

ARDS and Mechanical Ventilation Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

How to Use This Guide

This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:

1. Start with a Diagnostic Review

Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.

2. Study in Short, Focused Sessions

Break your study time into manageable blocks (e.g. 30 – 45 minutes). Review a handful of questions, reflect on the explanations.

3. Learn from the Explanations

After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.

4. Track Your Progress

Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.

5. Simulate the Real Exam

Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.

6. Repeat and Review

Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.

There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!

Questions

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- 1. What is the appropriate method to ensure correct cuff pressure of an endotracheal tube?**
 - A. Inflate cuff with a minimum of 10 mL of air.
 - B. Inflate cuff until the pilot balloon is firm.
 - C. Inject air until a manometer reads 15 mm Hg.
 - D. Inflate until a slight leak is only heard at peak inflation.
- 2. Which statement accurately describes positive end-expiratory pressure (PEEP)?**
 - A. PEEP will push more air into the lungs during inhalation.
 - B. PEEP prevents the lung air sacs from collapsing during exhalation.
 - C. PEEP will prevent lung damage while the patient is on the ventilator.
 - D. PEEP allows the breathing machine to deliver 100% O₂ to the lungs.
- 3. What action should the nurse anticipate following a diagnosis of a right pneumothorax in a patient on mechanical ventilation?**
 - A. Decrease the fraction of inspired oxygen (FIO₂).
 - B. Increase the tidal volume and respiratory rate.
 - C. Perform endotracheal suctioning more frequently.
 - D. Lower the positive end-expiratory pressure (PEEP).
- 4. What does the "ARDSnet protocol" entail?**
 - A. An advanced form of CPR
 - B. A standardized protocol for mechanical ventilation in ARDS to promote lung protective strategies
 - C. A method for sedating patients
 - D. A guideline for fluid resuscitation
- 5. In a situation where a patient is on ACV and shows signs of increased thoracic pressure, what is the immediate concern?**
 - A. Increased likelihood of barotrauma.
 - B. Decreased lung compliance.
 - C. Risk of diaphragmatic fatigue.
 - D. Increased oxygen demand.

- 6. What is the most appropriate intervention when a patient receiving mechanical ventilation has thick, white secretions in the endotracheal tube?**
- A. Reposition the patient every 1 to 2 hours.
 - B. Increase suctioning frequency to every hour.
 - C. Add additional water to the patient's enteral feedings.
 - D. Instill 5 mL of sterile saline into the ET before suctioning.
- 7. What is a characteristic of pressure support ventilation?**
- A. Peak inspiratory pressure predetermined.
 - B. Increased risk for hyper/hypoventilation.
 - C. Consistent volume delivered each breath.
 - D. Volume delivered based on selected pressure and patient lung compliance.
- 8. What is the role of corticosteroids in the management of ARDS?**
- A. They increase lung volume
 - B. They promote mucus clearance
 - C. They reduce inflammation and improve oxygenation
 - D. They prevent infection
- 9. Which nursing intervention for a mechanically ventilated patient can be delegated to an experienced licensed practical/vocational nurse (LPN/VN)?**
- A. Assess breath sounds every hour.
 - B. Monitor central venous pressures.
 - C. Place patient in the prone position.
 - D. Insert an indwelling urinary catheter.
- 10. Which action should the nurse take first for a patient with suspected ARDS based on vital signs?**
- A. Give the scheduled IV antibiotic.
 - B. Obtaining oxygen saturation using pulse oximetry.
 - C. Give the PRN acetaminophen (Tylenol).
 - D. Notify the health care provider of the patient's vital signs.

Answers

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

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Explanations

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1. What is the appropriate method to ensure correct cuff pressure of an endotracheal tube?

