreased vagal tone in most patients.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 988

126. A regular cardiac rhythm with a rate of 104 beats/min, upright P waves, a PR interval of 0.14 seconds, and QRS complexes that measure 0.10 seconds should be interpreted as:

A) supraventricular tachycardia.

B) normal sinus rhythm.

C) sinus tachycardia.

D) junctional tachycardia.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 991–992

Feedback: Electrophysiology, pages 991–992

127. The treatment for sinus tachycardia should focus on:

A) decreasing the heart rate.

B) correcting the underlying cause.

C) administering IV fluid boluses.

D) relieving pain and anxiety.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 992

Feedback: Electrophysiology, page 992

128. Sinus dysrhythmia is:

A) observed in all patients.

B) an irregular sinus rhythm.

C) a sign of myocardial ischemia.

D) most common in hypotensive patients.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 992

Feedback: Electrophysiology, page 992

129. Sinus arrest is characterized by:

A) a dropped PQRST complex.

B) an irregularly irregular rhythm.

C) PR intervals greater than 0.12 seconds.

D) irregularity during the inspiratory phase.

Ans: A

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 992

Feedback: Electrophysiology, page 992

130. Which of the following differentiates an atrial rhythm from a sinus rhythm?

A) Tachycardia

B) Profound bradycardia

C) Dissociated P waves

D) Varying shapes in P waves

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 993

Feedback: Electrophysiology, page 993

131. A wandering atrial pacemaker:

A) has consistent P-wave shapes.

B) is generally faster than 100 beats/min.

C) may have variable PR intervals.

D) is generally treated with atropine.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1000–1001

Feedback: Electrophysiology, pages 1000–1001

132. An early complex that breaks the regularity of the underlying rhythm and that is characterized by a narrow QRS complex and an upright P wave that differs in shape and size from the P waves of the other complexes MOST accurately describes a(n):

A) atrial escape complex.

B) wandering atrial pacemaker.

C) junctional escape complex.

D) premature atrial complex.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 993

Feedback: Electrophysiology, page 993

133. Supraventricular tachycardia is MOST accurately defined as:

A) any tachycardic rhythm with a heart rate greater than 130 beats/min and absent P waves.

B) a tachycardic rhythm originating from a pacemaker site above the level of the ventricles.

C) an irregular tachycardic rhythm that originates just below the AV junction.

D) a regular tachycardic rhythm between 150 and 180 beats/min with P waves buried in the QRS complexes.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

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Feedback: Electrophysiology, page 993

134. In order to call a cardiac rhythm “paroxysmal” supraventricular tachycardia, you would have to:

A) witness its onset and/or spontaneous termination.

B) confirm the pacemaker origin with a 12-lead ECG.

C) observe a consistent heart rate greater than 150 beats/min.

D) ask the patient when he or she began feeling palpitations.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 994

Feedback: Electrophysiology, page 994

135. Patients with a heart rate greater than 150 beats/min usually become unstable because of:

A) reduced ventricular filling.

B) an increase in the atrial kick.

C) increased right atrial preload.

D) a significantly reduced afterload.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 993

Feedback: Electrophysiology, page 993

136. Which of the following is NOT characteristic of multifocal atrial tachycardia?

A) Nonvisible P waves with a rapid ventricular rate

B) QRS complexes less than 0.11 seconds in duration

C) Variable PR intervals and P waves of differing size

D) Regular R-R intervals with a rate less than 150 beats/min

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1001

Feedback: Electrophysiology, page 1001

137. In contrast to treatment for supraventricular tachycardia, treatment for multifocal atrial tachycardia in the prehospital setting:

A) is often more effective.

B) involves atropine sulfate.

C) is generally not effective.

D) includes synchronized cardioversion.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1001

Feedback: Electrophysiology, page 1001

138. A classic sign of atrial flutter is:

A) a constant 2:1 conduction ratio.

B) the presence of sawtooth F waves.

C) a ventricular rate less than 100 beats/min.

D) an irregular but consistent R-R interval.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 999–1000

Feedback: Electrophysiology, pages 999–1000

139. Atrial fibrillation can be interpreted by noting:

A) PR intervals that vary from complex to complex.

B) an irregularly irregular rhythm and absent P waves.

C) a regularly irregular rhythm with abnormal P waves.

D) the presence of wide QRS complexes and a rapid rate.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 999–1000

Feedback: Electrophysiology, pages 999–1000

140. A major complication associated with atrial fibrillation is:

A) clot formation in the fibrillating atria.

B) a significant reduction in atrial filling.

C) pulmonary congestion and hypoxemia.

D) a profound increase in the atrial kick.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 999

Feedback: Electrophysiology, page 999

141. Which of the following prescribed medications would a patient with chronic atrial fibrillation MOST likely take?

A) Plavix and Vasotec

B) Lisinopril and aspirin

C) Digitalis and Coumadin

D) Cordarone and furosemide

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 999

Feedback: Electrophysiology, page 999

142. Junctional escape rhythms are characterized by:

A) an absence of P waves.

B) QRS complexes greater than 0.12 seconds.

C) inverted P waves before the QRS complex.

D) a ventricular rate of 40 to 60 beats/min.

Ans: D

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1002

Feedback: Electrophysiology, page 1002

143. If an impulse generated by the AV node begins moving upward through the atria before the other part of it enters the ventricles:

A) the PR intervals will be greater than 0.20 seconds.

B) an upright P wave will appear after the QRS complex.

C) an inverted P wave will appear before the QRS complex.

D) a small inverted P wave will be buried in the QRS complex.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1001

Feedback: Electrophysiology, page 1001

144. A regular rhythm with inverted P waves before each QRS complex, a ventricular rate of 70 beats/min, narrow QRS complexes, and a PR interval of 0.16 seconds should be interpreted as a(n):

A) ectopic atrial rhythm.

B) junctional escape rhythm.

C) supraventricular tachycardia.

