NCLEX Questions
Cardiovascular

1. A patient admitted to the hospital with chest pain and a history of type 2 diabetes mellitus is scheduled for cardiac catheterization. Which medication would need to be withheld for 24 hours before the procedure and for 48 hours after the procedure?
   a. Glipizide
   b. Metformin
   c. Repaglinide
   d. Regular insulin

2. A patient who had cardiac surgery 24 hours ago has had a urine output averaging 20 mL/hour for 2 hours. The patient received a single bolus of 500 mL of intravenous fluid. Urine output for the subsequent hour was 25 mL. Daily laboratory results indicate that the blood urea nitrogen level is 45 mg/dL (16 mmol/L) and the serum creatinine level is 2.2 mg/dL (194 mcmol/L). On the basis of these findings, the nurse would anticipate that the patient is at risk for which problem?
   a. Hypovolemia
   b. Acute kidney injury
   c. Glomerulonephritis
   d. Urinary tract infection

3. The nurse is reviewing an electrocardiogram rhythm strip. The P waves and QRS complexes are regular. The PR interval is 0.16 seconds, and QRS complexes measure 0.06 seconds. The overall heart rate is 64 beats/minute. Which action should the nurse take?
   a. Check vital signs.
   b. Check laboratory test results.
   c. Notify the health care provider.
   d. Continue to monitor for any rhythm change.

4. A patient is wearing a continuous cardiac monitor, which begins to sound its alarm. The nurse sees no electrocardiographic complexes on the screen. Which is the **priority** nursing action?
   a. Call a code.
   b. Call the health care provider.
   c. Check the patient's status and lead placement.
   d. Press the recorder button on the electrocardiogram console.

5. The nurse is evaluating a patient's response to cardioversion. Which assessment would be the **priority?**

   a. Blood pressure
   b. Status of airway
   c. Oxygen flow rate
   d. Level of consciousness

6. The nurse is caring for a patient who has just had implantation of an automatic internal cardioverter-defibrillator. The nurse should assess which item based on **priority?**
   a. Anxiety level of the patient and family
   b. Presence of a Medic-Alert card for the patient to carry
   c. Knowledge of restrictions on post-discharge physical activity
   d. Activation status of the device, heart rate cutoff, and number of shocks it is programmed to deliver

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7. A patient's electrocardiogram strip shows atrial and ventricular rates of 110 beats/minute. The PR interval is 0.14 seconds, the QRS complex measures 0.08 seconds, and the PP and RR intervals are regular. How should the nurse correctly interpret this rhythm?
   a. Sinus tachycardia
   b. Sinus bradycardia
   c. Sinus dysrhythmia
   d. Normal sinus rhythm

8. The nurse is assessing the neurovascular status of a patient who returned to the surgical nursing unit 4 hours ago after undergoing aortoiliac bypass graft. The affected leg is warm, and the nurse notes redness and edema. The pedal pulse is palpable and unchanged from admission. How should the nurse correctly interpret the patient's neurovascular status?
   a. The neurovascular status is normal because of increased blood flow through the leg.
   b. The neurovascular status is moderately impaired, and the surgeon should be called.
   c. The neurovascular status is slightly deteriorating and should be monitored for another hour.
   d. The neurovascular status is adequate from an arterial approach, but venous complications are arising.

9. The nurse is evaluating the condition of a patient after pericardiocentesis performed to treat cardiac tamponade. Which observation would indicate that the procedure was **effective?**
   a. Muffled heart sounds
   b. A rise in blood pressure
   c. Jugular venous distention
   d. Patient expressions of dyspnea

10. A patient with variant angina is scheduled to receive an oral calcium channel blocker twice daily. Which statement by the patient indicates the **need for further teaching?**
   a. "I should notify my doctor if my feet or legs start to swell."
   b. "My doctor told me to call his office if my pulse rate decreases below 60."
   c. "Avoiding grapefruit juice will definitely be a challenge for me, since I usually drink it every morning with breakfast."
   d. "My spouse told me that since I have developed this problem, we are going to stop walking in the mall every morning

11. The nurse is monitoring a patient with acute pericarditis for signs of cardiac tamponade. Which assessment finding indicates the presence of this complication?
   a. Flat neck veins
   b. A pulse rate of 60 beats/minute
   c. Muffled or distant heart sounds
   d. Wheezing on auscultation of the lungs

12. The home care nurse is providing instructions to a patient with an arterial ischemic leg ulcer about home care management and self-care management. Which statement, if made by the patient, indicates a **need for further instruction?**
   a. "I need to be sure not to go barefoot around the house."
   b. "If I cut my toenails, I need to be sure that I cut them straight across."
   c. "It is all right to apply lanolin to my feet, but I shouldn't place it between my toes."
   d. "I need to be sure that I elevate my leg above the level of my heart for at least an hour every day."

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13. The nurse is providing instructions to a patient with a diagnosis of hypertension regarding high- sodium items to be avoided. The nurse instructs the patient to avoid consuming which item?
    a. Bananas
    b. Broccoli
    c. Antacids
    d. Cantaloupe

14. The nurse is preparing discharge instructions for a patient with Raynaud's disease. The nurse should plan to provide which instruction to the patient?
    a. Use nail polish to protect the nail beds from injury.
    b. Wear gloves for all activities involving the use of both hands.
    c. Stop smoking because it causes cutaneous blood vessel spasm.
    d. Always wear warm clothing, even in warm climates, to prevent vasoconstriction.

15. The nurse is developing a plan of care for a patient with varicose veins in whom skin breakdown occurred over the varicosities as a result of secondary infection. Which is a **priority** intervention?
    a. Keep the legs aligned with the heart.
    b. Elevate the legs higher than the heart.
    c. Clean the skin with alcohol every hour.
    d. Position the patient onto the side during every shift.

Rationale:
In the patient with a venous disorder, the legs are elevated above the level of the heart to assist with the return of venous blood to the heart. Alcohol is very irritating and drying to tissues and should not be used in areas of skin breakdown. Option 4 specifies infrequent care intervals, so it is not the priority intervention.

16. The nurse in the medical unit is reviewing the laboratory test results for a patient who has been transferred from the intensive care unit (ICU). The nurse notes that a cardiac troponin T assay was performed while the patient was in the ICU. The nurse determines that this test was performed to assist in diagnosing which condition?
    a. Heart failure
    b. Atrial fibrillation
    c. Myocardial infarction
    d. Ventricular tachycardia

17. The nurse is caring for a patient with cardiac disease who has been placed on a cardiac monitor. The nurse notes that the patient has developed atrial fibrillation and has a rapid ventricular rate of 150 beats/minute. The nurse should **next** assess the patient for which finding?
    a. Hypotension
    b. Flat neck veins
    c. Complaints of nausea
    d. Complaints of headache

Rationale:
The patient with uncontrolled atrial fibrillation with a ventricular rate greater than 100 beats/minute is at risk for low cardiac output because of loss of atrial kick. The nurse assesses the patient for palpitations, chest pain or discomfort, hypotension, pulse deficit, fatigue, weakness, dizziness, syncope, shortness of breath, and distended neck veins.

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18. The nurse is performing an assessment on a patient with a diagnosis of left-sided heart failure. Which assessment component would elicit specific information regarding the patient's left-sided heart function?
    a. Listening to lung sounds
    b. Palpating for organomegaly
    c. Assessing for jugular vein distention
    d. Assessing for peripheral and sacral edema

19. The nurse is participating in a class on rhythm strip interpretation. Which statement by the nurse indicates an understanding of a PR interval of 0.20?
    a. "This is a normal finding."
    b. "This is indicative of atrial flutter."
    c. "This is indicative of atrial fibrillation."
    d. "This is indicative of impending reinfarction."

20. The nurse in the medical unit is assigned to provide discharge teaching to a patient with a diagnosis of angina pectoris. The nurse is discussing lifestyle changes that are needed to minimize the effects of the disease process. The patient continually changes the subject during the teaching session. The nurse interprets that this patient's behavior is **most likely** related to which problem?
    a. Anxiety related to the need to make lifestyle changes
    b. Boredom resulting from having already learned the material
    c. An attempt to ignore or deny the need to make lifestyle changes
    d. Lack of understanding of the material provided at the teaching session and embarrassment about asking question

21. A home care nurse is visiting a patient to provide follow-up evaluation and care of a leg ulcer. On removing the dressing from the leg ulcer, the nurse notes that the ulcer is pale and deep and that the surrounding tissue is cool to the touch. The nurse should document that these findings identify which type of ulcer?
    a. A stage 1 ulcer
    b. A vascular ulcer
    c. An arterial ulcer
    d. A venous stasis ulcer

Rationale:
Arterial ulcers have a pale deep base and are surrounded by tissue that is cool with trophic changes such as dry skin and loss of hair. Arterial ulcers are caused by tissue ischemia from inadequate arterial supply of oxygen and nutrients. A stage 1 ulcer indicates a reddened area with an intact skin surface. A venous stasis ulcer (vascular) has a dark red base and is surrounded by brown skin with local edema. This type of ulcer is caused by the accumulation of waste products of metabolism that are not cleared, as a result of venous congestion.

