

# Cardiac-Vascular Nursing (CVRN) Practice Exam (Sample)

## Study Guide



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**SAMPLE**

## **Questions**

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- 1. What initial test should the nurse prepare a patient for who reports palpitations and dizziness with irregular apical pulse?**
  - A. Computed tomography (CT) scan of the head w/out contrast**
  - B. Coronary angiography**
  - C. Twelve-lead electrocardiogram (ECG)**
  - D. Vascular doppler studies**
- 2. What does the term "claudication" refer to in a cardiovascular context?**
  - A. Pain in the chest during exertion**
  - B. Pain or cramping in the legs during activity**
  - C. Nausea from heart medications**
  - D. Swelling in the extremities**
- 3. Which vital sign change should be closely monitored in a patient taking beta-blockers for hypertension?**
  - A. Increased blood pressure**
  - B. Bradycardia**
  - C. Increased respiratory rate**
  - D. Hyperthermia**
- 4. What is the purpose of using aspirin in cardiovascular disease management?**
  - A. To lower cholesterol levels**
  - B. To prevent blood clot formation by inhibiting platelet aggregation**
  - C. To improve heart rate variability**
  - D. To enhance cardiac muscle strength**
- 5. Identify a key sign of deep vein thrombosis (DVT).**
  - A. Redness on the skin**
  - B. Swelling of the affected leg**
  - C. Coldness in the extremities**
  - D. Chest pain**

**6. Which risk factor for heart disease is non-modifiable?**

- A. Smoking**
- B. Sedentary lifestyle**
- C. Age**
- D. High cholesterol**

**7. Which of the following factors helps identify clients at risk for a cardiac event?**

- A. Use of tobacco in any form**
- B. Exposure to environmental toxins**
- C. Family history of cardiac disease**
- D. Hypertension**

**8. How often should blood pressure be monitored in patients with known hypertension until controlled?**

- A. Every month**
- B. Every 2-4 weeks**
- C. Every 3-6 months**
- D. Weekly**

**9. In which scenario should a patient be instructed to seek immediate medical care post-cardiac procedure?**

- A. Experiencing mild discomfort at the incision site**
- B. Feeling lightheaded after standing up**
- C. Noticing increased swelling in the leg**
- D. Having chest pain or shortness of breath**

**10. What lifestyle choice is most associated with an increased risk of coronary artery disease?**

- A. Regular exercise**
- B. Healthy diet**
- C. Smoking**
- D. Stress management**

## **Answers**

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1. C
2. B
3. B
4. B
5. B
6. C
7. A
8. B
9. D
10. C

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## **Explanations**

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- 1. What initial test should the nurse prepare a patient for who reports palpitations and dizziness with irregular apical pulse?**
  - A. Computed tomography (CT) scan of the head w/out contrast**
  - B. Coronary angiography**
  - C. Twelve-lead electrocardiogram (ECG)**
  - D. Vascular doppler studies**

The appropriate initial test for a patient presenting with palpitations and dizziness, especially with an irregular apical pulse, is the twelve-lead electrocardiogram (ECG). This test is crucial because it provides immediate, valuable information about the electrical activity of the heart. Palpitations can be symptomatic of various arrhythmias, and the ECG can help identify these conditions by showing abnormal heart rhythms or evidence of ischemia. In this scenario, the ECG allows the healthcare provider to quickly ascertain whether there are any underlying cardiac issues contributing to the patient's symptoms. Irregularities noted on the ECG could indicate atrial fibrillation, other types of arrhythmias, or other cardiac anomalies that need further management. The other tests listed, such as a CT scan of the head, coronary angiography, or vascular doppler studies, would not be the first-line evaluations for someone with these specific symptoms. A CT scan of the head may be relevant in cases of neurological concerns, coronary angiography focuses on the coronary arteries to evaluate for blockages, and vascular doppler studies assess blood flow in the arteries and veins but do not provide information about heart rhythm or electrical activity. Therefore, the twelve-lead ECG is the most appropriate and effective initial diagnostic tool.

