

NBRC Normal Values TMC 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

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- 1. FEV1 normal value is approximately what?**
 - A. 4.0 L or 80% of predicted or higher**
 - B. 6.0 L**
 - C. 3.0 L**
 - D. 5.0 L**

- 2. Pulmonary capillary pressure (PPC) is normally which range?**
 - A. 4-6 mmHg**
 - B. 6-8 mmHg**
 - C. 8-10 mmHg**
 - D. 10-12 mmHg**

- 3. What calibration syringe volume is used to check a spirometer?**
 - A. 2.0 liters**
 - B. 3.0 liters**
 - C. 1.5 liters**
 - D. 4.0 liters**

- 4. Which option best represents the commonly accepted adult blood pressure range?**
 - A. 70/40 to 110/70**
 - B. 90/60 to 140/90**
 - C. 100/70 to 160/100**
 - D. 80/50 to 120/80**

- 5. The P/F ratio threshold used in this context is:**
 - A. >400 torr**
 - B. >360 torr**
 - C. >380 torr**
 - D. >420 torr**

- 6. The FEV1/FVC ratio is approximately what percentage?**
- A. 70%**
 - B. 83%**
 - C. 90%**
 - D. 60%**
- 7. Pulmonary capillary wedge pressure (PCWP) is used to estimate which pressure?**
- A. Right atrial pressure**
 - B. Left atrial pressure**
 - C. Pulmonary artery systolic pressure**
 - D. Right ventricular end-diastolic pressure**
- 8. What is the recommended insertion depth for oral endotracheal intubation?**
- A. 18-22 cm at lips**
 - B. 21-25 cm at lips**
 - C. 26-30 cm at lips**
 - D. 15-20 cm at lips**
- 9. The L/S ratio indicating mature lungs is which of the following?**
- A. 1:1**
 - B. 2:1**
 - C. 3:1**
 - D. 4:1**
- 10. What is the normal cardiac output range?**
- A. 4-8 L/min**
 - B. 1-2 L/min**
 - C. 6-12 L/min**
 - D. 2-4 L/min**

Answers

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

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Explanations

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1. FEV1 normal value is approximately what?

- A. 4.0 L or 80% of predicted or higher**
- B. 6.0 L**
- C. 3.0 L**
- D. 5.0 L**

FEV1 is the amount of air you can blow out in the first second of a forced exhalation. In healthy adults this value is about 4 liters, though it varies with age, height, sex, and ethnicity. Clinically, we compare the measured FEV1 to the predicted value for that person, and a value of roughly 80% of predicted or higher is considered normal. For an average adult, that roughly corresponds to about 4.0 L. So the best choice reflects both the typical absolute value and the usual percentage of predicted used to define normal function. The other numbers don't fit because they're either much higher than what's normally observed in most adults or clearly lower than what's considered normal for a healthy individual.

2. Pulmonary capillary pressure (PPC) is normally which range?

- A. 4-6 mmHg**
- B. 6-8 mmHg**
- C. 8-10 mmHg**
- D. 10-12 mmHg**

Pulmonary capillary pressure is the low-pressure driving force for perfusion and fluid exchange in the lungs. In the healthy pulmonary circulation, this pressure is kept in a narrow, low range to support gas exchange while minimizing fluid filtration into the interstitium. The normal range is about eight to ten millimeters of mercury, reflecting a balance that matches the left atrial pressure and keeps edema from developing. If PPC rises well above this range, hydrostatic forces push fluid into the interstitium and alveoli, causing pulmonary edema; if it drops too low, perfusion can be inadequate.

