

Multiple Choice

b

- C

- d

- a

- C

- d

- b

- 1

- a 8. In the conduction system of the heart, which of the following is responsible for collecting the electrical energy that stimulated the atria to contract?
- Purkinje fibers
 - Bundle of His
 - Atrioventricular node
 - Sinoatrial node
- d 9. The signal from the AV node is picked up by which of the following?
- Atrioventricular node
 - Aorta
 - Purkinje fibers
 - Bundle of His
- b 10. The part of the conduction system of the heart that wraps around the outer walls of the ventricles is/are the
- bundle branches.
 - Purkinje fibers.
 - bundle of His.
 - aorta.
- b 11. The blood vessel branching from the heart that carries deoxygenated blood to the lungs is called the
- vena cava.
 - pulmonary artery.
 - carotid artery.
 - renal artery.
- a 12. The blood vessel that carries deoxygenated blood to the heart is called the
- vena cava.
 - pulmonary artery.
 - carotid artery.
 - renal artery.
- a 13. Which drug is used to treat congestive heart failure?
- Digoxin (Lanoxin)
 - Fluoxetine (Prozac)
 - Gemfibrozil (Lopid)
 - Triazolam (Halcion)
 - Warfarin (Coumadin)
- e 14. Which of the following is an anticoagulant?
- Digoxin (Lanoxin)
 - Fluoxetine (Prozac)
 - Gemfibrozil (Lopid)
 - Triazolam (Halcion)
 - Warfarin (Coumadin)

- b 15. What is another name for a heart attack?
- a. CVA
 - b. MI
 - c. MS
 - d. CHF
- c 16. Thrombi form in the coronary arteries because of
- a. a complication of cardiovascular medication.
 - b. an inherited factor.
 - c. inflammation at the site of an atherosclerotic plaque.
 - d. a DVT.
- c 17. A patient with chronic kidney disease has hypertension. What BP reading should this patient have to be within a healthy range?
- a. Below 118/78 mm Hg
 - b. 122/86 mm Hg
 - c. Below 130/80 mm Hg
 - d. 142/86 mm Hg
- d 18. Patients diagnosed with stage 1 hypertension are first prescribed a(n)
- a. ACE inhibitor.
 - b. beta blocker.
 - c. low-dose aspirin each day.
 - d. diuretic.
- c 19. An example of a calcium channel blocker is
- a. Cozaar.
 - b. Lotensin.
 - c. Cardizem.
 - d. Tenormin.
- e 20. Women have different symptoms of heart disease because
- a. they ignore initial indicators of heart disease.
 - b. women tend to develop an evenly spread layer of plaque.
 - c. they experience localized plaque buildup.
 - d. atheroma builds up in smaller vessels.
 - e. B and D
- a 21. Which statement is true about CK levels in a patient with an MI?
- a. The more severe the cardiac damage, the longer it takes for CK levels to peak.
 - b. Levels begin to increase almost immediately after myocardial damage.
 - c. CK levels return to normal within 18 hours.
 - d. CK levels are not predictive of the extent of cardiac damage.

- d 22. +Lifestyle changes recommended for patients who have had an MI include
- a. controlling hypertension.
 - b. eating a low-fat, restricted-sodium diet.
 - c. exercising five days a week.
 - d. All of the above
- e 23. What should the medical assistant do if she notes that a patient has an elevated BP?
- a. Record the first reading for the physician to review.
 - b. Check the cuff size to make sure it matches the patient's arm.
 - c. Check the BP reading in both arms.
 - d. Wait 20 minutes and then recheck the reading.
 - e. Both B and C should be done.
- b 24. A DVT typically is diagnosed by
- a. x-ray films that pick up calcification.
 - b. Doppler studies that measure the rate of blood flow through a vessel.
 - c. PT blood tests.
 - d. troponin levels.
- b 25. Which statement is true about a Doppler study?
- a. It requires IV injection of a dye.
 - b. It picks up the speed of RBCs as they travel through the vessel.
 - c. It must be performed in a hospital.
 - d. All of the above are true.
- a 26. You are providing patient education on a transesophageal echocardiogram. What should you include?
- a. The patient will be asleep during the procedure.
 - b. The procedure does not provide as clear a picture as a regular echocardiogram.
 - c. The patient will be hospitalized for the procedure.
 - d. The patient must swallow the sonogram device.
- a 27. What structure forms the first layer of the heart?
- a. Parietal pericardium
 - b. Epicardium
 - c. Myocardium
 - d. Endocardium
- a 28. What is the only artery in the body that contains deoxygenated blood?
- a. Pulmonary artery
 - b. Aorta
 - c. Right coronary artery
 - d. Left coronary artery

