NREMT AIRWAY, RESPIRATION, AND VENTILATION PRACTICE TEST (SAMPLE)

STUDY GUIDE



SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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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.

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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!

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Questions

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1. In a 67-year-old male with uncontrolled coughing and an inspiratory whooping sound, what should be the next step after donning an N-95 mask?

A. Administer oxygen by nasal cannula

B. Transport him to the hospital

C. Place an N-95 respirator and administer supplemental oxygen

D. Administer oxygen and place a surgical mask over his mouth

2. Why can pulmonary embolisms cause a V/Q mismatch?

A. They block bronchial airflow.

B. They block bronchiole airflow.

C. They block pulmonary venous blood flow.

D. They block pulmonary arterial blood flow.

3. In a case where a 26-year-old male experiences difficulty breathing after basketball, what condition should be suspected?

A. Pleuritis.

B. Tension pneumothorax.

C. Spontaneous pneumothorax.

D. Asthma.

4. What is the normal range of respiratory rate for adults at rest?

A. 8-12 breaths per minute

B. 12-20 breaths per minute

C. 20-30 breaths per minute

D. 30-40 breaths per minute

5. During respiratory failure, which gas's serum concentration increases?

A. Carbon monoxide

B. Carbon dioxide

C. Oxygen

D. Nitrogen

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6. Which of the following respiratory conditions in children over 2 years old has similar lung sounds to an infant who has bronchiolitis?

A. Pulmonary edema

B. Asthma

C. Pertussis

D. Pneumonia

7. What condition involves the airway becoming inflamed and producing excess mucus?

A. Interstitial lung disease

B. Chronic obstructive pulmonary disease (COPD)

C. Acute respiratory distress syndrome (ARDS)

D. Sleep apnea

8. What is the primary gas exchanged in the respiratory system?

A. Carbon dioxide

B. Nitrogen

C. Oxygen

D. Helium

9. In a case of respiratory arrest, how often should you squeeze the bag while ventilating a patient?

A. Every five seconds, enough to cause her chest to rise two inches

B. Every twelve seconds, enough to cause barely visible chest rise

C. Every six seconds, enough to cause barely visible chest rise

D. Every ten seconds, enough to cause her chest to rise two inches

10. What is the primary purpose of the Heimlich maneuver?

A. To induce coughing

B. To relieve choking

C. To clear the airway

D. To stimulate breathing

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Answers

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

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Explanations

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1. In a 67-year-old male with uncontrolled coughing and an inspiratory whooping sound, what should be the next step after donning an N-95 mask?

A. Administer oxygen by nasal cannula

B. Transport him to the hospital

C. Place an N-95 respirator and administer supplemental oxygen

D. Administer oxygen and place a surgical mask over his mouth

In a situation involving a patient with uncontrolled coughing and an inspiratory whooping sound, which may indicate a respiratory infection like whooping cough (pertussis), employing an N-95 mask is essential to protect healthcare providers from potential airborne pathogens. After donning the N-95 mask, the next step is to administer oxygen and place a surgical mask over the patient's mouth. This approach provides dual benefits. Administering oxygen helps to alleviate hypoxia, which may be occurring due to the patient's respiratory distress. The surgical mask serves to contain any droplets or aerosols that the patient may expel while coughing, reducing the risk of spreading infectious particles to others, including first responders or other patients. By placing the surgical mask over the patient's mouth, it also helps to minimize the exposure of respiratory droplets into the environment while still allowing for oxygen administration. This emphasizes the importance of infection control measures, especially when dealing with a suspected infectious respiratory condition. The focus on both oxygen support and containment of infectious material reinforces safe practices in emergency medical care.

2. Why can pulmonary embolisms cause a V/Q mismatch?

A. They block bronchial airflow.

B. They block bronchiole airflow.

C. They block pulmonary venous blood flow.

D. They block pulmonary arterial blood flow.

Pulmonary embolisms cause a V/Q mismatch primarily because they block pulmonary arterial blood flow. When a pulmonary embolism occurs, a blood clot or obstruction travels to one or more pulmonary arteries in the lungs, impeding blood flow to the affected areas. This obstruction means that although air can reach the alveoli (where gas exchange occurs), the necessary blood flow to facilitate the exchange of gases (oxygen and carbon dioxide) is reduced or absent. In a normal functioning respiratory system, both ventilation (the amount of air getting to the alveoli) and perfusion (the amount of blood reaching the alveoli) must be matched for efficient gas exchange. However, with a pulmonary embolism, while ventilation remains intact in the areas where blood flow is obstructed, the perfusion is compromised. This leads to areas of the lung being ventilated but not perfused, creating a situation known as a ventilation/perfusion (V/Q) mismatch. In the context of the other options related to bronchial and bronchiole airflow, these do not directly relate to the mechanism of pulmonary embolism impacts. The key factor in understanding V/Q mismatch in this scenario is the interruption of blood flow within the pulmonary arteries specifically, which makes the correct answer focus on

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3. In a case where a 26-year-old male experiences difficulty breathing after basketball, what condition should be suspected?