- A. Inflate cuff with a minimum of 10 mL of air.
- B. Inflate cuff until the pilot balloon is firm.
- C. Inject air until a manometer reads 15 mm Hg.
- D. Inflate until a slight leak is only heard at peak inflation.**

The optimal approach for ensuring the correct cuff pressure of an endotracheal tube is to inflate the cuff until a slight leak is only heard at peak inflation. This method allows for adequate sealing of the airway while minimizing the risk of over-inflation, which can lead to tracheal injury or ischemia. When a slight leak is present, it indicates that the cuff is providing a sufficient seal to prevent aspiration and maintain adequate ventilation while still allowing for some degree of localized blood flow to the tracheal wall, which is crucial for preventing tissue necrosis. In contrast, inflating the cuff with a minimum volume of air without assessing the actual pressure does not guarantee adequate seal or protection against aspiration. Simply making the pilot balloon firm may lead to excessive pressure within the cuff, risking injury to the trachea. Relying on a manometer and targeting a specific pressure can be useful in clinical scenarios, but it is important to remember that both normal physiological variations and cuff volume can influence cuff pressure significantly. Overinflating to reach a certain pressure without proper assessment may also compromise tracheal safety. In summary, ensuring a slight leak at peak inflation is a practical, clinical approach that balances the need to prevent air leaks while safeguarding

2. Which statement accurately describes positive end-expiratory pressure (PEEP)?

- A. PEEP will push more air into the lungs during inhalation.
- B. PEEP prevents the lung air sacs from collapsing during exhalation.**
- C. PEEP will prevent lung damage while the patient is on the ventilator.
- D. PEEP allows the breathing machine to deliver 100% O₂ to the lungs.

Positive end-expiratory pressure (PEEP) is an essential aspect of mechanical ventilation, particularly for patients with Acute Respiratory Distress Syndrome (ARDS). PEEP works by maintaining a certain level of pressure in the airways at the end of expiration, which helps keep the alveoli (the tiny air sacs in the lungs) open and prevents them from fully collapsing during the breathing cycle. When PEEP is applied, the increased end-expiratory lung volume prevents atelectasis (collapse of lung tissue) and optimizes gas exchange. By maintaining the alveoli open, more surface area is available for oxygen and carbon dioxide exchange, which is particularly critical for patients who may have compromised lung function. The other statements do not accurately describe PEEP's effects. While PEEP does have a role in protecting lung function and supporting oxygenation, it is specifically significant for preventing alveolar collapse rather than for directly delivering air or oxygen or preventing lung damage overall while on a ventilator. Thus, the accurate statement is that PEEP effectively prevents the lung air sacs from collapsing during exhalation.

3. What action should the nurse anticipate following a diagnosis of a right pneumothorax in a patient on mechanical ventilation?

- A. Decrease the fraction of inspired oxygen (FIO₂).
- B. Increase the tidal volume and respiratory rate.
- C. Perform endotracheal suctioning more frequently.
- D. Lower the positive end-expiratory pressure (PEEP).**

Following a diagnosis of a right pneumothorax in a patient on mechanical ventilation, lowering the positive end-expiratory pressure (PEEP) is a critical action to anticipate. PEEP is used to increase lung volume and improve oxygenation by keeping the alveoli open at the end of expiration. However, in the context of a pneumothorax, especially if it is significant, applying high levels of PEEP can exacerbate the situation by increasing intrathoracic pressure, potentially causing further lung collapse or impairing hemodynamics. Reducing PEEP can help alleviate these pressures, prevent further lung injury, and allow for better recruitment of functional lung tissue on the affected side. In contrast to this, decreasing the fraction of inspired oxygen (FIO₂) may not be appropriate immediately after a pneumothorax diagnosis, as the patient may already have compromised oxygenation. Increasing tidal volume and respiratory rate could lead to further complications, including barotrauma, which is particularly concerning in the presence of a pneumothorax. Performing endotracheal suctioning more frequently could risk dislodging or worsening the pneumothorax and does not directly address the need to manage airway pressures and intrathoracic dynamics effectively. Thus,

4. What does the "ARDSnet protocol" entail?

- A. An advanced form of CPR
- B. A standardized protocol for mechanical ventilation in ARDS to promote lung protective strategies**
- C. A method for sedating patients
- D. A guideline for fluid resuscitation