D) accelerated junctional rhythm.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1002–1003

Feedback: Electrophysiology, pages 1002–1003

145. A first-degree heart block has a PR interval greater than 0.20 seconds because:

A) depolarization of the atria occurs at a slightly slower rate than one would expect.

B) each impulse that reaches the AV node is delayed slightly longer than expected.

C) impulses generated by the SA node traverse the AV node at an accelerated rate.

D) the primary pacemaker is not the SA node, but rather an ectopic atrial pacemaker.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1020

Feedback: Electrophysiology, page 1020

146. Which of the following statements regarding treatment for a first-degree heart block is correct?

A) Treatment is generally not indicated unless the rate is slow and cardiac output is impaired.

B) Most first-degree heart blocks are associated with significant bradycardia and require atropine.

C) First-degree heart block is often accompanied by a compensatory tachycardia that requires treatment.

D) Transcutaneous cardiac pacing should be initiated without delay for patients with a first-degree heart block.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1020

Feedback: Electrophysiology, page 1020

147. Which of the following statements regarding second-degree heart block is correct?

A) Most second-degree heart blocks are transient in nature and resolve in the prehospital setting without the need for intervention in the emergency department.

B) Second-degree heart block occurs when an impulse reaching the AV node is occasionally prevented from proceeding to the ventricles and causing a QRS complex.

C) More than half of all second-degree heart blocks cause hemodynamic compromise and require transcutaneous cardiac pacing in the prehospital or hospital setting.

D) Second-degree heart block is characterized by inconsistent PR intervals, a QRS complex greater than 0.12 seconds, and a ventricular rate less than 40 beats/min.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1020–1021

Feedback: Electrophysiology, pages 1020–1021

148. A second-degree heart block, Mobitz type I, occurs when:

A) every other impulse generated by the SA node is blocked at the AV node and does not depolarize the ventricles.

B) each successive impulse is progressively delayed, until one impulse is blocked from entering the ventricles.

C) the PR interval progressively grows narrower, until there is a P wave that is not followed by a QRS complex.

D) more than one successive impulse from the SA node is blocked at the AV node and is not allowed to enter the ventricles.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1020

Feedback: Electrophysiology, page 1020

149. A key to interpreting a Mobitz type II second-degree heart block is to remember that:

A) unlike a Mobitz type I second-degree heart block, a type II heart block is always regular.

B) in this type of heart block, the PR interval gets progressively longer until a P wave is not conducted.

C) the PR interval of all of the conducted P waves and their corresponding QRS complexes is constant.

D) most type II second degree AV blocks have more than two nonconducted P waves that occur in succession.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1020–1021

Feedback: Electrophysiology, pages 1020–1021

150. Which of the following occurs at the AV node during a third-degree heart block?

A) There is an abnormal delay in conducting impulses.

B) Every third impulse is allowed to enter the ventricles.

C) Impulses bypass the AV node and enter the ventricles.

D) All impulses are blocked from entering the ventricles.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1021

Feedback: Electrophysiology, page 1021

151. On the ECG strip, a third-degree AV block usually appears as a:

A) wide QRS complex rhythm with a rate between 50 and 70 beats/min.

B) slow, narrow QRS complex rhythm with irregular P-P intervals.

C) slow, wide QRS complex rhythm with inconsistent PR intervals.

D) narrow QRS complex rhythm with a rate less than 60 beats/min.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1021–1022

Feedback: Electrophysiology, pages 1021–1022

152. Any electrical impulse that originates in the ventricles will produce:

A) wide QRS complexes and a rate between 20 and 40 beats/min.

B) a rapid rhythm with wide QRS complexes and no pulse.

C) low-amplitude QRS complexes and dissociated P waves.

D) bizarre-looking QRS complexes and a rate less than 60 beats/min.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1003, 1005

Feedback: Electrophysiology, pages 1003, 1005

153. Which of the following statements regarding an idioventricular rhythm is correct?

A) Most patients with an idioventricular rhythm are hemodynamically unstable.

B) Treatment for an idioventricular rhythm focuses on increasing blood pressure.

C) Idioventricular rhythms are typically accompanied by nonconducted P waves.

D) The most common cause of an idioventricular rhythm is failure of the SA node.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1005–1006

Feedback: Electrophysiology, pages 1005–1006

154. An accelerated idioventricular rhythm is characterized by all of the following, EXCEPT:

A) QRS complexes greater than 0.12 seconds in duration.

B) irregular R-R intervals and a rate less than 40 beats/min.

C) wide QRS complexes with P waves buried in the T waves.

D) regular R-R intervals and a rate between 40 and 100 beats/min.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1006

Feedback: Electrophysiology, page 1006

155. Monomorphic ventricular tachycardia:

A) is characterized by QRS complexes that vary in size.

B) presents with wide QRS complexes of a common shape.

C) is treated as ventricular fibrillation if a pulse is present.

D) is often irregular with occasional nonconducted P waves.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1006

Feedback: Electrophysiology, page 1006

156. Torsade de pointes:

A) presents with wide QRS complexes that are all of the same shape, size, and vector direction.

B) is a lethal ventricular rhythm that is usually caused by ingestion or injection of CNS-depressant drugs.

C) is generally less serious than monomorphic ventricular tachycardia and is usually not treated in the field.

D) is a variant of polymorphic ventricular tachycardia and is often caused by a prolonged QT interval.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1007

Feedback: Electrophysiology, page 1007

157. Untreated ventricular tachycardia would MOST likely deteriorate to:

A) asystole.

B) torsade de pointes.

C) ventricular fibrillation.

D) pulseless electrical activity.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1007

Feedback: Electrophysiology, page 1007

158. Premature ventricular complexes:

A) are ectopic complexes that originate from a different pacemaker site.

B) are extra systolic beats that break the regularity of the underlying rhythm.

C) are in themselves considered arrhythmias, but are generally insignificant.