- 2. What does the term "claudication" refer to in a cardiovascular context?**
  - A. Pain in the chest during exertion**
  - B. Pain or cramping in the legs during activity**
  - C. Nausea from heart medications**
  - D. Swelling in the extremities**

The term "claudication" in a cardiovascular context specifically refers to pain or cramping in the legs during physical activity, such as walking or climbing stairs. This condition arises due to insufficient blood flow to the muscles in the legs, often resulting from peripheral artery disease (PAD). When the demand for oxygen in the leg muscles exceeds the supply due to narrowed or blocked arteries, the person experiences discomfort. This pain typically resolves with rest, as the muscles require less blood flow when they are not active. Understanding claudication is essential for nursing care and patient education, as it can signify underlying cardiovascular issues and may prompt further evaluation and management of peripheral vascular health. This knowledge aids in identifying patients who may benefit from lifestyle changes, medications, or surgical interventions to improve blood flow and overall cardiovascular function.

**3. Which vital sign change should be closely monitored in a patient taking beta-blockers for hypertension?**

- A. Increased blood pressure**
- B. Bradycardia**
- C. Increased respiratory rate**
- D. Hyperthermia**

Monitoring for bradycardia in patients taking beta-blockers is critical due to the pharmacological effects these medications have on the cardiovascular system. Beta-blockers work by blocking the effects of adrenaline on beta-adrenergic receptors, which leads to a decrease in heart rate and contractility. While this is beneficial for controlling hypertension and reducing cardiac workload, it can cause significant drops in heart rate, leading to bradycardia. Bradycardia can manifest as symptoms like dizziness, fatigue, or even syncope, and it may not always be symptomatic, making vigilant monitoring essential. In some cases, if the heart rate falls too low, it can pose serious risks, including decreased cardiac output and the potential for arrhythmias. The other vital signs mentioned, such as increased blood pressure, increased respiratory rate, and hyperthermia, are generally not direct concerns associated with beta-blocker therapy in this context. Increased blood pressure might indicate inadequate medication control or noncompliance, while increased respiratory rate and hyperthermia are typically associated with other clinical conditions rather than a direct side effect of beta-blockers. Thus, bradycardia is the most pertinent vital sign change that requires close observation.

**4. What is the purpose of using aspirin in cardiovascular disease management?**

- A. To lower cholesterol levels**
- B. To prevent blood clot formation by inhibiting platelet aggregation**
- C. To improve heart rate variability**
- D. To enhance cardiac muscle strength**

Aspirin is employed in cardiovascular disease management primarily for its antiplatelet effects, specifically to prevent blood clot formation by inhibiting platelet aggregation. In the context of cardiovascular diseases, the formation of blood clots can lead to critical events such as heart attacks and strokes. By preventing platelets from sticking together and forming clots, aspirin reduces the likelihood of these events occurring, which is essential for patients at risk of such complications. The other options provided do not align with the primary purpose of aspirin in this context. Lowering cholesterol levels is typically achieved through other medications, such as statins. Improving heart rate variability involves different therapeutic approaches and is not a direct effect of aspirin. Similarly, enhancing cardiac muscle strength relates to medications and interventions aimed at improving cardiac function, rather than the antiplatelet role of aspirin. Therefore, the choice that reflects the key role of aspirin in managing cardiovascular disease is its ability to inhibit platelet aggregation, thereby preventing blood clot formation.

## 5. Identify a key sign of deep vein thrombosis (DVT).

- A. Redness on the skin
- B. Swelling of the affected leg**
- C. Coldness in the extremities
- D. Chest pain

Swelling of the affected leg is a key sign of deep vein thrombosis (DVT) due to the accumulation of fluid in the tissues around the affected vein. When a clot forms within a deep vein, it impedes normal blood flow, causing blood to pool in the surrounding area. This results in localized swelling, often accompanied by a feeling of heaviness in the affected leg. Additionally, the swelling can be noticeable when comparing it to the opposite leg, which usually appears normal. This distinct difference can serve as a critical indicator for healthcare professionals to consider the possibility of DVT. Other signs, such as redness on the skin or coldness in the extremities, may also occur but are less definitive in comparison to swelling. Chest pain, on the other hand, is more characteristic of complications arising from DVT, such as a pulmonary embolism, rather than a DVT itself.