- e 29. Which of the following is part of the normal cardiac cycle?
- a. Atrial contraction
 - b. Ventricular contraction
 - c. Recovery
 - d. Heart rest
 - e. All of the above
- b 30. For individuals not at risk, which of the following LDL levels is recommended?
- a. Less than 180 mg/dL
 - b. 100 to 129 mg/dL
 - c. Below 70 mg/dL
 - d. 190 mg/dL or higher
- c 31. Following an MI, when do CK levels reach peak values?
- a. At the time chest pain begins
 - b. Within 3 to 12 hours of the onset of chest pain
 - c. Within 24 hours
 - d. 48 to 72 hours after the onset of chest pain
- b 32. In patients with diabetes or chronic kidney disease, the goal blood pressure reading is
- a. no more than 140/90 mm Hg.
 - b. no more than 130/80 mm Hg.
 - c. no more than 120/75 mm Hg.
 - d. no more than 110/65 mm Hg.
- c 33. What best describes the condition when the blood pressure adjusts sluggishly or not at all to rapid changes in position?
- a. Chronic obstructive pulmonary disease
 - b. Congestive heart failure
 - c. Orthostatic hypotension
 - d. Orthostatic hypertension
- b 34. What procedure is described as a chemical injected into the vein to cause irritation and scarring inside the vein, closing it off?
- a. Sclerotherapy
 - b. Endovenous ablation therapy
 - c. Vein stripping and ligation
 - d. Endoscopic vein surgery
- c 35. What is the most common site for deep vein thrombosis?
- a. Iliac vein
 - b. Femoral vein
 - c. Calf veins
 - d. Saphenous veins

- b 36. A pulmonary embolism is the most serious complication of this condition and may be the first indication that the condition was present.
- Varicose veins
 - Arteriosclerosis
 - Atherosclerosis
 - Deep vein thrombosis
- b 37. Which of the following diseases develops because of widespread atherosclerotic plaque buildup in the arteries outside the heart, especially in the legs?
- Arteriosclerosis
 - Atherosclerosis
 - Aneurysm
 - Peripheral arterial disease
- c 38. What type of study may be ordered for patients with intermittent claudication, lack of a pedal pulse, or leg ulcers that refuse to heal?
- Doppler study
 - Electrocardiogram
 - Holter monitor
 - Angiography
 - All of the above
- d 39. What is the goal of angioplasty?
- To restore blood flow to ischemic myocardial tissue
 - To reduce the need for cardiac medication
 - To eliminate or reduce the number of angina episodes
 - All of the above
- b 40. Which of the following has become standard treatment for any patient with a serious arrhythmia who is at risk of sudden death from cardiac arrest?
- Implantable cardioverter-defibrillator
 - Cardiac pacemaker
 - Cardiac catheterization
 - Angioplasty
- a 41. Tachycardia is defined as
- a faster than normal heart rate.
 - a condition in which the patient has difficulty breathing when lying down.
 - dizzy spells.
 - a condition in which the heartbeat is irregular.
- b 42. Bradycardia is defined as
- a faster than normal heart rate.
 - a slower than normal heart rate.
 - chest pain.
 - an irregular heartbeat.

- a 43. Systole is defined as
- the contraction of the chambers of the heart.
 - the relaxation of the chambers of the heart.
 - a pounding or racing heart.
 - None of the above
- a 44. On an ECG recording, five 5-mm boxes are seen between the R waves. What is the patient's heart rate per minute?
- 60
 - 65
 - 70
 - 80
- c 45. If the ECG recording appears as a series of small, uniform spikes in the baseline, the medical assistant should
- check for nearby electric appliances.
 - ask the patient to lie still.
 - help the patient relax and stay warm.
 - check the cable connection to the electrodes.
- b 46. If the ECG recording appears with the baseline rising and falling, the medical assistant should
- check for nearby electric appliances.
 - check electrode attachment.
 - continue recording the ECG.
 - check the cable connections to the electrodes.
- a 47. If the ECG recording appears as a series of irregular, jagged peaks, the medical assistant should
- check for nearby electric appliances.
 - make sure all electrodes are in contact with the skin.
 - help the patient relax and stay warm.
 - check the cable connections to the electrodes.
- b 48. A monitor that a patient wears for 24 hours is called a(n)
- 12-lead.
 - Holter.
 - Halter.
 - echocardiogram.
- a 49. In a standard 12-lead ECG, the measurement of current that the heart muscle produces between the right arm electrode and the left arm electrode is known as the
- standard limb lead I.
 - standard limb lead II.
 - standard limb lead III.
 - augmented lead aV_L.