D) occur later than the next expected complex, causing an irregular rhythm.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1003–1004

Feedback: Electrophysiology, pages 1003–1004

159. Premature ventricular complexes (PVCs) that originate from different sites in the ventricle:

A) are called unifocal PVCs.

B) produce a palpable pulse.

C) are also called fusion PVCs.

D) will appear differently on the ECG.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1004

Feedback: Electrophysiology, page 1004

160. A “run” of ventricular tachycardia occurs if at least \_\_\_\_ PVCs occur in a row.

A) two

B) three

C) four

D) five

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1004

Feedback: Electrophysiology, page 1004

161. Ventricular bigeminy occurs when:

A) two premature ventricular complexes (PVCs) occur in a row.

B) every second complex is a PVC.

C) at least two differently shaped PVCs occur.

D) a 6-second strip contains at least two PVCs.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1005

Feedback: Electrophysiology, page 1005

162. What is the R-on-T phenomenon?

A) A PVC that occurs when the ventricles are not fully repolarized

B) When the R wave occurs at the J point of the next cardiac cycle

C) A unifocal PVC that occurs during the upslope of any given T wave

D) A PVC that occurs during a time when the ventricles are depolarizing

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1005

Feedback: Electrophysiology, page 1005

163. Ventricular fibrillation occurs when:

A) the ventricles quiver rather than contract normally, while organized atrial contractions continue as normal.

B) the ventricles become the primary pacemaker for the heart, resulting in a rapid and irregular ventricular rhythm.

C) many different cells in the heart depolarize independently rather than in response to an impulse from the SA node.

D) cardiac cells in the ventricles fail to completely repolarize, resulting in a decrease in ventricular automaticity.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1007

Feedback: Electrophysiology, page 1007

164. Fine ventricular fibrillation is characterized by fibrillatory waves that are:

A) less than 3 mm in amplitude.

B) consistently of the same amplitude.

C) all deflected below the isoelectric line.

D) consistently of the same appearance.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1007

Feedback: Electrophysiology, page 1007

165. Which of the following statements regarding asystole is correct?

A) A disconnected ECG lead often mimics asystole.

B) Defibrillation is indicated in some cases of asystole.

C) Most cases of asystole present with P waves only.

D) Asystole is the result of prolonged myocardial hypoxia.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1014

Feedback: Electrophysiology, page 1014

166. Unlike an idioventricular rhythm, an agonal rhythm:

A) is associated with a faster rate.

B) does not produce a palpable pulse.

C) is associated with a lower mortality rate.

D) indicates a regular ventricular pacemaker.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1005–1006

Feedback: Electrophysiology, pages 1005–1006

167. The firing of an artificial ventricular pacemaker causes:

A) a change in the shape of the preceding P waves.

B) a vertical spike followed by a wide QRS complex.

C) a small spike followed by a narrow QRS complex.

D) a wide QRS complex followed by a vertical spike.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1022

Feedback: Electrophysiology, page 1022

168. A demand pacemaker:

A) generates pacing impulses only when it senses that the heart's natural pacemaker has fallen below a preset rate.

B) sends out single electrical impulses when the patient's inherent pacemaker rate exceeds 150 beats/min.

C) is easily identified on a cardiac rhythm strip by noting the presence of pacer spikes before all of the QRS complexes.

D) attaches to the atria and the ventricles and only generates an impulse if it senses that the patient is in ventricular fibrillation.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1022

Feedback: Electrophysiology, page 1022

169. A “runaway” pacemaker is characterized by:

A) an absence of pacemaker spikes.

B) profound slowing of the heart rate.

C) a tachycardic pacemaker rhythm.

D) a narrowing of the QRS complexes.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1023

Feedback: Electrophysiology, page 1023

170. Patients with Wolff-Parkinson-White syndrome:

A) have a diseased SA node, resulting in ectopic atrial pacemakers and abnormal AV nodal conduction.

B) are highly susceptible to a variety of bradycardic rhythms due to an abnormal delay at the AV node.

C) have an accessory pathway that bypasses the AV node and causes early ventricular depolarization.

D) experience independent atrial depolarization due to failure of the Bachmann bundle between the atria.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 997

Feedback: Electrophysiology, page 997

171. A delta wave is identified on a cardiac rhythm strip as a(n):

A) apparent P wave that occurs at the end of the QRS complex.

B) acute widening of the QRS complex immediately after the R wave.

C) slurring of the upstroke of the first part of the QRS complex.

D) delay between the end of the P wave and the beginning of the R wave.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 997

Feedback: Electrophysiology, page 997

172. Aberrant conduction is \_\_\_\_\_\_\_\_\_\_\_\_\_ conduction.

A) rapid

B) abnormal

C) very slow

D) irregular

Ans: B

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1027

Feedback: 12-Lead ECGs, page 1027

173. The presence of a J wave (Osborn wave) on the ECG is an indicator of:

A) a delta wave.

B) hyponatremia.

C) hypercalcemia.

D) hypothermia.

Ans: D

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1035

Feedback: 12-Lead ECGs, page 1035

174. Which of the following ECG abnormalities is MOST consistent with hyperkalemia?

A) Tall, peaked T waves

B) Prominent U waves

C) Prolonged QT interval

D) The presence of a J wave

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1036

Feedback: 12-Lead ECGs, page 1036

175. Lead I views the \_\_\_\_\_\_\_\_ wall of the heart, while lead aVF views the \_\_\_\_\_\_\_\_\_ wall of the heart.

A) lateral, inferior

B) septal, anterior

C) posterior, septal

D) anterior, inferior

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

176. The precordial leads do NOT view the \_\_\_\_\_\_\_\_\_\_ wall of the heart.

A) septal

B) inferior

C) anterior

D) lateral

Ans: B

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

177. When viewing leads V3 and V4, you are looking at the \_\_\_\_\_\_\_\_\_ wall of the \_\_\_\_\_\_\_\_\_.

A) septal, heart.

B) lateral, left ventricle.

C) anterior, left ventricle.

D) inferior, right ventricle.

