

AACN ECCO Pulmonary Practice Exam (Sample)

Study Guide



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SAMPLE

Questions

SAMPLE

- 1. After a bronchoscopy, which symptoms should a nurse monitor for in the patient?**
 - A. Fluid overload**
 - B. Vagal response**
 - C. Infection signs**
 - D. Hemorrhaging**
- 2. What condition would a pH of less than 7.2 most likely suggest?**
 - A. Respiratory acidosis**
 - B. Metabolic acidosis**
 - C. Severe hypoxia**
 - D. Respiratory alkalosis**
- 3. In the case of a patient with ARDS on BiPAP showing signs of rapid deterioration, what action should the nurse anticipate?**
 - A. Administer bronchodilator therapy**
 - B. Call for emergency response for intubation**
 - C. Increase the BiPAP pressure settings**
 - D. Transfer the patient to physical therapy**
- 4. What is the initial treatment indicated for a patient with pleural effusion who develops empyema?**
 - A. Chest tube insertion**
 - B. Fluid restriction**
 - C. Antibiotics**
 - D. Thoracentesis**
- 5. A patient with a hemothorax has a chest tube in place. Which nursing intervention should be anticipated?**
 - A. Attach chest tube to wall suction**
 - B. Drain the tube manually**
 - C. Obtain a chest x-ray**
 - D. Remove the chest tube**

- 6. In the event of a patient experiencing chest pain and difficulty breathing, what is the best initial assessment?**
- A. Cardiac enzymes**
 - B. ABG analysis**
 - C. Chest X-ray**
 - D. Patient history**
- 7. For a patient with acute respiratory failure, which action may indicate a worsening condition?**
- A. Increased SpO2 with less oxygen**
 - B. Stable respiratory rate**
 - C. Declining SpO2 levels**
 - D. Decreased heart rate**
- 8. In patients with chronic respiratory failure, what is a common goal of therapy?**
- A. Improve overall respiratory function**
 - B. Avoid the need for hospitalization**
 - C. Optimize oxygenation**
 - D. Decrease anxiety levels**
- 9. For a patient experiencing worsening chest pain on deep breathing and orthopnea, what nursing intervention should be anticipated?**
- A. Perform a bedside echocardiogram**
 - B. Administer furosemide**
 - C. Increase oxygen flow rate**
 - D. Initiate cardiac monitoring**
- 10. What is the most appropriate initial intervention for a patient with respiratory distress admitted on 4 L/min NC and an ABG indicating respiratory acidosis?**
- A. Initiation of high-flow oxygen therapy**
 - B. Intubation for mechanical ventilation**
 - C. Initiation of BiPAP**
 - D. Continuous pulse oximetry monitoring**

Answers

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

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Explanations

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1. After a bronchoscopy, which symptoms should a nurse monitor for in the patient?

- A. Fluid overload**
- B. Vagal response**
- C. Infection signs**
- D. Hemorrhaging**

Monitoring for a vagal response after a bronchoscopy is crucial due to the procedure's potential effects on the autonomic nervous system. During bronchoscopy, stimulation of the airway can lead to a vagal reflex, resulting in bradycardia (a decrease in heart rate) and hypotension (low blood pressure). These changes can occur in response to the irritation of the airways or manipulation of the trachea, and recognizing these symptoms is important for prompt intervention if needed. Following bronchoscopy, it is also appropriate to be vigilant for signs related to fluid overload, signs of infection, and hemorrhaging, but these are typically less immediate concerns in the post-procedural phase. Fluid overload is more associated with underlying heart or kidney issues, infection might develop later, and while hemorrhaging can occur, it is less common if procedures were performed appropriately. In contrast, a vagal response is something that can happen almost immediately after the procedure due to the nature of the bronchoscopy, making monitoring for this response essential during patient recovery.

2. What condition would a pH of less than 7.2 most likely suggest?

- A. Respiratory acidosis**
- B. Metabolic acidosis**
- C. Severe hypoxia**
- D. Respiratory alkalosis**

A pH of less than 7.2 indicates a state of acidosis, as normal arterial blood pH ranges from 7.35 to 7.45. In this context, a pH below 7.2 is particularly alarming and suggests a significant disturbance in acid-base balance. Respiratory acidosis occurs when there is an accumulation of carbon dioxide (CO₂) in the body due to hypoventilation, leading to an increased concentration of carbonic acid and a drop in pH. This condition is often seen in situations such as chronic obstructive pulmonary disease (COPD), severe asthma, or respiratory failure where gas exchange is impaired. While metabolic acidosis can also result in a decreased pH, it typically presents with different clinical features and underlying causes, such as lactic acidosis or diabetic ketoacidosis, which may involve other biochemical markers. Severe hypoxia does not directly cause a decrease in pH but can lead to respiratory acidosis if it results in hypoventilation. Respiratory alkalosis, on the other hand, is characterized by an increased pH due to hyperventilation, which is the opposite of what is presented in this scenario. Therefore, the condition most likely associated with a p

3. In the case of a patient with ARDS on BiPAP showing signs of rapid deterioration, what action should the nurse anticipate?