A. Pleuritis.

B. Tension pneumothorax.

C. Spontaneous pneumothorax.

D. Asthma.

In this scenario, the most appropriate condition to suspect is asthma. Asthma is a chronic respiratory condition characterized by inflammation and narrowing of the airways, which can lead to sudden episodes of wheezing, coughing, chest tightness, and difficulty breathing. Physical activities like playing basketball can trigger these symptoms in susceptible individuals, especially if they have a history of asthma or exercise-induced bronchoconstriction. Symptoms occurring after vigorous activity suggest that the airways may be reacting to exertion. Key indicators of asthma include the presence of wheezing, especially during expiration, and a reduction in airflow that can lead to shortness of breath. Other conditions, such as pleuritis, tension pneumothorax, and spontaneous pneumothorax, may also present with difficulty breathing, but they typically have different underlying mechanisms and clinical presentations. For instance, pleuritis often involves sharp chest pain with breathing, while tension pneumothorax leads to rapid deterioration and requires immediate intervention. Spontaneous pneumothorax usually presents with sudden sharp pain and may also involve decreased breath sounds on one side upon examination. In this case, the history of recent exertion and difficulty breathing aligns closely with asthma symptoms.

4. What is the normal range of respiratory rate for adults at rest?

A. 8-12 breaths per minute

B. 12-20 breaths per minute

C. 20-30 breaths per minute

D. 30-40 breaths per minute

The normal range of respiratory rate for adults at rest is classified as 12 to 20 breaths per minute. This range indicates the number of times a person inhales and exhales within one minute, which is a critical parameter in assessing a person's respiratory health. Respiratory rate can vary depending on various factors, including activity level, age, and overall health condition. At rest, an adult's respiratory system functions efficiently within this range to meet metabolic demands while ensuring sufficient oxygenation of the blood and removal of carbon dioxide. A respiratory rate outside of this range could indicate respiratory distress or underlying health issues that may require evaluation. In clinical practice, understanding these normal values helps emergency responders and healthcare providers identify abnormalities and respond appropriately to patients showing signs of respiratory compromise.

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5. During respiratory failure, which gas's serum concentration increases?

A. Carbon monoxide

B. Carbon dioxide

C. Oxygen

D. Nitrogen

In respiratory failure, the body's ability to exchange gases effectively is compromised. This can occur in various conditions, such as chronic obstructive pulmonary disease (COPD), pneumonia, or acute respiratory distress syndrome (ARDS). As the respiratory system struggles to ventilate properly, it results in inadequate elimination of carbon dioxide from the body. During this process, carbon dioxide accumulates in the bloodstream due to hypoventilation or impaired gas exchange. When the serum concentration of carbon dioxide (known as hypercapnia) rises significantly, it can lead to respiratory acidosis and an increase in the acidity of the blood. This physiological response signals that the body is unable to maintain normal levels of this gas through breathing, which is essential for maintaining proper pH balance and overall homeostasis. The other gases listed do not typically show a similar increase during respiratory failure. For instance, oxygen levels might decrease in cases of respiratory failure, and carbon monoxide and nitrogen are not directly related to the ventilation process in the same way carbon dioxide is during respiratory distress. Hence, an increase in carbon dioxide concentration is a key indicator of respiratory failure.

6. Which of the following respiratory conditions in children over 2 years old has similar lung sounds to an infant who has bronchiolitis?

A. Pulmonary edema

B. Asthma

C. Pertussis

D. Pneumonia

The correct choice is asthma, as it can produce respiratory sounds similar to those heard in infants with bronchiolitis, particularly wheezing. In both cases, the underlying airway obstruction leads to turbulent airflow, which produces the characteristic wheezing sound. In children with asthma, inflammation and constriction of the airways can occur, resulting in symptoms that may overlap with those of bronchiolitis, including wheezing and difficulty breathing. This similarity in lung sounds is crucial for recognition and management, as both conditions may necessitate bronchodilator therapy. Pulmonary edema, while it can sometimes produce crackles or rales, does not typically present with wheezing as a primary sound. Pertussis, also known as whooping cough, may include a whooping sound during coughing fits but does not share the wheezing characteristic associated with bronchiolitis and asthma. Pneumonia can lead to various lung sounds, including crackles or diminished sounds but does not necessarily produce the wheezing associated with bronchial constriction and obstruction seen in both asthma and bronchiolitis.