- b 50. Which deflection from the baseline represents the repolarization of the ventricles?
- a. P wave
 - b. T wave
 - c. ST segment
 - d. QRS complex
- a 51. What part of the ECG complex represents atrial depolarization?
- a. P wave
 - b. T wave
 - c. ST segment
 - d. QRS complex
- b 52. _____ is the relaxation phase of the heart.
- a. Systole
 - b. Diastole
 - c. Cardioversion
 - d. None of the above
- a 53. The _____ control(s) the rate of heart contraction by initiating contractions 60 to 100 times a minute.
- a. AV node
 - b. SA node
 - c. bundle of His
 - d. Purkinje fibers
- b 54. Which statement is true about NSR?
- a. It is a regular heart rate that falls within the average range of 60 to 80 bpm.
 - b. It is a heart rate less than 60 bpm.
 - c. It is a heart rate of greater than 100 bpm.
 - d. It is an irregular heart rate that falls within the average range of 60 to 80 bpm.
- b 55. The _____ reflects the time between the end of ventricular contraction and the beginning of ventricular recovery.
- a. U wave
 - b. QRS complex
 - c. ST segment
 - d. QT interval
- d 56. Which statement is true about ECG paper?
- a. It is not affected by environmental factors, so it is easily maintained in the medical record.
 - b. It has horizontal and vertical lines at 1-mm intervals.
 - c. Every fifth line measures 6 mm on each side.
 - d. None of the above is true.

- b 57. The _____ leads use two limbs to record the heart's electrical activity.
- a. augmented
 - b. standard
 - c. precordial
 - d. chest
- c 58. Which statement is true about lead II?
- a. It is recorded as the rhythm strip on a cardiac monitor.
 - b. It records tracings between the left arm and left leg.
 - c. It records tracings between the left and right arms.
 - d. It records the electrical activity of the posterior right ventricle.
- b 59. To check the standardization of the ECG machine, the medical assistant depresses the standardization button. The stylus should deflect how many millimeters?
- a. 20
 - b. 5
 - c. 15
 - d. 10
- d 60. Preparation of a patient for an ECG includes
- a. placing the electrodes over bony prominences on the arms and legs.
 - b. making sure the bed is pushed against the wall to stabilize the unit.
 - c. placing the ground electrode at V₆.
 - d. instructing female patients to remove their bra and pantyhose.
- c 61. A diary of daily activities is part of the procedure for performing which of the following?
- a. Heart scan
 - b. Stress test
 - c. Holter monitor
 - d. Pacemaker reading
- d 62. The image created on the ECG paper is made by the
- a. heated stylus.
 - b. ink cartridge.
 - c. lead wires.
 - d. felt-tipped pen in the machine.
- d 63. Which cardiac diagnostic tool requires the patient to exercise during the procedure?
- a. Stress test
 - b. Heart scan
 - c. Holter monitor
 - d. Event monitor

- d 64. Atrial flutter may occur if
- the electrical charge does not pass out of the SA node.
 - the ventricles contract repeatedly.
 - ectopic atrial beats occur.
 - the patient consumes too much caffeine.
- d 65. Which statement is *not* true about V-fib?
- It typically is preceded by V-tach.
 - It results in death quickly if not treated effectively.
 - The patient can be stabilized with powerful cardiovascular medications.
 - It may lead to asystole.
- a 66. Which of the following is seen on the ECG strip of a patient with an MI?
- Elevated ST segments
 - Elevated T waves
 - Extended QRST segments
 - Absent T wave
- d 67. Electron beam tomography helps screen for cardiac risk by
- determining the extent of MI damage.
 - assessing the amount of calcium in the coronary arteries.
 - measuring the potassium levels in the heart muscle.
 - determining the strength of the myocardial wall.
- c 68. During the diastole cardiac cycle, which of the following occur?
- Atria contract and empty of blood
 - Ventricles contract and empty of blood
 - The chambers refill with blood
 - Both A and B
 - All of the above
- b 69. Which of the following is referred to as sinus bradycardia?
- A heart rate within the range of 60 to 80 beats per minute
 - A heart rate below 60 beats per minute
 - A heart rate above 100 beats per minute
 - An irregular cardiac rhythm
- b 70. Which of the following represents the time from the beginning of atrial contraction to the beginning of ventricular contraction?
- QRS complex
 - PR interval
 - P wave
 - Q wave