22. The nurse is developing a plan of care for a patient who will be admitted to the hospital with a diagnosis of deep vein thrombosis (DVT) of the right leg. The nurse develops the plan, expecting that the health care provider (HCP) will **most likely** prescribe which option?
    a. Maintain activity level as prescribed.
    b. Maintain the affected leg in a dependent position.
    c. Administer an opioid analgesic every 4 hours around the clock.
    d. Apply cool packs to the affected leg for 20 minutes every 4 hours.

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23. A patient with a diagnosis of varicose veins is scheduled for treatment by sclerotherapy and is receiving education about the procedure from the nurse. Which statement by the patient indicates that the teaching has been **effective?**
    a. "It involves tying off the veins so that circulation is redirected in another area."
    b. "It involves surgically removing the varicosity, so anesthesia will be required."
    c. "It involves tying off the veins to prevent sluggishness of blood from occurring."
    d. "It involves injecting an agent into the vein to damage the vein
        a. wall and close it off."

24. A patient calls the nurse at the clinic and reports that ever since the vein ligation and stripping procedure was performed, she has been experiencing a sensation as though the affected leg is falling asleep. The nurse should make which response to the patient?
    a. "Apply warm packs to the leg."
    b. "Keep the leg elevated as much as possible."
    c. "Your health care provider needs to be contacted to report this problem."
    d. "This normally occurs after surgery and will subside when the edema goes down.

25. The registered nurse (RN) is educating a new RN about the use of oxygen for patients with angina pectoris. Which statement by the new nurse indicates that the teaching has been **effective?**
    a. "Oxygen has a calming effect."
    b. "Oxygen will prevent the development of any thrombus."
    c. "The pain of angina pectoris occurs because of a decreased oxygen supply to heart cells."
    d. "Oxygen dilates the blood vessels so that they can supply more nutrients to the heart muscle.

26. A patient with a diagnosis of angina pectoris is hospitalized for an angioplasty. The patient returns to the nursing unit after the procedure, and the nurse provides instructions to the patient regarding home care measures. Which statement, if made by the patient, indicates an understanding of the instructions?
    a. "I need to cut down on cigarette smoking."
    b. "I am so relieved that my heart is repaired.
    c. "I need to adhere to my dietary restrictions."
    d. "I am so relieved that I can eat anything I want to now."

27. The nurse is caring for a patient with a diagnosis of myocardial infarction (MI) and is assisting the patient in completing the diet menu. Which beverage should the nurse instruct the patient to select from the menu?
    a. Tea
    b. Cola
    c. Coffee
    d. Raspberry juice

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28. The nurse is performing an admission assessment on a patient with a diagnosis of angina pectoris who takes nitroglycerin for chest pain at home. During the assessment the patient complains of chest pain. The nurse should **immediately** ask the patient which question?
    a. Where is the pain located?"
    b. "Are you having any nausea?"
    c. "Are you allergic to any medications?"
    d. "Do you have your nitroglycerin with you?"

29. The nurse has provided dietary instructions to a patient with coronary artery disease. Which statement by the patient indicates an understanding of the dietary instructions?
    a. "I'll need to become a strict vegetarian."
    b. "I should use polyunsaturated oils in my diet."
    c. "I need to substitute eggs and whole milk for meat."
    d. "I should eliminate all cholesterol and fat from my diet."

30. A patient is admitted to the visiting nurse service for assessment and follow-up after being discharged from the hospital with new-onset heart failure (HF). The nurse teaches the patient about the dietary restrictions required with HF. Which statement by the patient indicates that **further teaching is needed?**
    a. "I'm not supposed to eat cold cuts."
    b. "I can have most fresh fruits and vegetables.
    c. "I'm going to weigh myself daily to be sure I don't gain too much fluid."
    d. "I'm going to have a ham and cheese sandwich and potato chips for lunch."

31. The nurse is performing a health screening on a 54-year-old patient. The patient has a blood pressure of 118/78 mm Hg, total cholesterol level of 190 mg/dL (4.9 mmol/L), and fasting blood glucose level of 184 mg/dL (10.2 mmol/L). The nurse interprets this to mean that the patient has which modifiable risk factor for coronary artery disease (CAD)?
    a. Age
    b. Hypertension
    c. Hyperlipidemia
    d. Glucose intolerance

32. The nurse is trying to determine the ability of the patient with myocardial infarction (MI) to manage independently at home after discharge. Which statement by the patient is the strongest indicator of the potential for difficulty after discharge?
    a. "I need to start exercising more to improve my health."
    b. "I will be sure to keep my appointment with the cardiologist."
    c. "I don't have anyone to help me with doing heavy housework at home."
    d. "I think I have a good understanding of what all my medications are for."

33. The home care nurse has taught a patient with a problem of inadequate cardiac output about helpful lifestyle adaptations to promote health. Which statement by the patient **best** demonstrates an understanding of the information provided?
    a. "I will eat enough daily fiber to prevent straining at stool."
    b. "I will try to exercise vigorously to strengthen my heart muscle."
    c. "I will drink 3000 to 3500 mL of fluid daily to promote good kidney function."
    d. "Drinking 2 to 3 oz of liquor each night will promote blood flow by enlarging blood vessels."

Rationale:

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Standard home care instructions for a patient with this problem include, among others, lifestyle changes such as decreased alcohol intake, avoiding activities that increase the demands on the heart, instituting a bowel regimen to prevent straining and constipation, and maintaining fluid and electrolyte balance. Consuming 3000 to 3500 mL of fluid and exercising vigorously will increase the cardiac workload.

34. A patient has been experiencing difficulty with completion of daily activities because of underlying cardiovascular disease, as evidenced by exertional fatigue and increased blood pressure. Which observation by the nurse **best** indicates patient progress in meeting goals for this problem?
    a. Ambulates 10 feet (3 meters) farther each day
    b. Verbalizes the benefits of increasing activity
    c. Chooses a healthy diet that meets caloric needs
    d. Sleeps without awakening throughout the night

35. The health care provider (HCP) has written a prescription for a patient to have an echocardiogram. Which action should the nurse take to prepare the patient for the procedure?
    a. Questions the patient about allergies to iodine or shellfish
    b. Has the patient sign an informed consent form for an invasive procedure
    c. Tells the patient that the procedure is painless and takes 30 to 60 minutes
    d. Keeps the patient on nothing by mouth (NPO) status for 2 hours before the procedure

36. A patient with coronary artery disease is scheduled to have a diagnostic exercise stress test. Which instruction should the nurse plan to provide to the patient about this procedure?
    a. Eat breakfast just before the procedure.
    b. Wear firm, rigid shoes, such as work boots.
    c. Wear loose clothing with a shirt that buttons in front.
    d. Avoid cigarettes for 30 minutes before the procedure.

37. A patient is scheduled for a cardiac catheterization to diagnose the extent of coronary artery disease. The nurse places **highest priority** on telling the patient to report which sensation during the procedure?
    a. Chest pain
    b. Urge to cough
    c. Warm, flushed feeling
    d. Pressure at the insertion site

38. A patient recovering from pulmonary edema is preparing for discharge. What should the nurse plan to teach the patient to do to manage or prevent recurrent symptoms after discharge?
    a. Weigh self on a daily basis.
    b. Sleep with the head of the bed flat.
    c. Take a double dose of the diuretic if peripheral edema is noted.
    d. Withhold prescribed digoxin if slight respiratory distress occurs.

39. A patient is scheduled to undergo cardiac catheterization for the first time, and the nurse provides instructions to the patient. Which patient statement indicates an understanding of the instructions?
    a. "It will really hurt when the catheter is first put in.
    b. "I will receive general anesthesia for the procedure."
    c. "I will have to go to the operating room for this procedure."
    d. "I probably will feel tired after the test from lying on a hard x-ray able for a few hours."

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Rationale:
It is common for the patient to feel fatigued after the cardiac catheterization procedure. A local anesthetic is used, so little to no pain is experienced with catheter insertion. General anesthesia is not used. Other pre-procedure teaching points include the fact that the procedure is done in a darkened cardiac catheterization room. The x-ray table is hard and may be tilted periodically, and the procedure may take 1 to 2 hours. The patient may feel various sensations with catheter passage and dye injection.

