NCLEX Oxygenation Practice Test (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

1. Which interventions help prevent atelectasis during oxygen therapy?

A. Prolonged bed rest and limited activity.

B. Incentive spirometry, deep breathing, and coughing exercises.

C. Immediate chest physiotherapy without breathing exercises.

D. No intervention needed.

2. What physical assessment finding indicates a large pleural effusion?

A. Hyperresonance and crackles at the base.

B. Dullness on percussion and decreased breath sounds over the effusion.

C. Clear lungs with no abnormal sounds.

D. Increased fremitus.

3. Which radiographic finding is most consistent with atelectasis?

A. Increased lung density with volume loss.

B. Hyperinflation of the right lower lobe.

C. Clear radiograph.

D. Mediastinal shift toward the affected side.

4. In an acute COPD exacerbation, what arterial blood gas trend would you typically expect?

A. Hyperoxia with alkalemia

B. Normal ABG

C. Hypoxemia with hypercapnia and possible acidemia

D. Hypoxemia with decreased CO2

5. Humidification considerations for nasal cannula flow rates

A. Never humidify

B. Humidify at all times

C. Humidify if >4 L/min

D. Humidify only with COPD

6. Which device is capable of delivering up to 100% FiO_2 at high flow rates?

A. Non-rebreather mask

B. Nasal cannula

C. Simple face mask

D. Partial rebreather mask

7. Which action helps prevent nasal dryness when a patient uses nasal cannula oxygen?

A. Apply petroleum jelly to nostrils

B. Apply water-soluble lubricant to nostrils

C. Increase flow rate

D. Switch to a mask with humidified oxygen

8. When analyzing ABG, how do you differentiate respiratory from metabolic causes?

A. By measuring lactate levels

B. By analyzing the pattern of pH, PaCO2, and HCO3- and the direction of compensation

C. By checking only PaO2

D. By patient age

9. What sign indicates hypercapnic respiratory failure in a patient with COPD?

A. Jaundice

B. Confusion or somnolence due to CO2 retention

C. Peripheral edema

D. Bradycardia

10. What might cause CO2 retention in a patient receiving 100% oxygen?

A. Oxygen reduces airway resistance.

B. Oxygen increases respiratory drive in all patients.

C. CO2 retention is unrelated to oxygen concentration.

D. High FiO2 can worsen V/Q mismatch and cause CO2 retention, especially in COPD patients.

Answers

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

Explanations

1. Which interventions help prevent atelectasis during oxygen therapy?

A. Prolonged bed rest and limited activity.

B. Incentive spirometry, deep breathing, and coughing exercises.

C. Immediate chest physiotherapy without breathing exercises.

D. No intervention needed.

Preventing atelectasis during oxygen therapy hinges on keeping the lungs fully expanded and clearing secretions. Incentive spirometry promotes deep, sustained breaths, which expand the alveoli, improve ventilation in all lung regions, and help reverse or prevent small areas of collapse. Pairing this with deep breathing and coughing exercises reinforces lung expansion and airway clearance, reducing the risk of atelectasis from shallow breathing or mucus plugging. Oxygen alone can contribute to absorption atelectasis if ventilation stays minimal, so active breathing techniques are key to keeping alveoli open. Prolonged bed rest and limited activity reduce ventilation and promote secretions pooling, increasing atelectasis risk, so that approach is not helpful. Chest physiotherapy without accompanying breathing exercises can aid mucus clearance but doesn't reliably reopen collapsed alveoli on its own. No intervention would fail to prevent atelectasis.

2. What physical assessment finding indicates a large pleural effusion?

A. Hyperresonance and crackles at the base.

B. Dullness on percussion and decreased breath sounds over the effusion.

C. Clear lungs with no abnormal sounds.

D. Increased fremitus.

A large pleural effusion dampens and muffles lung sounds because fluid accumulates in the space around the lung, separating it from the chest wall. This makes percussion dull rather than resonant, since fluid conducts sound differently than air. At the same time, the fluid and collapsed lung reduce the amount of air movement you can hear, so breath sounds become decreased or absent over the affected area. That's why this option is the best match: dullness on percussion paired with decreased breath sounds over the effusion. Other choices don't fit the classic exam findings. Hyperresonance suggests extra air, as in pneumothorax or emphysema, not fluid. Clear lungs with no abnormal sounds wouldn't indicate an effusion. Increased fremitus occurs with lung consolidation, not with a fluid-filled pleural space.