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7. What condition involves the airway becoming inflamed and producing excess mucus?

A. Interstitial lung disease

B. Chronic obstructive pulmonary disease (COPD)

C. Acute respiratory distress syndrome (ARDS)

D. Sleep apnea

Chronic obstructive pulmonary disease (COPD) is characterized by persistent respiratory symptoms and airflow limitation due to airway obstruction, which is often the result of chronic inflammation. In COPD, the airway becomes inflamed due to exposure to irritants such as cigarette smoke, air pollution, or occupational dust and chemicals. This inflammation leads to the swelling of the airway walls and an increase in mucus production. The excess mucus contributes to obstructed airflow, making it difficult for individuals to breathe properly, especially during physical activity. This can lead to symptoms such as coughing, wheezing, and shortness of breath. Moreover, the chronic nature of the inflammation and mucus production makes COPD a progressive condition, often worsening over time if not managed effectively. In contrast, other conditions listed, such as interstitial lung disease, ARDS, and sleep apnea, do not primarily involve the airway becoming inflamed with excess mucus production in the same manner as COPD. For instance, interstitial lung disease is mainly related to lung tissue scarring, ARDS involves fluid accumulation in the alveoli, and sleep apnea is characterized by obstructed or restricted airflow during sleep, not specifically by inflamed airways producing excessive mucus.

8. What is the primary gas exchanged in the respiratory system?

A. Carbon dioxide

B. Nitrogen

C. Oxygen

D. Helium

The primary gas exchanged in the respiratory system is oxygen. During the process of respiration, oxygen is inhaled into the lungs, where it diffuses across the alveolar membranes into the bloodstream. This exchange is crucial for cellular function, as oxygen is needed for aerobic metabolism, which produces the energy necessary for cellular activities. In the lungs, carbon dioxide, a waste product of metabolism, is simultaneously removed from the blood and exhaled. However, while carbon dioxide is important to monitor in respiratory function, the main purpose of breathing is to supply oxygen to the body and eliminate carbon dioxide. Nitrogen and helium are present in the air we breathe, but they are not involved in the gas exchange process; they do not participate in the metabolic processes that require oxygen and produce carbon dioxide.

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9. In a case of respiratory arrest, how often should you squeeze the bag while ventilating a patient?

A. Every five seconds, enough to cause her chest to rise two inches

B. Every twelve seconds, enough to cause barely visible chest rise

C. Every six seconds, enough to cause barely visible chest rise

D. Every ten seconds, enough to cause her chest to rise two inches

In a case of respiratory arrest, the guidelines for bag-valve-mask (BVM) ventilation recommend giving ventilations every six seconds for an adult patient. This rate allows sufficient time between breaths to prevent hyperventilation and to maintain adequate oxygenation. When providing ventilations at this rate, it's essential to deliver a volume that results in visible chest rise, ensuring effective ventilation of the lungs. The rationale behind achieving barely visible chest rise focuses on avoiding excessive pressure and volume that could lead to injury or complications, such as gastric inflation or barotrauma. By aiming for effective but not overly aggressive ventilations, the goal is to provide adequate support while minimizing the risks associated with improper ventilation techniques. In summary, administering ventilations every six seconds while ensuring effective chest movement correlates well with the need to provide adequate oxygenation in a patient experiencing respiratory arrest.

10. What is the primary purpose of the Heimlich maneuver?

A. To induce coughing

B. To relieve choking

C. To clear the airway

D. To stimulate breathing

The primary purpose of the Heimlich maneuver is to relieve choking. This technique is specifically designed to dislodge an object that is causing an obstruction in the airway, allowing the person to breathe again. When an individual is choking, their airway is blocked by a foreign object, which can lead to asphyxiation and potentially life-threatening situations. The Heimlich maneuver uses a series of abdominal thrusts to create pressure that can force the object out of the airway, restoring normal breathing. Relieving choking is crucial because it directly addresses the immediate emergency of airway obstruction, which, if not resolved quickly, can result in severe complications or death. Other choices, such as inducing coughing or stimulating breathing, might play roles in respiratory health but do not capture the specific intent and primary goal of the Heimlich maneuver itself.

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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:

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

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