40. A patient admitted to the hospital with coronary artery disease complains of dyspnea at rest. The nurse caring for the patient uses which item as the **best** means to monitor respiratory status on an ongoing basis?
    a. Apnea monitor
    b. Oxygen flowmeter
    c. Telemetry cardiac monitor
    d. Oxygen saturation monitor

41. The nurse is listening to a lecture about angina. Which statement by the nurse indicates that the teaching has been **effective?**
    a. "Stable angina is chronic."
    b. "Variant angina is caused by emotional stress."
    c. "Unstable angina is not a life-threatening condition."
    d. "Intractable angina rarely limits the patient's lifestyle."

Rationale:
Stable angina is triggered by a predictable amount of effort or emotion and is a chronic condition. Variant angina is triggered by coronary artery spasm; the attacks are of longer duration than in classic angina and tend to occur early in the day and at rest. Unstable angina is triggered by an unpredictable amount of exertion or emotion and may occur at night; the attacks increase in number, duration, and severity over time. Intractable angina is chronic and incapacitating and is refractory to medical therapy.

42. The nurse has completed an educational course covering first-degree heart block. Which statement by the nurse indicates that teaching has been **effective?**
    a. "Presence of Q waves indicates first-degree heart block."
    b. "Tall, peaked T waves indicate first-degree heart block."
    c. "Widened QRS complexes indicate first-degree heart block."
    d. "Prolonged, equal PR intervals indicates first-degree heart block."

43. The nurse is teaching the patient with angina pectoris about disease management and lifestyle changes that are necessary to control disease progression. Which statement by the patient indicates a **need for further teaching?**
    a. "I will avoid using table salt with meals."
    b. "It is best to exercise once a week for 1 hour."
    c. "I will take nitroglycerin whenever chest discomfort begins."
    d. "I will use muscle relaxation to cope with stressful situations."

44. The ambulatory care nurse is working with a patient who has been diagnosed with Prinz metal's (variant) angina. What should the nurse plan to teach the patient about this type of angina?
    a. It is most effectively managed by beta-blocking agents.
    b. It has the same risk factors as stable and unstable angina.
    c. It can be controlled with a low-sodium, high-potassium diet.
    d. Generally, it is treated with calcium channel–blocking agents.

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45. The nurse working in a long-term care facility is assessing a patient who is experiencing chest pain. The nurse should interpret that the pain is **most likely** caused by myocardial infarction (MI) on the basis of what assessment finding?
    a. The patient is not experiencing dyspnea
    b. The patient is not experiencing nausea or vomiting.
    c. The pain has not been relieved by rest and nitroglycerin tablets.
    d. The patient says the pain began while she was trying to open a stuck dresser drawer.

46. A patient with myocardial infarction (MI) has been transferred from the coronary care unit (CCU) to the general medical unit. What activity level should the nurse encourage for the patient **immediately** after transfer?
    a. Ad lib activities as tolerated
    b. Strict bed rest for 24 hours after transfer
    c. Bathroom privileges and self-care activities
    d. Unsupervised hallway ambulation for distances up to 200 feet (60 meters)

47. A patient with no history of heart disease has experienced acute myocardial infarction and has been given thrombolytic therapy with tissue plasminogen activator. What assessment finding should the nurse identify as an indicator that the patient is experiencing complications of this therapy?
    a. Tarry stools
    b. Nausea and vomiting
    c. Orange-colored urine
    d. Decreased urine output

Rationale:
Thrombolytic agents are used to dissolve existing thrombi, and the nurse should monitor the patient for obvious or occult signs of bleeding. This includes assessment for obvious bleeding within the gastrointestinal (GI) tract, urinary system, and skin. It also includes Hema-test testing of secretions for occult blood. The correct option is the only one that indicates the presence of blood.

48. The nurse is discussing smoking cessation with a patient diagnosed with coronary artery disease (CAD). Which statement should the nurse make to try to motivate the patient to quit smoking?
    a. "None of the cardiovascular effects are reversible, but quitting might prevent lung cancer."
    b. "Because most of the damage has already been done, it will be all right to cut down a little at a time."
    c. "If you totally quit smoking right now, you can you're your cardiovascular risk to zero within a year."
    d. "If you quit now, your risk of cardiovascular disease will decrease to that of a nonsmoker in 3 to 4 years."

49. A patient has experienced an episode of pulmonary edema. The nurse determines that the patient's respiratory status is improving after this episode if which breath sounds are noted?
    a. Rhonchi
    b. Wheezes
    c. Crackles in the bases
    d. Crackles throughout the lung fields

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Rationale:
Pulmonary edema is characterized by extreme breathlessness, dyspnea, air hunger, and the production of frothy, pink-tinged sputum. As the patient's condition improves, the amount of fluid in the alveoli decreases, which may be detected by crackles in the bases. (Clear lung sounds indicate full resolution of the episode.) Rhonchi and wheezes are not associated with pulmonary edema.
Auscultation of the lungs reveals crackles throughout the lung fields.

50. A hospitalized patient has been diagnosed with heart failure as a complication of hypertension. In explaining the disease process to the patient, the nurse identifies which chamber of the heart as **primarily** responsible for the symptoms?
    a. Left atrium
    b. Right atrium
    c. Left ventricle
    d. Right ventricle

Rationale:
Hypertension increases the workload of the left ventricle because the ventricle has to pump the stroke volume against increased resistance (afterload) in the major blood vessels. Over time this causes the left ventricle to fail, leading to signs and symptoms of heart failure. The remaining options are not the chambers that are primarily responsible for this disease process, although these chambers may be affected as the disease becomes more chronic.

51. The nurse has just completed education on myocardial infarction (MI) to a group of new nurses. Which statement made by one of the nurses indicates that the teaching has been **effective?**
    a. "Chest pain is caused by tissue hypoxia in the myocardium."
    b. "Chest pain is caused by tissue hypoxia in the vessels of the heart."
    c. "Chest pain is caused by tissue hypoxia in the parietal pericardium."
    d. "Chest pain is caused by tissue hypoxia in the visceral pericardium."

52. The registered nurse (RN) is educating a new nurse on mitral stenosis. Which statement by the new nurse indicates that the teaching has been **effective?**
    a. "Left ventricle to aorta narrowing will impede flow of blood."
    b. "Left atrium to left ventricle narrowing will impede flow of blood."
    c. "Right atrium to right ventricle narrowing will impede flow of blood."
    d. "Right ventricle to pulmonary artery narrowing will impede flow of blood."

Rationale:
The mitral valve separates the left atrium from the left ventricle.

53. The registered nurse (RN) is educating a new nurse about aortic regurgitation. Which statement by the new nurse indicates that the teaching has been **effective?**
    a. "Failure of the aortic valve to close completely allows blood to flow retrograde through the aorta to the left ventricle."
    b. "Failure of the aortic valve to close completely allows blood to flow retrograde through the left ventricle to the left atrium."
    c. "Failure of the aortic valve to close completely allows blood to flow retrograde through the right ventricle to the right atrium."
    d. "Failure of the aortic valve to close completely allows blood to flow retrograde through the pulmonary artery to the right ventricle."

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Rationale:
The aortic valve separates the aorta from the left ventricle.

54. The nurse educator is teaching the new registered nurse (RN) how to care for patients with a decrease in blood pressure. Which statement by the new RN indicates the **need for further instruction?**
    a. "Decreased contractility occurs."
    b. "Decreased heart rate is not a side effect."
    c. "Decreased myocardial blood flow is not a concern."
    d. "Increased resistance to electrical stimulation often occurs."

Rationale:
The primary effect of a decrease in blood pressure is reduced blood flow to the myocardium. This in turn decreases oxygenation of the cardiac tissue. Cardiac tissue is likely to become more excitable or irritable in the presence of hypoxia. Correspondingly, the heart rate is likely to increase, not decrease, in response to this change. The effects of tissue ischemia lead to decreased contractility over time.

55. The nurse educator is lecturing new registered nurses (RNs) about serum calcium levels. Which statement by one of the new RNs indicates that teaching has been **effective?**
    a. "Calcium has no effect on the risk for stroke."
    b. "Low calcium levels can lead to cardiac arrest."
    c. "Low calcium levels cause high blood pressure."
    d. "Calcium has no effect on urinary stone formation."