- d 71. Transverse plane leads on a standard ECG include which of the following?
- a. Lead I
 - b. Lead II
 - c. Lead III
 - d. Leads V_1 to V_6
 - e. V_R , V_L , and V_F
- c 72. Which of the following leads records tracings between the left arm and left leg, which reflects the electrical activity of the inferior surface of the left ventricle?
- a. Lead I
 - b. Lead II
 - c. Lead III
 - d. Lead IV
- d 73. Which of the following leads is placed in the fifth intercostal space, at the left midclavicular line?
- a. V_1
 - b. V_2
 - c. V_3
 - d. V_4
 - e. V_5
- a 74. If a patient has dyspnea or orthopnea, which of the following positions is acceptable for performing an electrocardiogram?
- a. Semi-supine position
 - b. Semi-Fowler's position
 - c. Prone position
 - d. Dorsal recumbent position
 - e. None of the above
- a 75. Which of the following artifacts appears as a series of uniform small spikes on the ECG paper?
- a. Somatic tremor
 - b. Alternating current interference
 - c. Interrupted baseline
 - d. Wandering baseline
- d 76. Which of the following may be seen on an ECG when the pathway of the electrical charge is normal, but the rate or rhythm of the heartbeat is altered?
- a. Biochemical arrhythmia
 - b. Atrial arrhythmia
 - c. Ventricular arrhythmia
 - d. Sinus arrhythmia
 - e. Atrial flutter

- a 77. Which of the following devices monitors the heart rhythm and delivers a shock to the heart if it detects a dangerous ventricular tachycardia or fibrillation?
- ICD
 - Pacemaker
 - Holter monitor
 - All of the above
- a 78. Which of the following is the most critical, life-threatening arrhythmia that can quickly result in death if not treated?
- Atrial arrhythmia
 - Ventricular tachycardia
 - Ventricular fibrillation
 - Sinus arrhythmia
 - Biochemical arrhythmia
- b 79. Which of the following is *not* an immediate treatment for a heart attack?
- Administration of nasal oxygen
 - Sublingual nitroglycerin
 - Non-aspirin analgesic
 - Early administration of thrombolytic agents

Completion

Complete each statement.

- Chronic hypertension may result in left ventricular _____.
- Patients with primary _____ may be asymptomatic until serious health problems occur.
- _____ causes pulmonary edema, dyspnea, orthopnea, and tachycardia.
- A(n) _____ may be a life-threatening problem because of the potential for embolus creation.
- _____ is the part of the electrical conduction process during which the myocardium recovers from the contraction of the atria and ventricles.
- Patients with _____ experience hardening of blood vessels, which results in ischemia and fibrotic changes in multiple tissues and organs.
- Contraction of the atria and ventricles is called _____.
- An inherited predisposition for developing aneurysms occurs in patients with _____.
- A symptom of chronic peripheral vascular disease is _____.

10. The T wave indicates ventricular recovery, or _____, of the ventricles.
11. ECG paper has horizontal and vertical lines at _____ intervals.
12. Every fifth line on ECG paper, both vertically and horizontally, is darker than the other lines and creates a large square measuring _____ on each side.
13. The first three leads recorded are called the standard, or _____, limb leads, because they each use two limb electrodes to record the heart's electrical activity.
14. The _____ is a combination of all of the electric events that occur in the heart during a single heartbeat.
15. The electrical activity of the heart is initiated in specialized tissue called the _____, which is located in the superior-posterior wall of the right atrium.
16. The most distal portions of the electrical system of the myocardium are the _____.
17. The _____ is the electric recording of the heart at rest.
18. A(n) _____ is an ectopic ventricular beat that occurs without a preceding P wave.
19. In the case of _____, the patient has general malaise and muscle cramps. The condition may occur if diuretics are used without potassium supplementation.
20. A cardiac _____ is a diagnostic procedure performed to evaluate the patient's myocardial response to measured exercise.
21. An implanted ICD monitors the heart rhythm and automatically performs _____ if it detects a dangerous tachycardia or fibrillation.