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

178. Which of the following leads provides the BEST view of the anterolateral wall of the left ventricle?

A) V2 to V3

B) V4 to V6

C) V4 to V5

D) V5 to V6

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

179. Leads V1 to V3 allow you to view the \_\_\_\_\_\_\_\_ wall of the left ventricle.

A) septal

B) lateral

C) anterior

D) anteroseptal

Ans: D

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

180. The inferior wall of the left ventricle is supplied by the:

A) right coronary artery.

B) left coronary artery.

C) circumflex artery.

D) left anterior descending artery.

Ans: A

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

181. The circumflex branch of the left coronary artery supplies the \_\_\_\_\_\_\_\_\_ wall of the left ventricle.

A) septal

B) lateral

C) anterior

D) inferior

Ans: B

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

182. Anatomically contiguous leads view:

A) opposite walls of the heart.

B) only the lateral wall of the heart.

C) the same general area of the heart.

D) only the anterior wall of the heart.

Ans: C

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 979

Feedback: Electrophysiology, page 979

183. ST elevation myocardial infarction (STEMI) should be suspected if:

A) ST elevation greater than 1.5 mm in females is observed in leads V2 and V3.

B) ST elevation greater than 1 mm in males is observed in leads V2 and V3.

C) ST elevation greater than 1 mm in at least one contiguous lead is observed.

D) ST elevation greater than 0.5 mm is observed in two or more contiguous leads.

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1031

Feedback: 12-Lead ECGs, page 1031

184. Which of the following statements is correct?

A) Lead I is contiguous with lead II.

B) Lead II is contiguous with leads V6 and aVL.

C) Lead V6 is contiguous with leads V4 and V5.

D) Lead III is contiguous with leads II and aVF.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 979

Feedback: Electrophysiology, page 979

185. Injury to the inferior wall of the myocardium would present with:

A) T-wave inversion in leads V1 through V4.

B) ST-segment elevation in leads II, III, and aVF.

C) pathologic Q waves in leads V4 and V5.

D) ST-segment depression in leads V5, V6, and aVL.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Pages: 1031–1032

Feedback: 12-Lead ECGs, pages 1031–1032

186. A pathologic Q wave:

A) generally indicates that an acute myocardial infarction has occurred within the past hour.

B) is deeper than one-quarter of the height of the R wave and indicates injury.

C) is wider than 0.04 seconds and indicates that a myocardial infarction occurred in the past.

D) can only be substantiated by viewing at least two previous 12-lead ECGs.

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1031

Feedback: 12-Lead ECGs, page 1031

187. A right ventricular infarction is characterized by:

A) ST-segment elevation greater than 1 mm in lead V5R and ST-segment depression in leads II, III, and aVF.

B) ST-segment elevation greater than 1 mm in lead V4R and ST-segment elevation in leads II, III, and aVF.

C) ST-segment depression greater than 2 mm in lead V4R and ST-segment elevation in leads II, III, and aVF.

D) ST-segment elevation greater than 2 mm in lead V5R and ST-segment elevation in leads II, III, and aVF.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

188. Patients who are experiencing an infarction of the right ventricle:

A) should not be given IV fluid boluses.

B) often require high doses of nitroglycerin.

C) are usually hypertensive and tachycardic.

D) may present with significant hypotension.

Ans: D

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1047–1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1047–1048

189. On the 12-lead ECG, extreme right axis deviation is characterized by:

A) a positive QRS in lead I and a negative QRS in lead aVF.

B) a negative QRS in lead I and a negative QRS in lead aVF.

C) a negative QRS in lead I and a positive QRS in lead aVF.

D) a positive QRS in lead I and a positive QRS in lead aVF.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1027

Feedback: 12-Lead ECGs, page 1027

190. When applying the precordial leads, lead V1 should be placed in the:

A) fourth intercostal space at the right sternal border.

B) fourth intercostal space at the left sternal border.

C) fifth intercostal space at the left midclavicular line.

D) fourth intercostal space at the left midclavicular border.

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1024

Feedback: 12-Lead ECGs, page 1024

191. Fibrinolysis may be contraindicated in all of the following, EXCEPT:

A) major trauma or surgery within the past 4 weeks.

B) a history of structural central nervous system disease.

C) a history of anaphylactic shock caused by salicylates.

D) significant closed head trauma within the past 3 weeks.

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1047

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1047

192. A patient is considered a potential candidate for fibrinolytic therapy if he or she has experienced chest discomfort for:

A) less than 12 hours.

B) more than 5 minutes.

C) less than 15 minutes

D) more than 24 hours.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1047

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1047

193. When performing CPR on an adult patient in cardiac arrest, it is important to:

A) deliver at least 80 to 90 compressions per minute.

B) limit interruptions in chest compressions to 20 seconds.

C) deliver forceful ventilations between compressions.

D) allow the chest to fully recoil between compressions.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1015

Feedback: Electrophysiology, page 1015

194. The proper compression-to-ventilation ratio for two-rescuer adult CPR when an oropharyngeal airway is in place is:

A) 5:1.

B) 15:2.

C) 30:2.

D) asynchronous.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

195. Once an advanced airway device has been inserted into a cardiac arrest patient:

A) you should deliver one breath every 5 to 6 seconds.

B) ventilations are delivered at a rate of 10 breaths/min.

C) the compressor should pause so ventilations can be given.

D) chest compressions should be increased to 120 per minute.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

196. The MOST important initial pieces of equipment to bring to the side of an unresponsive patient are the:

A) drug kit and stretcher with a long backboard.

B) defibrillator and airway management equipment.

C) intubation kit and equipment for vascular access.

D) pocket face mask and equipment for intubation.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1015

Feedback: Electrophysiology, page 1015

197. After delivering a shock to a patient in pulseless ventricular tachycardia, you should:

A) resume CPR.

B) check for a pulse.

C) reassess the cardiac rhythm.