56. The nurse is reinforcing instructions to a hospitalized patient with heart block about the fundamental concepts regarding the cardiac rhythm. The nurse explains to the patient that the normal site in the heart responsible for initiating electrical impulses is which site?
    a. Bundle of His
    b. Purkinje fibers
    c. Sinoatrial (SA) node
    d. Atrioventricular (AV) node

57. A nursing instructor asks a nursing student to describe the structure and function of the coronary arteries. Which response by the student indicates a **need for further teaching** on the anatomy and physiology of the heart?
    a. "The coronary arteries branch from the aorta."
    b. "The coronary arteries supply the heart muscle with blood."
    c. "The left coronary artery provides blood for the left atrium and the left ventricle."
    d. "The left coronary artery supplies the right atrium and right ventricle with blood."

58. The registered nurse (RN) is orienting a new RN assigned to the care of a patient with a cardiac disorder and is told that the patient has an alteration in cardiac output. After educating the new RN about cardiac output, which statement made by the new RN indicates the **need for further instruction?**
    a. "A cardiac output of 2 L/min is normal."
    b. "A cardiac output of 4 L/min is normal."
    c. "A cardiac output of 6 L/min is normal."
    d. "A cardiac output of 7 L/min is normal."

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Rationale:
The cardiac cycle consists of contraction and relaxation of the heart muscle. In adults, the cardiac output ranges from 4 to 7 L/min. Therefore, option 1 identifies a low cardiac output.

59. The new registered nurse (RN) is orienting on the cardiac unit. Which statement by the new RN indicates an understanding of an **early** indication of fluid volume deficit due to blood loss?
    a. "Pulse rate will increase."
    b. "Blood pressure will decrease."
    c. “Edema will be present in the legs”
    d. "Crackles in the lungs will be present."

60. A patient who has been exercising in a gymnasium stops to measure his pulse and places his fingers over both carotid arteries simultaneously. The nurse exercising nearby is correct when cautioning the patient to check the pulse on only one side, **primarily** for which reason?
    a. It is unnecessary to use both hands.
    b. The patient could occlude the trachea.
    c. The heart rate and blood pressure could drop.
    d. Feeling dual pulsations may lead to an incorrect measurement.

61. A nursing student who is researching a medication at the nurses' station asks the registered nurse (RN) what the function of an alpha-adrenergic receptor is, and where the receptors are primarily found. The RN educates the nursing student. Which statement by the nursing student indicates that teaching has been **effective?**
    a. "The peripheral arteries and veins; when stimulated they cause vasoconstriction."
    b. "Arterial and bronchial walls; when stimulated they cause vasodilation and bronchodilation."
    c. "The heart; when stimulated it causes an increase in heart rate, atrioventricular node conduction, and contractility."
    d. "Several tissues; when stimulated they cause contraction of smooth muscle, inhibition of lipolysis, and promotion of platelet aggregation."

62. The nurse who is auscultating a 56-year-old patient's apical heart rate before administering digoxin notes that the heart rate is 52 beats/min. The nurse should make which interpretation of this information?
    a. Normal, because of the patient's ag
    b. Abnormal, requiring further assessment
    c. Normal, as a result of the effects of digoxin
    d. Normal, because this is the reason the patient is receiving digoxin

63. The patient who is beginning an exercise program asks the nurse why his heart "feels like it's pounding" when he is exercising vigorously. The nurse provides education to the patient about increased cardiac response based on which physiological concept?
    a. Pulse rate is not a reflection of cardiac response.
    b. Cardiac index is the mechanism that allows blood to flow better.
    c. Cardiac output is the body's attempt to meet metabolic demands.
    d. Stroke volume is an artificial number used to determine the adequacy of cardiac output

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64. The nurse is listening to a cardiologist explain the results of a cardiac catheterization to a patient and family. The health care provider (HCP) tells the patient that a blockage is present in the large blood vessel that supplies the anterior wall of the left ventricle. The nurse determines that the blockage is located in which area?
    a. Circumflex coronary artery
    b. Right coronary artery (RCA)
    c. Posterior descending coronary artery (PDA)
    d. Left anterior descending coronary artery (LAD)

Rationale:
The LAD bifurcates from the left main coronary artery to supply the anterior wall of the left ventricle and a few other structures. The circumflex coronary artery bifurcates from the left coronary artery and supplies the left atrium and the lateral wall of the left ventricle. The RCA supplies the right side of the heart, including the right atrium and right ventricle. The PDA supplies the posterior wall of the heart.

65. A new registered nurse (RN) is assigned to the care of a patient hospitalized with a diagnosis of hypothermia. After consulting with an experienced RN, which statement by the new RN indicates understanding of likely assessment findings for this patient?
    a. Increased heart rate and increased blood pressure
    b. Increased heart rate and decreased blood pressure
    c. Decreased heart rate and increased blood pressure
    d. Decreased heart rate and decreased blood pressure

Rationale:
Hypothermia decreases the heart rate and the blood pressure because the metabolic needs of the body are reduced in this condition. With fewer metabolic needs, the workload of the heart decreases, resulting in decreased heart rate and blood pressure.

66. A patient who has had a myocardial infarction asks the nurse why she should not bear down or strain to ensure having a bowel movement. The nurse provides education to the patient based on which physiological concept?
    a. Vagus nerve stimulation causes a decrease in heart rate and cardiac contractility.
    b. Vagus nerve stimulation causes an increase in heart rate and cardiac contractility.
    c. Sympathetic nerve stimulation causes a decrease in heart rate and cardiac contractility.
    d. Sympathetic nerve stimulation causes an increase in heart rate and cardiac contractility.

67. A patient with iron deficiency anemia complains of feeling fatigued almost all of the time. The nurse should respond with which statement?
    a. "The work of breathing is increased when the patient is anemic."
    b. "Blood flows more slowly when the hemoglobin or hematocrit is low."
    c. "The body has to work harder to fight infection in the presence of anemia."
    d. "Adequate amounts of hemoglobin are needed to carry oxygen for tissue metabolism."

68. Which laboratory test results may be associated with peaked or tall, tented T waves on a patient's electrocardiogram (ECG)?
    a. Chloride level of 98 mEq/L (98 mmol/L)
    b. Sodium level of 135 mEq/L (135 mmol/L)
    c. Potassium level of 6.8 mEq/L 6.8 mmol/L)
    d. Magnesium level of 1.6 mEq/L (0.8 mmol/L)

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69. A patient recovering from an exacerbation of left-sided heart failure is experiencing activity intolerance. Which change in vital signs during activity would be the **best** indicator that the patient is tolerating mild exercise?
    a. Oxygen saturation decreased from 96% to 91%.
    b. Pulse rate increased from 80 to 104 beats per minute.
    c. Blood pressure decreased from 140/86 to 112/72 mm Hg.
    d. Respiratory rate increased from 16 to 19 breaths per minute.

70. The nurse is concerned about the adequacy of peripheral tissue perfusion in the post–cardiac surgery patient. Which action should the nurse include within the plan of care for this patient?
    a. Use the knee gatch on the bed.
    b. Cover the legs lightly when sitting in a chair.
    c. Encourage the patient to cross the legs when sitting in a chair.
    d. Provide pillows for the patient to place under the knees as desired.

Rationale:
Covering the legs with a light blanket during sitting promotes warmth and vasodilation of the leg vessels. The nurse plans postoperative measures to prevent venous stasis. These include applying elastic stockings or leg wraps, use of pneumatic compression boots, and discouraging crossing of the legs. Patients should be encouraged to perform passive and active range-of-motion exercises. The knee gatch on the bed and pillows under the knees should be avoided because they place pressure on the blood vessels in the popliteal area, impeding venous return.

71. The nurse is instructing the post–cardiac surgery patient about activity limitations for the first 6 weeks after hospital discharge. The nurse should include which item in the instructions?
    a. Driving is permitted as long as the lap and shoulder seat belts are worn.
    b. Lifting should be restricted to objects that do not weigh more than 25 pounds (11.3 kg).
    c. Use the arms for balance, not weight support, when getting out of bed or a chair.
    d. Activities that involve straining may be resumed as long as they do not cause pain.

72. The nurse is assessing an electrocardiogram (ECG) rhythm strip for a patient. The PP and RR intervals are regular. The PR interval is 0.14 second, and the QRS complexes measure 0.08 second. The overall heart rate is 82 beats/min. The nurse should report the cardiac rhythm to be which rhythm?
    a. Sinus bradycardia
    b. Sick sinus syndrome
    c. Normal sinus rhythm
    d. First-degree heart block

Rationale:
Normal sinus rhythm is defined as a regular rhythm with an overall rate of 60 to 100 beats/min. The PR and QRS measurements are normal, measuring 0.12 to 0.20 second and 0.04 to 0.10 second, respectively.