3. Which radiographic finding is most consistent with atelectasis?

A. Increased lung density with volume loss.

B. Hyperinflation of the right lower lobe.

C. Clear radiograph.

D. Mediastinal shift toward the affected side.

Atelectasis causes loss of air-containing lung volume in the affected area, which shows up as increased density on the radiograph. But the telltale finding is that the mediastinal structures shift toward the side of the collapse. This inward pull happens because the collapsed lung loses volume and the remaining, aerated lung and chest wall pull the mediastinum toward the affected side. You'll often also see the diaphragm on that side elevated and crowding of the neighboring lung tissue. Hyperinflation of a lobe would suggest an obstructive or air-trapping process rather than collapse. A completely clear radiograph would not reflect the density increase seen with atelectasis. While increased density with volume loss is part of atelectasis, the directional shift of the mediastinum toward the affected side is the hallmark that best fits this condition.

4. In an acute COPD exacerbation, what arterial blood gas trend would you typically expect?

A. Hyperoxia with alkalemia

B. Normal ABG

C. Hypoxemia with hypercapnia and possible acidemia

D. Hypoxemia with decreased CO2

When COPD flares, the airways become more obstructed and ventilation worsens, so CO2 isn't expelled well while O2 uptake is impaired. This leads to low arterial oxygen (hypoxemia) and high arterial CO2 (hypercapnia). The excess CO2 shifts the blood toward acidosis, so pH may be low (acidemia), especially if the rise in CO2 is acute. In chronic COPD, kidneys may compensate over time with higher bicarbonate, which can blunt pH changes, but during an acute exacerbation the dominant pattern is hypoxemia with hypercapnia and a tendency toward acidemia. This ABG pattern reflects both reduced ventilation and V/Q mismatch that worsens in an acute flare.

5. Humidification considerations for nasal cannula flow rates

A. Never humidify

B. Humidify at all times

C. Humidify if >4 L/min

D. Humidify only with COPD

Humidification is used with nasal cannula oxygen when the flow is high enough that the gas could dry the nasal passages. The best practice is to humidify if the flow rate is greater than about 4 liters per minute. At lower flow rates, the air is typically moist enough to keep the mucosa comfortable, so humidification isn't routinely required. Dry, unhumidified gas at higher flows can irritate the mucosa, cause crusting or epistaxis, and make it harder for secretions to clear, so adding moisture helps with comfort and mucosal integrity. Humidifying all the time isn't necessary, and humidifying only for COPD isn't correct because the need isn't disease-specific—it depends on the flow rate.

6. Which device is capable of delivering up to 100% FiO_2 at high flow rates?

A. Non-rebreather mask

B. Nasal cannula

C. Simple face mask

D. Partial rebreather mask

The ability to deliver the highest possible FiO2 depends on having a reservoir of oxygen and a way to prevent rebreathing of exhaled air. The non-rebreather mask uses a reservoir bag filled with oxygen and one-way valves that close during inhalation, so most of what's inhaled comes from the oxygen in the bag rather than room air. Exhaled air exits through side vents, not back into the bag, allowing near 100% FiO2 when the flow is high enough to keep the bag inflated. Nasal cannula delivers oxygen without a reservoir, so inhaled air is mixed with room air, typically capping FiO2 around the lower range (often up to the mid-40s at higher flows). A simple face mask covers the nose and mouth but leaks around the edges and also has no reservoir, limiting FiO2 to roughly the mid-30s to about 50%. A partial rebreather mask has a reservoir but lacks the full one-way valve system, so some exhaled air re-enters the mix, usually achieving up to about 60–70% FiO2 depending on flow. Thus, the non-rebreather mask is capable of delivering up to 100% FiO2 at high flow rates when the bag stays inflated and the valves function properly.