The ARDSnet protocol is designed specifically for the management of patients with Acute Respiratory Distress Syndrome (ARDS) through mechanical ventilation. This protocol emphasizes lung protective ventilation strategies, which aim to minimize further lung injury while facilitating oxygenation and ventilation. The main components of the ARDSnet protocol include the use of lower tidal volumes (typically around 6 ml/kg of ideal body weight) to reduce the risk of ventilator-induced lung injury (VILI). It also promotes the use of positive end-expiratory pressure (PEEP) to improve oxygenation by recruiting collapsed alveoli while limiting the risk of over-distension in already compromised lung tissue. By adhering to these principles, the protocol supports better outcomes for ARDS patients, striving to maintain adequate oxygenation with minimal trauma to the lung parenchyma. This evidence-based approach is crucial in managing ARDS, given the condition's association with high morbidity and mortality rates. Understanding the ARDSnet protocol is essential for healthcare professionals involved in the care of critically ill patients, particularly in optimizing mechanical ventilation to facilitate lung healing and improve survival rates.

5. In a situation where a patient is on ACV and shows signs of increased thoracic pressure, what is the immediate concern?

A. Increased likelihood of barotrauma.

B. Decreased lung compliance.

C. Risk of diaphragmatic fatigue.

D. Increased oxygen demand.

In the context of a patient receiving assisted control ventilation (ACV) who exhibits signs of increased thoracic pressure, the immediate concern centers on the increased likelihood of barotrauma. Barotrauma occurs when there is damage to the lung tissue due to excessive pressure, which can result from mechanical ventilation if high tidal volumes or pressures are utilized. In cases of increased thoracic pressure, the risk of over-distension of alveoli rises significantly, leading to potential rupture and subsequent air leaks into the pleural space or surrounding tissues. This can result in complications such as pneumothorax, pneumomediastinum, or subcutaneous emphysema, all of which are serious and may require urgent intervention. While decreased lung compliance, risk of diaphragmatic fatigue, and increased oxygen demand are important considerations in the management of patients with ARDS, they are not as immediate or critical concerns as the risk of barotrauma in a situation where thoracic pressure is already elevated. Addressing the potential for barotrauma requires prompt adjustments in ventilation settings to reduce peak inspiratory pressures and ensure patient safety.

6. What is the most appropriate intervention when a patient receiving mechanical ventilation has thick, white secretions in the endotracheal tube?

A. Reposition the patient every 1 to 2 hours.

B. Increase suctioning frequency to every hour.

C. Add additional water to the patient's enteral feedings.

D. Instill 5 mL of sterile saline into the ET before suctioning.

When a patient receiving mechanical ventilation has thick, white secretions in the endotracheal tube, adding additional water to the patient's enteral feedings is the most appropriate intervention. This approach helps to maintain hydration and improve the consistency of secretions. Thick secretions can be indicative of dehydration or insufficient fluid intake, and enhancing hydration through enteral feedings can assist in thinning these secretions, making them easier to manage and clear as needed. In contrast, repositioning the patient frequently may help improve mobilization of secretions but does not directly address the viscosity of the secretions. Increasing suctioning frequency could be considered, but it may lead to potential complications such as airway trauma or hypoxemia without addressing the underlying issue of dehydration. Instilling sterile saline into the ET before suctioning is a technique that some practitioners use; however, it is not universally recommended due to concerns that it can lead to complications such as contamination, worsening secretions, or pulmonary complications. Thus, increasing enteral hydration is a more effective and safer method to manage and potentially alleviate the problem of thick secretions.

7. What is a characteristic of pressure support ventilation?

- A. Peak inspiratory pressure predetermined.
- B. Increased risk for hyper/hypoventilation.
- C. Consistent volume delivered each breath.
- D. Volume delivered based on selected pressure and patient lung compliance.**

Pressure support ventilation is designed to assist a patient's spontaneous breathing efforts by providing a preset pressure during inspiration, which enhances tidal volume delivery based on the patient's own effort. This method allows the volume of air delivered to vary based on the patient's lung compliance; when lung compliance is high, the volume delivered will be greater, and conversely, when compliance is low, the volume will be less due to the same level of pressure being applied. This is in contrast to traditional modes of ventilation where tidal volume or peak inspiratory pressure is predetermined. In pressure support ventilation, the crucial component is that the volume delivered is not fixed but instead is contingent upon the interaction between the patient's own breathing effort and the respiratory system's mechanics. This characteristic makes the pressure support mode particularly useful in promoting patient comfort and reducing the work of breathing while allowing for patient involvement in ventilation.