73. A patient's electrocardiogram (ECG) strip shows atrial and ventricular rates of 70 complexes/minute. The PR interval is 0.16 second, the QRS complex measures 0.06 second, and the PP interval is slightly irregular. How should the nurse report this rhythm?
    a. Sinus tachycardia
    b. Sinus bradycardia
    c. Sinus dysrhythmia
    d. Normal sinus rhythm

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74. The new registered nurse (RN) is reviewing cardiac rhythms with a mentor. Which statement by the new RN indicates that teaching about ventricular fibrillation has been **effective?**
    a. "Ventricular fibrillation appears as irregular beats within a rhythm."
    b. "Ventricular fibrillation does not have P waves or QRS complexes."
    c. "Ventricular fibrillation is a regular pattern of wide QRS complexes.
    d. "Ventricular fibrillation has recognizable P waves, QRS complexes, and T waves."

75. A patient with myocardial infarction is experiencing new, multiform premature ventricular contractions and short runs of ventricular tachycardia. The nurse plans to have which medication available for **immediate** use to treat the ventricular tachycardia?
    a. Digoxin
    b. Verapamil
    c. Acebutolol
    d. Amiodarone

76. A patient has received antidysrhythmic therapy for the treatment of premature ventricular contractions (PVCs). The nurse evaluates this therapy as **most effective** if which finding is noted with regard to the PVCs?
    a. They occur in pairs.
    b. They appear to be multifocal.
    c. They fall on the second half of the T wave.
    d. They decrease to a frequency of less than 6 per minute.

77. The nurse is assessing the patient's condition after cardioversion. Which observation should be of **highest priority** to the nurse?
    a. Heart rate
    b. Skin color
    c. Status of airway
    d. Peripheral pulse strength

78. The home health nurse makes a home visit to a patient who has an implanted cardioverter- defibrillator (ICD) and reviews the instructions concerning pacemakers and dysrhythmias with the patient. Which patient statement indicates that **further teaching is necessary?**
    a. "If I feel an internal defibrillator shock, I should sit down."
    b. "I won't be able to have a magnetic resonance imaging test (MRI)."
    c. "My wife knows how to call the emergency medical services (EMS) if I need it."
    d. "I can stop taking my antidysrhythmic medicine now because I have a pacemaker."

79. A patient with a complete heart block has had a permanent demand ventricular pacemaker inserted. The nurse assesses for proper pacemaker function by examining the electrocardiogram (ECG) strip for the presence of pacemaker spikes at what point?
    a. Before each P wave
    b. Just after each P wave
    c. Just after each T wave
    d. Before each QRS complex

80. A patient complains of calf tenderness, and thrombophlebitis is suspected. The nurse should **next** assess the patient for which finding?
    a. Bilateral edema
    b. Increased calf circumference
    c. Diminished distal peripheral pulses
    d. Coolness and pallor of the affected limb

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Rationale:
The patient with thrombophlebitis, also known as deep vein thrombosis, exhibits redness or warmth of the affected leg, tenderness at the site, possibly dilated veins (if superficial), low-grade fever, edema distal to the obstruction, and increased calf circumference in the affected extremity. Peripheral pulses are unchanged from baseline because this is a venous, not an arterial, problem. Often thrombophlebitis develops silently; that is, the patient does not present with any signs and symptoms unless pulmonary embolism occurs as a complication

81. The nurse is planning care for a patient with deep vein thrombosis of the right leg. Which interventions would the nurse plan, based on the health care provider's (HCP's) prescriptions? **Select all that apply.**
    a. Elevation of the right leg
    b. Administration of acetaminophen
    c. Application of moist heat to the right leg
    d. Monitoring for signs of pulmonary embolism
    e. Ambulation in around the nursing unit every hour

Rationale:
Standard management of the patient with deep vein thrombosis includes possible bed rest for 5 to 7 days or as prescribed; limb elevation; relief of discomfort with warm, moist heat and analgesics as needed; anticoagulant therapy; and monitoring for signs of pulmonary embolism. Although the health care provider may allow ambulation, hourly ambulation around the nursing unit is not encouraged because it increases the likelihood of dislodgement of the tail of the thrombus, which could travel to the lungs as a pulmonary embolism.

82. A patient has been diagnosed with thromboangiitis obliterans (Buerger's disease). The nurse is identifying measures to help the patient cope with lifestyle changes needed to control the disease process. The nurse plans to refer the patient to which member of the health care team?
    a. Dietitian
    b. Medical social worker
    c. Pain management clinic
    d. Smoking cessation program

Rationale:
Buerger's disease is a vascular occlusive disease that affects the medium and small arteries and veins. Smoking is highly detrimental to the patient with Buerger's disease, so stopping smoking completely is recommended. Because smoking is a form of chemical dependency, referral to a smoking cessation program may be helpful for many patients. For many patients with Buerger's disease, symptoms are relieved or alleviated once smoking stops. A dietitian, a medical social worker, and a pain management clinic are not specifically associated with the lifestyle changes required in this disorder, although they may be needed if secondary problems arise.

83. The home health nurse is visiting a patient who has had a mechanical valve replacement for severe mitral valve stenosis. Which statement by the patient reflects an understanding of specific postoperative care after this surgery?
    a. "I need to count my pulse every day."
    b. "I have to do deep-breathing exercises every 2 hours."
    c. "I need to throw away my straight razor and buy an electric razor."
    d. "I have to go to the bathroom frequently because of my medication."

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Rationale:
Mechanical valves require long-term anticoagulation to prevent clots from forming on the "foreign" object implanted in the patient's body. Anticoagulation therapy requires patients to avoid any trauma or potential means of causing bleeding, such as the use of straight razors.

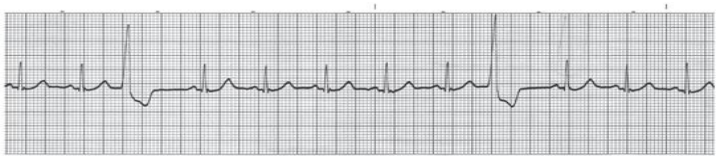
84. The nurse is planning to teach a patient with peripheral arterial disease about measures to limit disease progression. Which items should the nurse include on a list of suggestions for the patient? **Select all that apply.**
    a. Soak the feet in hot water daily.
    b. Be careful not to injure the legs or feet.
    c. Use a heating pad on the legs to aid vasodilation.
    d. Walk each day to increase circulation to the legs.
    e. Cut down on the amount of fats consumed in the diet.

85. The home health nurse visits a patient recovering after an episode of cardiogenic shock secondary to an anterior myocardial infarction (MI) and provides home care instructions to the patient. Which statement by the patient indicates an understanding of these home care measures?
    a. "I exercise every day after breakfast."
    b. "I've gained 8 pounds (3.6 kg) since discharge."
    c. "I take an antacid when I experience epigastric pain."
    d. "I have planned periods of rest at 10:00 a.m. and 3:00 p.m. daily."

86. A patient who had coronary artery bypass surgery states to the home health nurse, "I get so frustrated. I can't even do my gardening." The nurse then assesses the patient for activity level since the surgery. Which patient statement indicates a **need for further teaching?**
    a. "I pace my activities throughout the day."
    b. "I plan regular rest periods during the day."
    c. "I avoid outdoor physical activity during the heat of the day.
    d. "I try to walk immediately after lunch, after I've finished my
        a. morning housecleaning."

87. The nurse notes that a patient's cardiac rhythm shows absent P waves, no PR interval, and an irregular rhythm. How should the nurse interpret this rhythm?
    a. Bradycardia
    b. Tachycardia
    c. Atrial fibrillation
    d. Normal sinus rhythm (NSR)

88. The nurse is assigned the care of a patient with a diagnosis of heart failure who is receiving intravenous doses of furosemide. The patient is attached to cardiac telemetry, and the nurse is monitoring the patient's cardiac status. The nurse notes that the patient's cardiac rhythm has changed to this pattern. The nurse determines that the **most likely** cause of this cardiac rhythm in the patient is which problem? **Refer to Figure.**



    a. Pacemaker dysfunction
    b. The presence of hypokalemia
    c. The effectiveness of the furosemide
    d. An impending myocardial infarction (MI)

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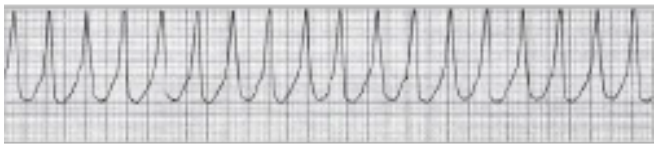
Rationale:
This cardiac rhythm is normal sinus rhythm with unifocal premature ventricular complexes (PVCs). PVCs may be insignificant, or they may occur with myocardial ischemia or MI; heart failure; hypokalemia; hypomagnesemia; medications; stress; nicotine, caffeine, or alcohol intake; infection; trauma; or surgery. This patient is receiving furosemide, a diuretic that causes the excretion of potassium. The most likely cause of the PVCs in this patient is hypokalemia. Option 3 is an incorrect interpretation. The question presents no data indicating that this patient has a pacemaker or has signs or symptoms of an impending MI.