D) deliver two effective ventilations.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1015–1016

Feedback: Electrophysiology, pages 1015–1016

198. When managing cardiac arrest, the appropriate dosing regimen for epinephrine is:

A) 1 mL of a 1:10,000 solution every 3 to 5 minutes.

B) 0.1 mg/kg of a 1:10,000 solution every 3 minutes.

C) 10 mL of a 1:1,000 solution every 3 to 5 minutes.

D) 1 mg of a 1:10,000 solution every 3 to 5 minutes.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

199. What drug is indicated for patients with refractory ventricular fibrillation?

A) Calcium

B) Amiodarone

C) Procainamide

D) Sodium bicarbonate

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

200. Which of the following pulseless rhythms is NOT treated as pulseless electrical activity?

A) Sinus bradycardia

B) Idioventricular rhythm

C) Ventricular tachycardia

D) Junctional escape rhythm

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1014

Feedback: Electrophysiology, page 1014

201. Regardless of the patient's presenting cardiac arrest rhythm, the first IV or IO drug that should be given is:

A) a vasopressor.

B) calcium chloride.

C) an inotrope.

D) an antidysrhythmic.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

202. Which of the following actions should NOT occur while CPR is in progress?

A) Advanced airway placement

B) Cardiac rhythm assessment

C) Assessment for a palpable pulse

D) Establishment of vascular access

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1015–1016

Feedback: Electrophysiology, pages 1015–1016

203. Common causes of cardiac arrest include all of the following, EXCEPT:

A) hypovolemia.

B) hyperglycemia.

C) cardiac tamponade.

D) pulmonary embolism.

Ans: B

Complexity: Easy

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1014

Feedback: Electrophysiology, page 1014

204. Treatment for a patient with bradycardia and significantly compromised cardiac output includes:

A) 1 mg of epinephrine 1:10,000.

B) 1 mg of atropine via IV push.

C) transcutaneous cardiac pacing.

D) a dopamine infusion at 20 mg/min.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 989

Feedback: Electrophysiology, page 989

205. Electrical capture during transcutaneous cardiac pacing is characterized by:

A) the presence of a strong pulse, despite a slow rate.

B) a pacemaker spike followed by a wide QRS complex.

C) narrow QRS complexes that are preceded by a pacemaker spike.

D) low-amplitude QRS complexes preceded by a pacemaker spike.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 990

Feedback: Electrophysiology, page 990

206. The recommended first-line treatment for third-degree heart block associated with bradycardia and hemodynamic compromise is:

A) atropine sulfate.

B) a dopamine infusion.

C) an epinephrine infusion.

D) transcutaneous pacing.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 989

Feedback: Electrophysiology, page 989

207. When assessing an anxious patient who presents with tachycardia, you must:

A) obtain a 12-lead ECG tracing before initiating any treatment.

B) determine if the tachycardia is causing hemodynamic instability.

C) prepare for cardioversion if the rate is less than 150 beats/min.

D) administer diazepam or midazolam to facilitate your assessment.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 991–992

Feedback: Electrophysiology, pages 991–992

208. A 56-year-old man presents with an acute onset chest pressure, shortness of breath, and diaphoresis. He has a history of hypertension and type 2 diabetes. His airway is patent and his breathing is adequate. You should:

A) establish vascular access.

B) obtain baseline vital signs.

C) administer supplemental oxygen.

D) acquire a 12-lead ECG tracing.

Ans: C

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1044–1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1044–1045

209. You have just administered 0.4 mg of sublingual nitroglycerin to a 60-year-old woman with severe chest pain. The patient is receiving supplemental oxygen and has an IV line of normal saline in place. After 5 minutes, the patient states that the pain has not subsided. You should:

A) repeat the nitroglycerin.

B) reassess her blood pressure.

C) give her a 250-mL saline bolus.

D) administer 2 to 4 mg of morphine.

Ans: B

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1045, 1047–1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1045, 1047–1048

210. You are assessing a conscious and alert middle-aged male who complains of chest discomfort and nausea. His blood pressure is 112/70 mm Hg, pulse is 90 beats/min and regular, and respirations are 20 breaths/min and regular. The patient's past medical history is significant for hypothyroidism and hyperlipidemia. His medications include Synthroid, Lipitor, Cialis, and one baby aspirin per day. Which of the following medications would you LEAST likely administer?

A) Aspirin

B) Fentanyl

C) Morphine

D) Nitroglycerin

Ans: D

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1047–1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1047–1048

211. Shortly after administering a second dose of 4 mg of morphine to a 49-year-old woman who is experiencing chest pain, the patient's level of consciousness markedly decreases. Further assessment reveals that she is hypotensive, bradycardic, and hypoventilating. You should:

A) administer 0.5 mg of atropine and reassess her.

B) assist her ventilations and administer naloxone.

C) elevate her legs and give a 500-mL saline bolus.

D) immediately intubate her to protect her airway.

Ans: B

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1047–1048

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1047–1048

212. You are dispatched to a residence at 2:00 AM for an elderly man with shortness of breath. The patient tells you that he was suddenly awakened with the feeling that he was smothering. You note dried blood on his lips. The patient tells you that he has some type of “breathing problem,” for which he uses a prescribed inhaler and takes a “heart pill.” You should suspect:

A) right ventricular failure.

B) reactive airway disease.

C) acute COPD exacerbation.

D) left ventricular failure.

Ans: D

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1050–1053

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1050–1053

213. A 67-year-old woman presents with severe dyspnea, coarse crackles to all lung fields, and anxiety. She has a history of several myocardial infarctions and hypertension. Which of the following interventions will have the MOST immediate and positive effect?