8. What is the role of corticosteroids in the management of ARDS?

- A. They increase lung volume
- B. They promote mucus clearance
- C. They reduce inflammation and improve oxygenation**
- D. They prevent infection

Corticosteroids play a crucial role in the management of Acute Respiratory Distress Syndrome (ARDS), primarily due to their anti-inflammatory properties. In ARDS, inflammation in the lungs leads to increased permeability of the alveolar-capillary membrane, resulting in pulmonary edema, impaired gas exchange, and difficulty in oxygenation. By administering corticosteroids, the inflammatory response can be mitigated, leading to a reduction in edema and inflammation within the alveoli, which improves overall lung function and oxygenation. The reduction of inflammation is vital, as it helps to stabilize the lung tissue and diminishes the inflammatory cascade that exacerbates ARDS. Several studies have shown that timely administration of corticosteroids can lead to improved clinical outcomes, including reduced mortality rates in ARDS patients, particularly in cases where it is initiated early in the course of the disease. While corticosteroids do not directly increase lung volume, promote mucus clearance, or prevent infections, their primary role is in reducing inflammation and enhancing oxygenation. This understanding of corticosteroids' therapeutic action underscores their importance in ARDS management protocols.

9. Which nursing intervention for a mechanically ventilated patient can be delegated to an experienced licensed practical/vocational nurse (LPN/VN)?

- A. Assess breath sounds every hour.
- B. Monitor central venous pressures.
- C. Place patient in the prone position.
- D. Insert an indwelling urinary catheter.**

The delegation of nursing tasks must consider the complexity of the procedures and the level of training required to perform them safely. In this scenario, inserting an indwelling urinary catheter is a task that can be performed by an experienced licensed practical nurse (LPN/VN). In many healthcare settings, LPNs/VNs are trained and authorized to conduct catheterizations, which involves relating to patient comfort and maintaining a sterile technique. The other options involve more complex assessments and monitoring tasks that require a higher level of clinical judgment and skills typically associated with registered nurses (RNs). For instance, assessing breath sounds every hour requires the ability to interpret findings and possibly make care decisions based on those results. Monitoring central venous pressures involves understanding hemodynamic status and may need immediate response to abnormal findings. Placing a patient in the prone position is a procedure that requires careful consideration of the patient's overall condition and potential complications, usually necessitating an RN's oversight. Therefore, the task of inserting an indwelling urinary catheter is appropriate to delegate to an experienced LPN/VN, given their education and skill set in performing such tasks.

10. Which action should the nurse take first for a patient with suspected ARDS based on vital signs?

- A. Give the scheduled IV antibiotic.
- B. Obtaining oxygen saturation using pulse oximetry.**
- C. Give the PRN acetaminophen (Tylenol).
- D. Notify the health care provider of the patient's vital signs.

In the context of a patient with suspected Acute Respiratory Distress Syndrome (ARDS), the priority action should be to assess the patient's oxygen saturation levels using pulse oximetry. This is crucial because ARDS is characterized by severe hypoxemia due to impaired gas exchange in the lungs. Monitoring oxygen saturation provides immediate information about the patient's respiratory status and helps guide subsequent interventions. Obtaining the oxygen saturation allows the nurse to identify how well the patient is oxygenating, which is essential for determining the urgency of treatment. If the oxygen saturation is low, this indicates that the patient may require supplemental oxygen or other interventions, such as potential mechanical ventilation. Prompt assessment of the oxygen saturation is a fundamental first step in managing a patient with suspected ARDS to ensure that any deterioration in respiratory function is quickly addressed. Other actions, while important, are secondary to the immediate need to assess oxygenation. Administering antibiotics, providing antipyretics, or notifying the healthcare provider about vital signs can follow, but understanding the patient's current oxygenation status takes precedence in managing ARDS.

Next Steps

Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.

As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.

If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at hello@examzify.com.

Or visit your dedicated course page for more study tools and resources:

<https://ardsmechanicalventilation.examzify.com>

We wish you the very best on your exam journey. You've got this!

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