- A. Administer bronchodilator therapy**
- B. Call for emergency response for intubation**
- C. Increase the BiPAP pressure settings**
- D. Transfer the patient to physical therapy**

In the context of a patient with acute respiratory distress syndrome (ARDS) who is on BiPAP and shows signs of rapid deterioration, the most appropriate nursing action is to call for an emergency response for intubation. ARDS is a critical condition that significantly impairs the patient's ability to oxygenate and ventilate effectively. When patients on non-invasive ventilation like BiPAP begin to deteriorate, it indicates that their respiratory needs are not being met through this method, and they may require invasive mechanical ventilation to secure the airway and provide adequate support. Intubation serves as a critical intervention in situations where non-invasive measures are failing, allowing for more controlled ventilation and better oxygenation. The rapid decline in the patient's condition highlights the immediate need for escalation in care to ensure the patient's safety and survival. While bronchodilator therapy may be beneficial in certain circumstances, it is unlikely to provide rapid relief in ARDS unless there is a significant bronchospastic component. Increasing BiPAP pressure settings could potentially help but might not be adequate if the patient is already in severe distress or if they are not tolerating the BiPAP effectively. Transferring the patient to physical therapy does not align with the immediate needs presented by the patient's deteriorating respiratory status.

4. What is the initial treatment indicated for a patient with pleural effusion who develops empyema?

- A. Chest tube insertion**
- B. Fluid restriction**
- C. Antibiotics**
- D. Thoracentesis**

In the case of a patient with pleural effusion who develops empyema, the initial treatment involves the administration of antibiotics. Empyema is characterized by the presence of pus within the pleural cavity, typically resulting from an infection. The prompt use of antibiotics is crucial to combat the infection and prevent further complications. Antibiotics help to reduce the bacterial load, control inflammation, and assist in managing symptoms. While procedures like chest tube insertion and thoracentesis are important in the management of pleural effusion and may help in draining pus, the primary approach is to initiate systemic antibiotic therapy to address the underlying infectious process. Fluid restriction is generally not a specific treatment for empyema and does not address the infection. Thus, starting antibiotics is essential to effectively treat the infection associated with empyema.

5. A patient with a hemothorax has a chest tube in place. Which nursing intervention should be anticipated?

A. Attach chest tube to wall suction

B. Drain the tube manually

C. Obtain a chest x-ray

D. Remove the chest tube

Attaching the chest tube to wall suction is a standard nursing intervention for managing a hemothorax. This approach helps facilitate the removal of blood and any other fluid that may have accumulated in the pleural space, allowing the lung to re-expand properly. Suctioning can enhance drainage and prevent complications associated with retained blood such as infection or pleural effusion. The suction pressure should be monitored, typically set to a low intermittent suction, to avoid tissue trauma or excessive negative pressure. Other options may not align with the immediate management of a hemothorax. For example, draining the tube manually is not a routine practice, as chest tubes are designed to allow passive drainage without needing manual intervention. Obtaining a chest x-ray might be indicated, but it's usually done following chest tube insertion and during the ongoing assessment to ensure the tube is functioning as intended. Removing the chest tube would not be appropriate until the underlying issue, such as the hemothorax, is resolved, as premature removal could lead to serious complications, including recurrence of the hemothorax. Thus, attaching the chest tube to wall suction is the essential and expected nursing intervention for a patient with a hemothorax.

6. In the event of a patient experiencing chest pain and difficulty breathing, what is the best initial assessment?

A. Cardiac enzymes

B. ABG analysis

C. Chest X-ray

D. Patient history

The best initial assessment in the context of a patient experiencing chest pain and difficulty breathing is a thorough patient history. When a patient presents with these symptoms, obtaining a detailed history is crucial as it helps to identify the nature of the chest pain (e.g., whether it is sharp, dull, or pressure-like), any associated symptoms (such as nausea, sweating, or radiating pain), relevant past medical history (including prior cardiovascular or respiratory issues), and any potential risk factors (such as smoking or family history of heart disease). Gathering this information allows healthcare providers to differentiate between potential causes of the symptoms, such as cardiac events, pulmonary issues, or gastrointestinal problems. This context establishes an essential foundation for subsequent assessments and interventions, ensuring a more targeted and effective approach to diagnosis and treatment. In contrast, while cardiac enzymes, ABG analysis, and chest X-rays each have their roles in evaluating chest pain and respiratory distress, they do not replace the critical first step of understanding the patient's unique situation through history-taking. Cardiac enzymes are particularly useful for identifying myocardial infarction but are typically collected after an initial history is taken. ABG analysis can provide insights into a patient's acid-base status and oxygenation but is more specific to ongoing assessments rather than as an

7. For a patient with acute respiratory failure, which action may indicate a worsening condition?

- A. Increased SpO2 with less oxygen**
- B. Stable respiratory rate**
- C. Declining SpO2 levels**
- D. Decreased heart rate**