7. Which action helps prevent nasal dryness when a patient uses nasal cannula oxygen?

A. Apply petroleum jelly to nostrils

B. Apply water-soluble lubricant to nostrils

C. Increase flow rate

D. Switch to a mask with humidified oxygen

When oxygen is given through a nasal cannula, the dry gas can irritate and dehydrate the nasal mucosa, leading to dryness and crusting. The most effective way to prevent this is to apply a water-soluble lubricant to the nostrils. A water-soluble product moisturizes the nasal passages without leaving a thick residue, reduces friction, and is easy to clean off. It's preferred over petroleum-based lubricants because those products can be flammable in an oxygen-rich environment, posing a safety risk. Increasing the flow rate without humidification can actually worsen dryness, and switching to a mask with humidified oxygen changes the delivery interface rather than directly addressing nasal mucosa comfort. If humidity is available, using humidified oxygen is beneficial, but the direct, safest, and most practical measure to prevent nasal dryness with nasal cannula use is applying a water-soluble lubricant to the nostrils.

8. When analyzing ABG, how do you differentiate respiratory from metabolic causes?

A. By measuring lactate levels

B. By analyzing the pattern of pH, PaCO2, and HCO3- and the direction of compensation

C. By checking only PaO2

D. By patient age

Interpreting ABGs to tell respiratory from metabolic causes hinges on the pattern of pH, PaCO2, and HCO3- and how the body compensates. If the primary problem is respiratory, PaCO2 is abnormal and the pH shifts in the direction of the acid-base disturbance; the metabolic system then compensates by changing HCO3- in the opposite direction, with a slower, time-dependent trend (acute vs chronic). If the primary problem is metabolic, HCO3- is abnormal and the pH moves in the opposite direction; the respiratory system compensates by adjusting PaCO2 (hyperventilation to lower PaCO2 in metabolic acidosis, hypoventilation to raise PaCO2 in metabolic alkalosis). The degree and speed of this compensation help distinguish acute from chronic. Lactate, PaO2, or age don't define the primary acid-base disorder on their own.

9. What sign indicates hypercapnic respiratory failure in a patient with COPD?

A. Jaundice

B. Confusion or somnolence due to CO2 retention

C. Peripheral edema

D. Bradycardia

Rising CO2 levels in the blood directly affect the brain, so confusion or somnolence caused by CO2 retention is a key sign of hypercapnic respiratory failure in COPD. When ventilation falls short, CO2 accumulates (hypercapnia), leading to CNS depression and altered mental status, which clinicians often notice first and use to recognize acute decompensation. The other options don't specifically point to CO2 buildup: jaundice reflects liver or bile issues; peripheral edema suggests fluid overload or heart failure; bradycardia isn't a typical hallmark of CO2 retention and can be caused by many unrelated factors. So the mental-status changes driven by CO2 accumulation are the best clue that hypercapnic respiratory failure is occurring.

10. What might cause CO_2 retention in a patient receiving 100% oxygen?

A. Oxygen reduces airway resistance.

B. Oxygen increases respiratory drive in all patients.

C. CO_2 retention is unrelated to oxygen concentration.

D. High FiO_2 can worsen V/Q mismatch and cause CO_2 retention, especially in COPD patients.

High concentrations of oxygen can worsen CO_2 retention in COPD by disrupting ventilation–perfusion balance and, for some patients, blunting the hypoxic drive to breathe. In COPD, areas of the lung are poorly ventilated but still receive blood flow. The body normally uses hypoxic pulmonary vasoconstriction to divert blood away from these areas. Giving 100% oxygen reverses this vasoconstriction, increasing blood flow to poorly ventilated units and raising the shunt, which makes CO_2 elimination less effective. Additionally, in some COPD patients, very high oxygen levels reduce the drive to breathe, further decreasing ventilation and allowing CO_2 to accumulate. So, high FiO_2 can worsen V/Q mismatch and lead to CO_2 retention, especially in COPD.

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://nclexoxygenation.examzify.com

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