89. A patient is attached to a cardiac monitor, and the nurse notes the presence of this cardiac rhythm on the monitor. The nurse quickly assesses the patient, knowing that this rhythm is indicative of which rhythm? **Refer to Figure.**
    a. Atrial fibrillation
    b. Ventricular fibrillation (VF) 46
    c. Ventricular tachycardia (VT)
    d. Premature ventricular complexes



90. The nurse is assessing a patient's legs for the presence of edema. The nurse notes that the patient has mild pitting with slight indentation and no perceptible swelling of the leg. How should the nurse define and document this finding?
    a. 1+ edema
    b. 2+ edema
    c. 3+ edema
    d. 4+ edema

91. The post–myocardial infarction patient is scheduled for a technetium-99m ventriculography (multigated acquisition [MUGA] scan). The nurse ensures that which item is in place before the procedure?
    a. A urinary catheter
    b. Signed informed consent
    c. A central venous pressure (CVP) line
    d. Notation of allergies to iodine or shellfish

92. The nurse is teaching a patient with cardiomyopathy about home care safety measures. The nurse should address with the patient which **most important** measure to ensure patient safety?
    a. Assessing pain
    b. Administering vasodilators
    c. Avoiding over-the-counter (OTC) medications
    d. Moving slowly from a sitting to a standing position

93. A patient with an acute respiratory infection is admitted to the hospital with a diagnosis of sinus tachycardia. Which nursing action should be included in the patient's plan of care?
    a. Limiting oral and intravenous fluids
    b. Measuring the patient's pulse each shift
    c. Providing the patient with short, frequent walks
    d. Eliminating sources of caffeine from meal trays

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94. A patient is scheduled for elective cardioversion to treat chronic high-rate atrial fibrillation. Which finding indicates that **further preparation is needed** for the procedure?
    a. The patient's digoxin has been withheld for the last 48 hours.
    b. The patient is wearing a nasal cannula delivering oxygen at 2 L/min.
    c. The defibrillator has the synchronizer turned on and is set at 120 joules (J).
    d. The patient has received an intravenous dose of a conscious sedation medication.

Rationale:
During the procedure, any oxygen is removed temporarily because oxygen supports combustion, and a fire could result from electrical arcing. Digoxin may be withheld for up to 48 hours before cardioversion because it increases ventricular irritability and may cause ventricular dysrhythmias after the countershock. The defibrillator is switched to synchronizer mode to time the delivery of the electrical impulse to coincide with the QRS and avoid the T wave, which could cause ventricular fibrillation. Energy level typically is set at 120 to 200 J for a biphasic machine. The patient typically receives a dose of an intravenous sedative or antianxiety agent.

95. The nurse is assisting in the care of a patient scheduled for cardioversion. The nurse plans to set the defibrillator to which starting energy range level, depending on the specific health care provider (HCP) prescription?
    a. 120 joules
    b. 200 joules
    c. 250 joules
    d. 350 joules

96. A patient has developed uncontrolled atrial fibrillation with a ventricular rate of 150 beats/min. What manifestation should the nurse observe for when performing the patient's focused assessment?
    a. Flat neck veins
    b. Nausea and vomiting
    c. Hypotension and dizziness
    d. Clubbed fingertips and headache

Rationale:
The patient with uncontrolled atrial fibrillation with a ventricular rate greater than 100 beats/min is at risk for low cardiac output due to loss of atrial kick. The nurse assesses the patient for palpitations, chest pain or discomfort, hypotension, pulse deficit, fatigue, weakness, dizziness, syncope, shortness of breath, and distended neck veins.

97. The nurse has provided self-care activity instructions to a patient after insertion of an implanted cardioverter-defibrillator (ICD). The nurse determines that **further instruction is needed** if the patient makes which statement?
    a. "I need to avoid doing anything that could involve rough contact with the ICD insertion site."
    b. "I can perform activities such as swimming, driving, or operating heavy equipment as I need to."
    c. "I should try to avoid doing strenuous things that would make my heart rate go up to or above the rate cutoff on the ICD."
    d. "I should keep away from electromagnetic sources such as transformers, large electrical generators, and metal detectors, and I shouldn't lean over running motors."

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Rationale:
Post-discharge instructions typically include avoiding tight clothing or belts over the ICD insertion sites; rough contact with the ICD insertion site; and electromagnetic fields such as with electrical transformers, radio/TV/radar transmitters, metal detectors, and running motors of cars or boats. Patients also must alert health care providers (HCPs) or dentists to the presence of the device because certain procedures such as diathermy, electrocautery, and magnetic resonance imaging may need to be avoided to prevent device malfunction. Patients should follow the specific advice of a HCP regarding activities that are potentially hazardous to self or others, such as swimming, driving, or operating heavy equipment.

98. A patient with a history of hypertension has been prescribed triamterene. The nurse determines that the patient understands the effect of this medication on the diet if the patient states to avoid which fruit?
    a. Pears
    b. Apples
    c. Bananas
    d. Cranberries

99. A patient is admitted to the hospital with a diagnosis of pericarditis. The nurse should assess the patient for which manifestation that differentiates pericarditis from other cardiopulmonary problems?
    a. Anterior chest pain
    b. Pericardial friction rub
    c. Weakness and irritability
    d. Chest pain that worsens on inspiration

100. Cardiac monitoring leads are placed on a patient who is at risk for premature ventricular contractions (PVCs). Which heart rhythm will the nurse anticipate in this patient if PVCs are occurring?
    a. A P wave preceding every QRS complex
    b. QRS complexes that are short and narrow
    c. Inverted P waves before the QRS complexes
    d. Premature beats followed by a compensatory pause

101. The nurse is developing a plan of care for a patient recovering from pulmonary edema. The nurse establishes a goal to have the patient participate in activities that reduce cardiac workload. The nurse should identify which patient action as contributing to this goal?
    a. Using a bedside commode
    b. Sleeping in the supine position
    c. Elevating the legs when in bed
    d. Using seasonings to improve the taste of food

Rationale:
Using a bedside commode decreases the work of getting to the bathroom or struggling to use the bedpan. The supine position increases respiratory effort and decreases oxygenation. Elevating the patient's legs increases venous return to the heart thus increasing cardiac workload. Seasonings may be high in sodium and promote further fluid retention.

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102. The nurse is performing an admission assessment on a patient with a diagnosis of Raynaud's disease. How should the nurse assess for this disease?
   a. Checking for a rash on the digits
   b. Observing for softening of the nails or nail beds
   c. Palpating for a rapid or irregular peripheral pulse
   d. Palpating for diminished or absent peripheral pulse

103. The health care provider (HCP) prescribes limited activity (bed rest and bathroom only) for a patient who developed deep vein thrombosis (DVT) after surgery. What interventions should the nurse plan to include in the patient's plan of care? **Select all that apply.**
   a. Encourage coughing with deep breathing.
   b. Place in high Fowler's position for eating.
   c. Encourage increased oral intake of water daily.
   d. Place thigh-length elastic stockings on the patient.
   e. Place sequential compression boots on the patient.
   f. Encourage the intake of dark green, leafy vegetables.

Rationale:
The patient with DVT may require bed rest to prevent embolization of the thrombus resulting from skeletal muscle action, anticoagulation to prevent thrombus extension and allow for thrombus autodigestion, fluids for hemodilution and to decrease blood viscosity, and elastic stockings to reduce peripheral edema and promote venous return. While the patient is on bed rest, the nurse prevents complications of immobility by encouraging coughing and deep breathing. Venous return is important to maintain because it is a contributing factor in DVT, so the nurse maintains venous return from the lower extremities by avoiding hip flexion, which occurs with high Fowler's position. The nurse avoids providing foods rich in vitamin K, such as dark green, leafy vegetables, because this vitamin can interfere with anticoagulation, thereby increasing the risk of additional thrombi and emboli. The nurse also would not include use of sequential compression boots for an existing thrombus. They are used only to prevent DVT, because they mimic skeletal muscle action and can disrupt an existing thrombus, leading to pulmonary embolism.