Declining SpO2 levels represent a concerning trend in a patient with acute respiratory failure. Oxygen saturation levels are critical indicators of a patient's oxygenation status and respiratory function. A drop in SpO2 signifies that the patient's blood is not being adequately oxygenated, which may indicate worsening respiratory distress or failure. This decline necessitates immediate evaluation and intervention to address potential causes, such as airway obstruction, worsening lung disease, or a need for increased supplemental oxygen therapy. In contrast, increased SpO2 with less oxygen demonstrates an improvement in the patient's oxygenation status, suggesting they may be responding positively to treatment or that their respiratory mechanics may have improved. A stable respiratory rate indicates that the patient's breathing pattern is consistent and may not show signs of distress, which does not suggest a deterioration. A decreased heart rate can indicate vagal response or a reaction to medication, and while it requires monitoring, it does not inherently indicate worsening respiratory failure. Therefore, declining SpO2 levels are a significant red flag in this clinical scenario, marking a decline in the patient's overall respiratory status.

8. In patients with chronic respiratory failure, what is a common goal of therapy?

- A. Improve overall respiratory function**
- B. Avoid the need for hospitalization**
- C. Optimize oxygenation**
- D. Decrease anxiety levels**

In patients with chronic respiratory failure, a common goal of therapy is to optimize oxygenation. This is crucial because individuals with chronic respiratory conditions often struggle to maintain adequate levels of oxygen in their blood, which is essential for the proper functioning of tissues and organs. Improving oxygenation helps to alleviate symptoms such as shortness of breath, fatigue, and decreased exercise tolerance, thus enhancing the patient's quality of life. Moreover, optimizing oxygen levels can prevent further complications arising from hypoxemia, such as cognitive impairment or exacerbations of existing respiratory conditions. Effective management often involves interventions such as supplemental oxygen, bronchodilators, or non-invasive ventilation, all aimed at ensuring that the patient maintains adequate oxygen saturation and minimizes the risk of associated morbidity. While other goals like improving overall respiratory function, avoiding hospitalization, and decreasing anxiety levels are certainly important in the broader context of managing chronic respiratory failure, the primary and most immediate concern typically focuses on ensuring sufficient oxygenation, as it directly impacts the patient's survival and well-being.

9. For a patient experiencing worsening chest pain on deep breathing and orthopnea, what nursing intervention should be anticipated?

A. Perform a bedside echocardiogram

B. Administer furosemide

C. Increase oxygen flow rate

D. Initiate cardiac monitoring

In the context of a patient experiencing worsening chest pain upon deep breathing and orthopnea, administering furosemide is a pertinent intervention. These symptoms could indicate heart failure or fluid overload, where the presence of excess fluid in the lungs causes orthopnea and may lead to pleuritic chest pain due to inflammation or irritation of the pleura. Furosemide, a loop diuretic, helps to manage symptoms by promoting the excretion of excess fluid through diuresis. This can alleviate pulmonary congestion, subsequently reducing the inhalation discomfort and improving overall respiratory function. By effectively decreasing fluid retention, the administration of furosemide directly addresses the underlying issue that may be contributing to the patient's symptoms. Considering the other options: while monitoring cardiac activity is important in patients with chest pain, the primary intervention for symptoms suggestive of fluid overload is to alleviate that situation immediately, rather than just monitoring. Increasing the oxygen flow rate could provide supportive care, but it does not address fluid overload directly. Finally, a bedside echocardiogram may give valuable diagnostic information, but immediate symptom relief is a priority, making diuresis the more critical first-step intervention in this scenario.

10. What is the most appropriate initial intervention for a patient with respiratory distress admitted on 4 L/min NC and an ABG indicating respiratory acidosis?

A. Initiation of high-flow oxygen therapy

B. Intubation for mechanical ventilation

C. Initiation of BiPAP

D. Continuous pulse oximetry monitoring

In a patient presenting with respiratory distress and arterial blood gas (ABG) results showing respiratory acidosis, the most appropriate initial intervention is the initiation of BiPAP (Bilevel Positive Airway Pressure) therapy. This mode of non-invasive ventilation is particularly effective for patients who are hypoventilating, a situation often seen in cases of respiratory acidosis, where there is an accumulation of carbon dioxide (CO₂) due to insufficient ventilation. BiPAP works by providing two levels of pressure: a higher pressure during inhalation to assist with getting air into the lungs and a lower pressure during exhalation to help the patient breathe out. This method not only improves ventilation and gas exchange, thus reducing CO₂ levels, but it also helps to alleviate the work of breathing, making it a suitable choice for managing respiratory distress while avoiding the risks associated with invasive mechanical ventilation. While high-flow oxygen therapy might be beneficial in certain situations, it does not address the underlying issue of inadequate ventilation that contributes to respiratory acidosis. Intubation for mechanical ventilation, although it can be necessary in severe cases, is a more invasive option and typically reserved for patients who do not improve with non-invasive measures or who cannot tolerate non-invasive support. Continuous pulse o