A) Positive end-expiratory pressure ventilation

B) IV or IO access and 20 to 40 mg of furosemide

C) 0.4 mg sublingual nitroglycerin, up to three doses

D) Supplemental oxygen via nonrebreathing mask

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1054

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1054

214. A 70-year-old man called 9-1-1 because of generalized weakness. When you arrive at the scene, you find the patient seated in his recliner. He is conscious and alert and is breathing without difficulty. Your physical exam reveals tenderness to his right upper abdominal quadrant, edema to his ankles, and distended jugular veins. The patient tells you that he takes Vasotec for hypertension and Maxide for his swollen ankles. His vital signs are stable. The MOST appropriate treatment for this patient includes:

A) an IV of D5W, 0.4 mg of sublingual nitroglycerin, ECG, and transport.

B) high-flow oxygen, vascular access, 1 mg/kg of furosemide, and transport.

C) oxygen, cardiac monitoring, an IV line at a keep-open rate, and transport.

D) 12-lead ECG acquisition, vascular access, 4 mg of morphine, and transport.

Ans: C

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1051, 1054

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1051, 1054

215. A woman found her 48-year-old husband semiconscious on the couch. As she is escorting you to the patient, she tells you that he had an episode of chest pain the day before but refused to go to the hospital. The patient is responsive to pain only and is markedly diaphoretic. His blood pressure is 70/50 mm Hg, pulse is 140 beats/min and thready, and respirations are 28 breaths/min and shallow. The cardiac monitor reveals sinus tachycardia in lead II, and a 12-lead ECG reveals evidence of myocardial injury. You should:

A) start an IV line, administer 5 mg of midazolam, intubate the patient's trachea, ventilate him at a rate of 15 breaths/min, begin transport, and start a dopamine infusion at 5 µg/kg/min en route to the hospital.

B) keep the patient in a supine position, insert a nasal airway, assist his ventilations with a bag-mask device, begin transport, establish vascular access en route, consider a 100- to 200-mL saline bolus, and start an infusion of dopamine.

C) place the patient in a semi-Fowler position to facilitate breathing, administer oxygen via nonrebreathing mask, begin transport, establish vascular access en route, and administer 20 mL/kg fluid boluses to improve his blood pressure.

D) elevate the patient's legs, ventilate him with a bag-mask device, begin transport, establish vascular access en route, administer 6 mg of adenosine to slow his heart rate, and begin an infusion of epinephrine to increase his blood pressure.

Ans: B

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1056–1057

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1056–1057

216. A 55-year-old man complains of severe pain between his shoulder blades, which he describes as “ripping” in nature. He tells you that the pain began suddenly and has been intense and unrelenting since its onset. His medical history includes hypertension, and he admits to being noncompliant with his antihypertensive medication. Which of the following assessment findings would MOST likely reinforce your suspicion regarding the cause of his pain?

A) Disappearance of radial pulses during inspiration

B) Difference in blood pressure between the two arms

C) ST-segment depression on the 12-lead ECG tracing

D) Bruits to both carotid arteries during auscultation

Ans: B

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1062–1064

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1062–1064

217. You are dispatched to a grocery store for a 39-year-old woman with a severe headache. The patient advises you that her headache, which was present when she woke up this morning, is located in the back of her head. She is conscious and alert, with a blood pressure of 194/112 mm Hg, pulse of 100 beats/min and strong, and respirations of 14 breaths/min and regular. She denies a history of hypertension or any other significant medical problems. The closest appropriate facility is located 15 miles away. You should:

A) administer supplemental oxygen, start an IV line of normal saline at a keep-open rate, and transport.

B) start an IV line of normal saline, give her 0.4 mg of sublingual nitroglycerin, and transport at once.

C) give high-flow oxygen, establish vascular access, begin transport, and administer labetalol en route.

D) administer oxygen as tolerated, give up to 5 mg of morphine IM, and transport promptly.

Ans: A

Complexity: Difficult

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Pages: 1057–1060

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, pages 1057–1060

218. You and your partner arrive at the scene of an unresponsive male patient. Your assessment reveals that he is pulseless and apneic. The patient's wife tells you that he collapsed about 10 minutes ago. You should:

A) ask the patient's wife if her husband has a living will.

B) apply the defibrillator pads and assess his cardiac rhythm.

C) initiate CPR as your partner applies the defibrillator pads.

D) begin CPR with a compression to ventilation ratio of 15:2.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

219. You have applied the defibrillator pads to a pulseless and apneic 60-year-old woman and observe a slow, wide QRS complex rhythm. Your next action should be to:

A) attempt cardiac pacing.

B) check the carotid pulse.

C) assess breathing effort.

D) resume CPR at once.

Ans: D

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

220. Following 2 minutes of CPR, you reassess an unresponsive man's pulse and cardiac rhythm. He remains pulseless and the monitor displays coarse ventricular fibrillation. You should:

A) continue CPR and intubate his trachea.

B) resume CPR as the defibrillator is charging.

C) perform 2 minutes of CPR and then reassess.

D) continue CPR and establish IV or IO access.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

221. An unresponsive, pulseless, apneic patient presents with ventricular tachycardia on the cardiac monitor. After defibrillating the patient, you should:

A) take no more than 10 seconds to assess for a pulse.

B) resume CPR and reassess the patient after 2 minutes.

C) reassess the cardiac rhythm to see if it has changed.

D) deliver another shock if his cardiac rhythm is unchanged.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

222. You and an EMT are performing CPR on an elderly woman in cardiac arrest as your paramedic partner prepares to intubate her. After the patient has been intubated and proper ET tube placement has been confirmed, you should:

A) perform asynchronous CPR while ventilating the patient at a rate of 10 breaths/min.

B) instruct the EMT-B to pause after 30 compressions so your partner can deliver two ventilations.

C) administer 2.5 mg of epinephrine via the ET tube and hyperventilate the patient to ensure drug dispersal.

D) direct your partner to deliver one breath every 3 to 5 seconds as the EMT-B continues chest compressions.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

223. A 39-year-old man in asystole has been unresponsive to high-quality CPR and two doses of epinephrine. The patient is intubated and an IO catheter is in place. You should focus on:

A) establishing a peripheral IV line.

B) providing mild hyperventilation.

C) searching for reversible causes.