104. Spironolactone is prescribed for a patient with heart failure. In providing dietary instructions to the patient, the nurse identifies the need to avoid foods that are high in which electrolyte?
   a. Calcium
   b. Potassium
   c. Magnesium
   d. Phosphorus

105. A patient is seen in the emergency department for complaints of chest pain that began 3 hours ago. The nurse should suspect myocardial injury or infarction if which laboratory value comes back elevated?
   a. Myoglobin
   b. Troponin
   c. C-reactive protein
   d. Creatine kinase (CK)

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106. The nurse is giving discharge instructions to a patient who has just undergone vein ligation and stripping. The nurse evaluates that the patient understands activity and positioning limitations if the patient states that which action is appropriate to do?
a. Walk for as long as possible each day.
b. Cross the legs at the ankle only, not at the knee.
c. Sit in a chair 3 times a day for 3 hours at a time.
d. Lie down with the legs elevated and avoid sitting.

107. A patient with no history of cardiovascular disease comes to the ambulatory clinic with flulike symptoms. The patient suddenly complains of chest pain. Which question should **best** help the nurse discriminate pain caused by a noncardiac problem?
a. "Can you describe the pain to me?"
b. "Have you ever had this pain before?"
c. "Does the pain get worse when you breathe in?"
d. "Can you rate the pain on a scale of 1 to 10, with 10 being the worst?"

108. Endovenous laser treatment (EVLT) is done on a patient with varicose veins. Which interventions should the nurse include in the post-procedure plan of care?
a. Inform the patient that the EVLT procedure ensures closure of the treated vein
b. Assess color and temperature of the affected limb to determine vascular status.
c. Teach the patient the importance of using graduated compression stockings (GCSs) during the day.
d. Inform the patient that circulation impairment and nerve damage is expected to occur following the procedure.

109. The nurse is conducting a health history of a patient with a primary diagnosis of heart failure. Which conditions reported by the patient could play a role in exacerbating the heart failure? **Select all that apply.**
a. Emotional stress
b. Atrial fibrillation
c. Nutritional anemia
d. Peptic ulcer disease
e. Recent upper respiratory infection

110. The registered nurse (RN) is listening to a lecture on pulmonary edema. Which statement by the RN indicates that the teaching has been **effective?**
a. "The patient may have mild anxiety."
b. "The patient will not experience anxiety."
c. "The patient will experience extreme anxiety."
d. "The patient will only experience anxiety in a stressful environment."

111. A patient with pulmonary edema has been receiving diuretic therapy. The patient has a prescription for additional furosemide in the amount of 40 mg intravenous push. Knowing that the patient will also be started on digoxin, which laboratory result should the nurse review as the **priority?**
a. Sodium level
b. Digoxin level
c. Creatinine level
d. Potassium level

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112. A patient is at risk for vasovagal attacks that cause brady dysrhythmias. The nurse would tell the patient to avoid which actions to prevent this occurrence? **Select all that apply.**
a. Applying pressure on the eyes
b. Raising the arms above the head
c. Taking stool softeners on a daily basis
d. Bearing down during a bowel movement
e. Simulating a gag reflex when brushing the teeth

113. The nurse employed in a cardiac unit determines that which patient is the least likely to have an implanted cardioverter-defibrillator (ICD) inserted?
a. A patient with syncopal episodes related to ventricular tachycardia
b. A patient with ventricular dysrhythmias despite medication therapy
c. A patient with an episode of cardiac arrest related to myocardial infarction
d. A patient with 3 episodes of cardiac arrest unrelated to myocardial infarction

114. The nurse is caring for a patient immediately after insertion of a permanent demand pacemaker via the right subclavian vein. Which activity will assist with preventing dislodgement of the pacing catheter?
a. Limiting both movement and abduction of the left arm
b. Limiting both movement and abduction of the right arm
c. Assisting the patient to get out of bed and ambulate with a walker
d. Having the physical therapist do active range-of-motion exercises to the right arm

115. A patient seeks treatment in a health care provider's office for unsightly varicose veins, and radiofrequency ablation (RFA) is recommended. Before leaving the examining room, the patient says to the nurse, "Can you tell me again how this is done?" Which statement should the nurse make?
a. "The varicosity is surgically removed."
b. "A heating element is used to occlude the vein."
c. "The vein is tied off at the upper end to prevent stasis from occurring."
d. "The vein is tied off at the lower end to prevent stasis from occurring."

116. A patient is having a follow-up health care provider (HCP) office visit after vein ligation and stripping. The patient describes a sensation of "pins and needles" in the affected leg. Which would be an appropriate action by the nurse based on evaluation of the patient's comment?
a. Report the complaint to the HCP.
b. Instruct the patient to apply warm packs.
c. Reassure the patient that this is only temporary.
d. Advise the patient to take acetaminophen until it is gone.

117. A patient is scheduled for a cardiac catheterization using an iodineagent. Which assessment is **most**critical before the procedure?
a. Intake and output
b. Height and weight
c. Baseline peripheral pulse rates
d. Previous allergy to contrast agents

118. The nurse is assessing a patient with an abdominal aortic aneurysm. Which assessment finding by the nurse is unrelated to the aneurysm?
1. Pulsatile abdominal mass
2. Hyperactive bowel sounds in the area
3. Systolic bruit over the area of the mass
4. Subjective sensation of "heart beating" in the abdomen

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119. The nurse is providing postoperative care for a patient who had a percutaneous insertion of an inferior vena cava filter and was on heparin therapy before surgery. The nurse should be **most** concerned about monitoring for which potential complications?
a. Bleeding and infection
b. Thrombosis and infection
c. Bleeding and wound dehiscence
d. Wound dehiscence and evisceration

120. The nurse is listening to a lecture on Advanced Cardiac Life Support (ACLS). The instructor is discussing electrocardiographic (ECG) changes caused by myocardial ischemia. Which statement by the nurse indicates that teaching has been **effective?**
a. "Tall, peaked T waves can indicate ischemia."
b. "Prolonged PR interval can indicate ischemia."
c. "Widened QRS complex can indicate ischemia."
d. "ST segment elevation or depression can indicate ischemia."

Rationale:
An ECG taken during a chest pain episode captures ischemic changes, which include ST segment elevation or depression. Tall, peaked T waves may indicate hyperkalemia. A prolonged PR interval indicates first-degree heart block. A widened QRS complex indicates delay in intraventricular conduction, such as a bundle branch block.

121. The nurse is preparing to ambulate a patient on the third day after cardiac surgery. What should the nurse plan to do to enable the patient to **best** tolerate the ambulation?
a. Remove telemetry equipment.
b. Provide the patient with a walker.
c. Premedicate the patient with an analgesic.
d. Encourage the patient to cough and breathe deeply.

122. A patient with rapid-rate atrial fibrillation asks the nurse why the health care provider (HCP) is going to perform carotid sinus massage. The nurse educates the patient about the treatment. Which statement by the patient indicates that the teaching has been **effective?**
a. "The vagus nerve slows the heart rate."
b. "The diaphragmatic nerve slows the heart rate."
c. "The diaphragmatic nerve overdrives the rhythm."
d. "The vagus nerve increases the heart rate, overdriving the rhythm."

123. The nurse assesses the sternotomy incision of a patient on the third day after cardiac surgery. The incision shows some slight puffiness along the edges and is non-reddened, with no apparent drainage. The patient's temperature is 99°F (37.2°C) orally. The white blood cell count is 7500 mm^3 (7.5×10^9/L). How should the nurse interpret these findings?
a. Incision is slightly edematous but shows no active signs of infection.
b. Incision shows early signs of infection, although the temperature is nearly normal.
c. Incision shows no sign of infection, although the white blood cell count is elevated.
d. Incision shows early signs of infection, supported by an elevated white blood cell count.

Rationale:
Sternotomy incision sites are assessed for signs and symptoms of infection, such as redness, swelling, induration, and drainage. An elevated temperature and white blood cell count 3 to 4 days postoperatively usually indicate infection. Therefore, the option indicating that there is slight edema and no active signs of infection is correct.

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124. The nurse notes bilateral 2+ edema in the lower extremities of a patient with myocardial infarction who was admitted 2 days ago. Based on this observation, what should the nurse plan to do **first?**
a. Review intake and output records for the last 2 days.
b. Prescribe daily weights starting on the following morning.
c. Change the time of diuretic administration from morning to evening.
d. Request a sodium restriction of 1 g/day from the health care provider (HCP).

125. The nurse is evaluating a patient's cardiac rhythm strip to determine if there is proper function of the VVI mode pacemaker. Which denotes proper functioning?
a. Spikes precede all P waves and QRS complexes.
b. There are consistent spikes before each P wave.
c. Spikes occur before QRS complexes when intrinsic ventricular beats do not occur.
d. Spikes occur before all QRS complexes regardless of intrinsic ventricular activity.