## 6. Which risk factor for heart disease is non-modifiable?

- A. Smoking
- B. Sedentary lifestyle
- C. Age**
- D. High cholesterol

Age is considered a non-modifiable risk factor for heart disease because it is an inherent characteristic that individuals cannot change. As people age, the risk for developing various cardiovascular conditions, such as coronary artery disease and heart failure, generally increases. This is due to a combination of biological changes that occur with aging, such as increased arterial stiffness, changes in heart structure and function, and the cumulative effect of other risk factors over time. In contrast, factors like smoking, a sedentary lifestyle, and high cholesterol can be modified or managed through lifestyle changes, interventions, or medications. For example, individuals can choose to quit smoking, engage in regular physical activity, and adopt dietary changes to lower their cholesterol levels. Understanding the distinction between modifiable and non-modifiable risk factors is crucial in developing preventive strategies for heart disease and managing overall cardiovascular health.

**7. Which of the following factors helps identify clients at risk for a cardiac event?**

- A. Use of tobacco in any form**
- B. Exposure to environmental toxins**
- C. Family history of cardiac disease**
- D. Hypertension**

Identifying clients at risk for a cardiac event involves recognizing various factors that contribute to cardiovascular health. One significant factor is the use of tobacco in any form, which is known to have a profound negative impact on cardiovascular health. Tobacco use causes vascular damage, elevates blood pressure, increases heart rate, and promotes the development of atherosclerosis (plaque buildup in arteries). These changes collectively heighten the risk of heart attacks and other cardiac events. In this context, while other factors mentioned, such as exposure to environmental toxins, family history of cardiac disease, and hypertension, are also relevant to assessing cardiac risk, the direct and well-established relationship between tobacco use and heart disease makes it a prominent risk factor. Tobacco not only adversely affects the cardiovascular system, but it is also a modifiable risk factor, meaning that cessation can significantly improve a person's heart health.

**8. How often should blood pressure be monitored in patients with known hypertension until controlled?**

- A. Every month**
- B. Every 2-4 weeks**
- C. Every 3-6 months**
- D. Weekly**

Monitoring blood pressure in patients with known hypertension is critical for assessing the effectiveness of treatment and ensuring that blood pressure levels are brought under control. The recommendation to monitor every 2 to 4 weeks allows healthcare providers to closely track any changes and make necessary adjustments to the treatment plan. This timeframe is particularly important after changes in medication or when lifestyle interventions are initiated, as it provides an appropriate balance between vigilance and practicality. Frequent monitoring during this period helps in identifying any inadequacies in the current treatment regimen, potential side effects of medications, and the overall response of the patient to lifestyle modifications. Once the patient's blood pressure is controlled and remains stable, the frequency of monitoring can typically be reduced to less frequent intervals, such as every 3 to 6 months. This is aligned with clinical guidelines that aim to optimize patient outcomes while also ensuring efficient use of healthcare resources.

**9. In which scenario should a patient be instructed to seek immediate medical care post-cardiac procedure?**

- A. Experiencing mild discomfort at the incision site**
- B. Feeling lightheaded after standing up**
- C. Noticing increased swelling in the leg**
- D. Having chest pain or shortness of breath**

The scenario in which a patient should be instructed to seek immediate medical care post-cardiac procedure involves having chest pain or shortness of breath. These symptoms can indicate serious complications such as myocardial infarction (heart attack) or pulmonary embolism, both of which require urgent medical attention. Chest pain may stem from issues related to the heart's function or the integrity of the cardiovascular system after a procedure, while shortness of breath could signify respiratory distress or inadequate cardiac output. It's crucial for patients to be aware that these symptoms are not typical expected outcomes following cardiac interventions, and they warrant immediate assessment by healthcare professionals to determine the underlying cause and provide the necessary treatment.

**10. What lifestyle choice is most associated with an increased risk of coronary artery disease?**

- A. Regular exercise**
- B. Healthy diet**
- C. Smoking**
- D. Stress management**

Choosing to smoke is a significant lifestyle factor that is closely associated with an increased risk of coronary artery disease. Smoking contributes to the development of atherosclerosis, which is the buildup of plaque in the arteries, thus narrowing the blood vessels and impeding blood flow. This condition can lead to various cardiovascular issues, including heart attacks and strokes. Moreover, the chemicals present in tobacco smoke damage the lining of blood vessels, promote blood clot formation, and increase heart rate and blood pressure. The cumulative effect of these harmful factors makes smoking a formidable risk factor for coronary artery disease. In contrast, lifestyle choices like regular exercise, a healthy diet, and stress management are all protective factors that contribute to cardiovascular health and help lower the overall risk of coronary artery disease.