D) transcutaneous cardiac pacing.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1017

Feedback: Electrophysiology, pages 1014–1017

224. You are performing CPR on an 80-year-old woman whose cardiac arrest was witnessed by her husband. Several intubation attempts have been unsuccessful, but ventilations with a bag-mask device are producing adequate chest rise. IV access has been obtained and 1 mg of epinephrine has been administered. The cardiac monitor displays a narrow QRS complex rhythm at a rate of 70 beats/min. According to the patient's husband, she has had numerous episodes of diarrhea over the past 24 hours and has not had much of an appetite. The MOST appropriate next action should be to:

A) administer 1 mg of atropine while CPR is ongoing.

B) assess the rhythm and pulse after 3 minutes of CPR.

C) administer 50% dextrose for presumed hypoglycemia.

D) continue CPR and administer crystalloid fluid boluses.

Ans: D

Complexity: Difficult

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1017

Feedback: Electrophysiology, page 1017

225. A middle-aged man in ventricular fibrillation has been refractory to several biphasic defibrillations, well-coordinated CPR, adequately performed ventilations, and two doses of epinephrine. What should you do next?

A) Rapidly infuse 2 liters of normal saline solution.

B) Administer 300 mg of amiodarone via rapid IV push.

C) Give 40 units of vasopressin followed by defibrillation.

D) Give amiodarone followed by 1.5 mg/kg of lidocaine.

Ans: B

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Page: 1016

Feedback: Electrophysiology, page 1016

226. You respond to the scene of an assault, where a 20-year-old man was struck in the chest with a steel pipe. Your assessment reveals that the patient is unresponsive, apneic, and pulseless. The MOST appropriate next intervention is to:

A) perform 5 cycles of well-coordinated CPR.

B) look for evidence of a pericardial tamponade.

C) immediately assess the patient's cardiac rhythm.

D) give 2 minutes of 15 compressions and 2 breaths.

Ans: A

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1014–1016

Feedback: Electrophysiology, pages 1014–1016

227. A 70-year-old woman remains in asystole following 10 minutes of well-coordinated CPR, successful intubation, IV therapy, and three doses of epinephrine. There are no obvious underlying causes that would explain her cardiac arrest. At this point, it would be appropriate to:

A) attempt transcutaneous cardiac pacing.

B) defibrillate one time in case she is in V-Fib.

C) seriously consider ceasing resuscitative efforts.

D) transport at once with CPR continuing en route.

Ans: C

Complexity: Moderate

Ahead: Electrophysiology

Subject: Cardiovascular Emergencies

Pages: 1018–1019

Feedback: Electrophysiology, pages 1018–1019

228. A positive QRS deflection in lead I means the vector is heading toward the:

A) left leg.

B) left arm.

C) right leg.

D) right arm.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1026

Feedback: 12-Lead ECGs, page 1026

229. The QRS in lead I is a negative deflection and the QRS in lead aVF is a positive deflection. This indicates:

A) a normal axis.

B) left axis deviation.

C) right axis deviation.

D) extreme right axis deviation.

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1027

Feedback: 12-Lead ECGs, page 1027

230. The QRS in lead I is a positive deflection and the QRS in lead aVF is a negative deflection. This indicates:

A) a normal axis.

B) left axis deviation.

C) right axis deviation.

D) extreme right axis deviation.

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1027

Feedback: 12-Lead ECGs, page 1027

231. Left bundle branch block is characterized by:

A) a QRS of less than 120 milliseconds and a terminal R wave in lead V1.

B) a QRS of greater than 120 milliseconds and a terminal R wave in lead V1.

C) a QRS of greater than 120 milliseconds and a terminal S wave in lead V1.

D) a QRS of less than 120 milliseconds and a terminal S wave in lead V1.

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Pages: 1027–1028

Feedback: 12-Lead ECGs, pages 1027–1028

232. Your partner is evaluating a patient’s 12-lead ECG and states that she sees a right bundle branch block. What did your partner observe?

A) A QS pattern in lead V1

B) QRS complexes of 112 milliseconds

C) A QRS pattern in lead V1

D) QRS complexes of 128 milliseconds

Ans: D

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Pages: 1027–1028

Feedback: 12-Lead ECGs, pages 1027–1028

233. A concordant precordial pattern exists when all QRS complexes:

A) are less than 120 milliseconds.

B) are greater than 120 milliseconds.

C) are upright in leads V1 through V6.

D) in V1 through V6 end with a R wave.

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Pages: 1028–1029

Feedback: 12-Lead ECGs, pages 1028–1029

234. A patient’s 12-lead ECG shows qR complexes in leads I and aVL and rS complexes in leads II, III, and aVF. This indicates:

A) left bundle branch block.

B) right bundle branch block.

C) left posterior fascicular block.

D) left anterior fascicular block.

Ans: D

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1027

Feedback: 12-Lead ECGs, page 1027

235. On the 12-lead ECG, right atrial abnormality is characterized by:

A) a P wave amplitude greater than 1.5 mm in lead V1.

B) a P wave duration greater than 110 milliseconds in lead II.

C) negatively deflected P waves in leads II and V1.

D) a PR interval that is greater than 200 milliseconds.

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1029

Feedback: 12-Lead ECGs, page 1029

236. Left ventricular hypertrophy should be considered in a 50-year-old patient if the sum of the depth of the S wave in lead V1 and the height of the R wave in either lead V5 or V6 exceeds:

A) 22 mm.

B) 28 mm.

C) 32 mm.

D) 35 mm.

Ans: D

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1029

Feedback: 12-Lead ECGs, page 1029

237. You are evaluating a 60-year-old woman’s 12-lead ECG and note that the R wave height in lead V1 exceeds the S wave depth. What condition would MOST likely cause this?

A) Left ventricular failure

B) Pulmonary hypertension

C) A tricuspid valve murmur

D) Severe systemic hypertension

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1029

Feedback: 12-Lead ECGs, page 1029

238. A STEMI should be suspected in a 45-year-old female if the ST segments in leads V2 and V3 are elevated by \_\_\_\_ or more.