126. The nurse determines that a patient **requires further teaching** after permanent pacemaker insertion if which statement is made?
a. "My pulse rate should be less than what my pacemaker is set at."
b. "I'll need to call my health care provider if I feel tired or dizzy."
c. "I'll have to avoid carrying the grocery bags into the house for the next 6 weeks.
d. "It's safe to use my microwave as long it is properly grounded and well shielded."

127. The nurse is reviewing the procedure for performance of an electrocardiogram (ECG). Which action by the nurse indicates understanding of the correct position for the V1lead when performing a 12-lead electrocardiogram?
a. "The lead should be placed on the fourth intercostal space left sternal border."
b. "The lead should be placed on the fourth intercostal space right sternal border."
c. "The lead should be placed on the fifth intercostal space left midaxillary line."
d. "The lead should be placed on the fifth intercostal space left midclavicular line."

128. After instruction on the application of antiembolism stockings, the nurse determines that the patient **requires further teaching** if which of these actions is performed?
a. The patient puts on the stockings before getting out of bed.
b. The patient bunches up the stockings for easier application.
c. The patient ensures that stockings are pulled up all the way
d. The patient ensures that the rough seams of the stockings are on the outside.

129. The nurse is assessing a patient newly diagnosed with mild hypertension. Which assessment finding should the nurse expect?
a. Asymptomatic
b. Shortness of breath
c. Visual disturbances
d. Frequent nosebleeds

130. The nurse monitors the patient for which condition as a complication of polycythemia vera?
a. Thrombosis
b. Hypotension
c. Cardiomyopathy
d. Pulmonary edema

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Rationale:
Polycythemia vera is a disorder of the bone marrow. It results in excessive production of white blood cells, red blood cells, and platelets. Patients with polycythemia vera are also more likely to form blood clots that can cause thrombi, strokes, myocardial infarctions, and abnormal bleeding. Patients with polycythemia vera are hypertensive; therefore, hypotension is incorrect. Cardiomyopathy and pulmonary edema are not concerns with this disorder.

131. A chaotic small, irregular, disorganized cardiac pattern suddenly appears on a patient's cardiac monitor. Which is the nurse's **first** action?
   a. Check the blood pressure.
   b. Call the health care provider (HCP).
   c. Check the patient and the chest leads.
   d. Initiate cardiopulmonary resuscitation (CPR).

132. Which is the **priority** assessment in the care of a patient who is newly admitted to the hospital for acute arterial insufficiency of the left leg and moderate chronic arterial insufficiency of the right leg?
   a. Monitor oxygen saturation with pulse oximetry.
   b. Assess activity tolerance before and after exercise.
   c. Observe the patient's cardiac rhythm with telemetry.
   d. Assess peripheral pulses with an ultrasonic Doppler device.

133. A patient's electrocardiogram shows that the ventricular rhythm is irregular and there are no discernible P waves. The nurse recognizes that this pattern is associated with which condition?
   a. Atrial flutter
   b. Atrial fibrillation
   c. Third-degree atrioventricular (AV) block
   d. First-degree AV block

134. The nurse is caring for a patient after an above-the-knee amputation. The nurse assesses the residual (remaining) limb and expects to note which finding?
   a. Pink color to the skin flap
   b. Hot feeling on palpation of the skin flap
   c. Serous fluid leaking from the skin flap incision
   d. Absent pulse at the proximal pulse point site closest to the skin flap

135. The nurse is caring for a postoperative patient who has lost a significant amount of blood because of complications during a surgical procedure. Which assessment finding would be indicative of further fluid volume deficit?
   a. 4+ edema noted in lower extremities
   b. Crackles auscultated from lung bases to apices
   c. Blood pressure rises from 116/68 to 118/74 mm Hg
   d. Pulse rate increases from 100 beats/min to 136 beats/min

136. The nurse reading the operative record of a patient who had cardiac surgery notes that the patient's cardiac output immediately after surgery was 3.2 L/min. Evaluation of the cardiac output results leads the nurse to make which conclusion?
   a. The cardiac output is above the normal range
   b. The cardiac output is below the normal range.
   c. The cardiac output is in the low-normal range.
   d. The cardiac output is in the high-normal range.

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Rationale:
The normal cardiac output for the adult can range from 4 to 7 L/min. Therefore, a cardiac output of 3.2 L/min is below normal range.

137. The nurse is auscultating a 56-year-old adult patient's apical heart rate before giving digoxin and notes that the heart rate is 48 beats/minute. Which action should the nurse take?
a. Withhold the digoxin and re-evaluate the heart rate in 4 hours.
b. Administer half of the prescribed dose to avoid a further decrease in heart rate.
c. Withhold the digoxin and assess for signs of decreased cardiac output and digoxin toxicity.
d. Administer the digoxin; the heart rate would be considered normal because of the patient's age.

138. A new registered nurse (RN) is assisting the RN in admitting a patient who has a diagnosis of hypothermia. The RN provides education to the new RN on anticipated vital signs in the patient with hypothermia. Which statement by the new RN indicates that the teaching has been **effective?**
a. "The patient will likely exhibit increased heart rate and increased blood pressure."
b. "The patient will likely exhibit increased heart rate and decreased blood pressure."
c. "The patient will likely exhibit decreased heart rate and increased blood pressure."
d. "The patient will likely exhibit decreased heart rate and decreased blood pressure."

139. A patient has been admitted with left-sided heart failure. When planning care for the patient, interventions should be focused on reduction of which specific problem associated with this type of heart failure?
a. Ascites
b. Pedal edema
c. Bilateral lung crackles
d. Jugular vein distention

140. The nurse is educating the patient about variant angina. Which statement by the patient indicates that the teaching has been **effective?**
a. "Variant angina is induced by exercise."
b. "Variant angina occurs at the same time each day."
c. "Variant angina occurs at lower levels of activity."
d. "Variant angina is less predictable and a precursor of myocardial infarction."

Rationale:
Variant angina, or Prinz metal's angina, is prolonged and severe and occurs at the same time each day, usually in the morning. Stable angina is induced by exercise and relieved by rest or nitroglycerin tablets. Unstable angina occurs at lower levels of activity than those that previously precipitated the angina. Unstable angina also occurs at rest, is less predictable, and is often a precursor of myocardial infarction.

141. A patient's total cholesterol level is 344 mg/dL (8.6 mmol/L), low-density lipoprotein cholesterol (LDL-C) level is 164 mg/dL (4.25 mmol/L), and high-density lipoprotein cholesterol (HDL-C) level is 30 mg/dL (1.2 mmol/L). Based on analysis of the data, how should the nurse direct patient teaching?
a. The patient should maintain the current dietary regimen but increase activity level.
b. Results are inconclusive unless the triglyceride level is also screened, so teaching is not indicated at this time.
c. The patient is at high risk for cardiovascular disease, and measures to modify all identified risk factors should be taught
d. The patient is at low risk for cardiovascular disease, so the patient should be encouraged to continue to follow the current regimen.

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Rationale:
In the absence of documented cardiovascular disease, the desired goal is to have the total cholesterol level lower than 200 mg/dL (<5 mmol/L). A desired LDL-C level for all individuals is lower than 100 mg/dL (<2.59 mmol/L), and a desirable HDL-C level is higher than 40 mg/dL (>1.55 mmol/L).
Because the patient's levels are outside the range to a significant degree for all three values, the patient is at high risk for developing cardiovascular disease and requires teaching on risk factor reduction.

142. An ambulatory care nurse measures the blood pressure of a patient and finds it to be 156/94 mm Hg. Which statement indicates that the patient **needs additional education?**
   a. "It is important that I limit protein intake."
   b. "I need to maintain a regular exercise program."
   c. "I understand that I need to avoid adding salt to foods.
   d. "It is important that I begin reducing and then maintaining weight."

143. The nurse identifies that a patient is having occasional premature ventricular contractions (PVCs) on the cardiac monitor. The nurse reviews the patient's laboratory results and determines that which result would be consistent with the observation?
   a. Serum chloride level of 98 mEq/L (98 mmol/L)
   b. Serum sodium level of 145 mEq/L (145 mmol/L)
   c. Serum calcium level of 10.5 mg/dL (2.75 mmol/L)
   d. Serum potassium level of 2.8 mEq/L (2.8 mmol/L

144. The nurse is performing a cardiovascular assessment on a patient. Which parameter would the nurse assess to gain the **best** information about the patient's left-sided heart function?
   a. Breath sounds
   b. Peripheral edema
   c. Hepatojugular reflux
   d. Jugular vein distention

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