A) 0.5

B) 1.0

C) 1.5

D) 0.25

Ans: C

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1031

Feedback: 12-Lead ECGs, page 1031

239. A 60-year-old man with crushing chest pain has 3 mm of ST elevation in leads V1 through V4. What should you suspect?

A) Right ventricular infarction

B) Right coronary artery occlusion

C) Left circumflex occlusion

D) Left anterior descending artery occlusion

Ans: D

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

240. A 33-year-old male presents with chest pain that is alleviated when he sits forward. The 12-lead ECG shows ST elevation of 2 to 3 mm in multiple leads. What should you suspect?

A) Pericarditis

B) Unstable angina

C) Aortic aneurysm

D) Acute myocardial infarction

Ans: A

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1033

Feedback: 12-Lead ECGs, page 1033

241. Takotsubo cardiomyopathy is MOST often associated with:

A) emotional stress.

B) a low blood pressure.

C) multiple coronary occlusions.

D) unexplained cardiac arrest.

Ans: A

Complexity: Easy

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1037

Feedback: 12-Lead ECGs, page 1037

242. What 12-lead ECG finding should make you suspect a posterior STEMI?

A) ST elevation in leads V3 and V4

B) ST depression in leads V1 and V2

C) ST elevation in leads III and aVF

D) ST depression in leads I and aVL

Ans: B

Complexity: Moderate

Ahead: 12-Lead ECGs

Subject: Cardiovascular Emergencies

Page: 1032

Feedback: 12-Lead ECGs, page 1032

243. The door-to-balloon time for a patient with an ST elevation myocardial infarction is \_\_\_ minutes or less.

A) 30

B) 60

C) 90

D) 120

Ans: C

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1044

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1044

244. A 59-year-old female presents with severe substernal chest pain. She is anxious and diaphoretic. What should you do?

A) Administer aspirin.

B) Establish IV access.

C) Administer nitroglycerin.

D) Obtain a 12-lead ECG.

Ans: A

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1045

245. In which of the following situations is oxygen indicated for a patient who complains of chest pain, pressure, or discomfort?

A) The patient has a history of AMI.

B) Signs of heart failure are present.

C) The 12-lead ECG indicates STEMI.

D) Oxygen saturation is less than 99%.

Ans: B

Complexity: Moderate

Ahead: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions

Subject: Cardiovascular Emergencies

Page: 1045

Feedback: Pathophysiology, Assessment, and Management of Specific Cardiovascular Conditions, page 1045

246. Nitroglycerin is contraindicated for patients:

A) with a systolic BP less than 110 mm Hg.

B) who are also taking beta-blocker medication.

C) with suspected right ventricular infarction.

D) with suspected left circumflex artery occlusion.

Ans: C

Complexity: Moderate

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247. A right-sided ECG is indicated for patients who present with:

A) a systolic BP greater than 150 mm Hg.

B) ECG evidence of an inferior infarction.

C) chest pain that occurs only during exertion.

D) chest pain that is unresolved with nitroglycerin.

Ans: B

Complexity: Moderate

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248. Cor pulmonale is a term used to describe:

A) left ventricular failure caused by systemic hypertension.

B) right ventricular failure caused by pulmonary disease.

C) any condition that causes abnormal atrial depolarization.

D) increased right atrial pressure caused by valvular dysfunction.

Ans: B

Complexity: Moderate

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249. Which of the following clinical signs would you MOST likely observe in a patient with right ventricular failure?

A) Splenomegaly

B) Hemoptysis

C) Third heart sound

D) Accessory muscle use

Ans: A

Complexity: Easy

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250. A 69-year-old female presents with a sudden onset of shortness of breath that woke her from her sleep. She is conscious, but anxious, and is coughing up pink sputum. She can only speak in two-word sentences and has cyanosis to her face. Her BP is 170/90 mm Hg, pulse rate is 130 beats/min, and respirations are 28 breaths/min. What should you do?

A) Provide noninvasive positive-pressure ventilation.

B) Administer a sedative and paralytic and intubate.

C) Establish vascular access and transport immediately.

D) Administer nitroglycerin and obtain a 12-lead ECG.

Ans: A

Complexity: Moderate

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251. A 48-year-old man with a history of hypertension presents with a severe headache, tinnitus, and blurred vision. He is conscious and alert and denies any other symptoms. His BP is 204/120 mm Hg, his pulse rate is 100 beats/min, and his oxygen saturation is 96%. The closest appropriate facility is 20 minutes away. You should:

A) monitor his cardiac rhythm and transport.

B) start an IV line and administer labetalol.

C) administer high-flow oxygen and transport.

D) keep him in a supine position and transport.

Ans: A

Complexity: Difficult

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252. A 60-year-old woman presents with fever, chills, and shortness of breath. She has a history of mitral valve prolapse. Assessment reveals flat, painless red lesions on the palms of her hands. What should you suspect?

A) Pericarditis

B) Myocarditis

C) Endocarditis

D) Cardiac tamponade

Ans: C

Complexity: Moderate

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253. The pain associated with pericarditis:

A) improves when the patient leans forward.

B) improves when the patient takes a deep breath.

C) is most often described as a crushing feeling.

D) cannot be differentiated from acute myocardial infarction.

Ans: A

Complexity: Moderate

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254. Cardiac symptoms of myocarditis usually appear \_\_\_\_\_\_ days after the onset of initial symptoms.

A) 1 to 2

B) 4 to 6

C) 10 to 14

D) 16 to 28

Ans: C

Complexity: Moderate

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255. A 70-year-old male presents with pain in his legs while walking. Within a few minutes of sitting down, however, his symptoms resolve. What should you suspect?

A) Abdominal aortic aneurysm

B) Peripheral arterial disease

C) Right ventricular failure

D) Deep vein thrombosis

Ans: B

Complexity: Moderate

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