3. What calibration syringe volume is used to check a spirometer?

- A. 2.0 liters**
- B. 3.0 liters**
- C. 1.5 liters**
- D. 4.0 liters**

Calibrating a spirometer uses a syringe with a known, fixed volume to verify that the instrument reads the same volume when a precise amount of air is pushed through it. The standard calibration syringe volume used for spirometry is 3.0 liters. This size is chosen because it provides a reliable check of the device's accuracy across the range of lung volumes typically seen in testing, including larger maneuvers like the full forced vital capacity, while still producing measurable readings at common flow rates. Using 3.0 liters helps ensure the spirometer's volume measurements are accurate and linear across different efforts. Smaller syringes (like 1.5 or 2.0 liters) don't stress the instrument as much and may miss issues that appear at higher volumes, while a much larger syringe (such as 4.0 liters) is not the standard calibrator used in routine practice.

4. Which option best represents the commonly accepted adult blood pressure range?

- A. 70/40 to 110/70
- B. 90/60 to 140/90**
- C. 100/70 to 160/100
- D. 80/50 to 120/80

Blood pressure is expressed as two numbers: the pressure during heartbeats and between heartbeats. For most adults, there's a broad range that's considered acceptable—starting at a lower end that still provides adequate organ perfusion and extending up to an upper end before hypertension is diagnosed. This window includes readings that are generally not worrisome and excludes readings that would clearly indicate too low (hypotension) or too high (hypertension). The other options push toward extremes or leave out readings that fall in the normal variation, so they don't fit as well. Therefore, the range that best matches everyday clinical practice for adults is the one that spans from the lower end of acceptable perfusion to the upper end before hypertension is diagnosed.

5. The P/F ratio threshold used in this context is:

- A. >400 torr
- B. >360 torr
- C. >380 torr**
- D. >420 torr

The P/F ratio shows how effectively the lungs transfer oxygen from the air into the blood by comparing PaO₂ to FiO₂. A higher ratio means better oxygenation for the level of oxygen support the patient is receiving. In this context, a threshold of greater than 380 torr indicates the patient is oxygenating well enough on their current FiO₂ to be considered for steps such as weaning or extubation. For example, if the FiO₂ is 0.40, a PaO₂ around 152 torr would yield a P/F near 380; on room air (FiO₂ ≈ 0.21), a PaO₂ of about 80 torr would also reach roughly 380. Values below this threshold suggest less efficient oxygen transfer and a need for continued higher oxygen support. The other numerical options do not reflect the chosen cut-off for this scenario.

6. The FEV₁/FVC ratio is approximately what percentage?

- A. 70%
- B. 83%**
- C. 90%
- D. 60%

The main idea here is what a normal FEV₁/FVC ratio looks like in a healthy adult. FEV₁ is the amount of air you can force out in the first second of a forced expiration, and FVC is the total air you can force out after a full inhalation. In a healthy person, a large share of the air comes out in that first second, so the ratio is about 0.8, meaning roughly 80% of the vital capacity is expelled in the first second. Because of natural variations with age, height, and sex, the practical normal range is roughly 75-85%, so 83% sits right in that typical ballpark. Choosing 83% as the best answer reflects that it aligns with the common average used in NBRC materials for a healthy adult. Values around 70% would suggest some airflow limitation, while a value around 90% is higher than the usual expectation for a normal adult and 60% indicates substantial obstruction. The key takeaway is that the normal FEV₁/FVC ratio is about 0.8, with 83% being a good approximate representative.

7. Pulmonary capillary wedge pressure (PCWP) is used to estimate which pressure?

- A. Right atrial pressure
- B. Left atrial pressure**
- C. Pulmonary artery systolic pressure
- D. Right ventricular end-diastolic pressure

Pulmonary capillary wedge pressure is an indirect measure of the pressures on the left side of the heart. By wedging a balloon-tipped catheter in a small branch of the pulmonary artery, the blood flow is occluded and the pressure recorded beyond the balloon reflects the pressure in the pulmonary capillaries that are in continuity with the left atrium. Because there is no significant a pressure drop between the wedged position and the left atrium, this wedged pressure closely estimates left atrial pressure (and thus left-sided filling pressures). It does not measure right atrial pressure, right ventricular end-diastolic pressure, or the systolic pressure in the pulmonary artery.

8. What is the recommended insertion depth for oral endotracheal intubation?

- A. 18-22 cm at lips
- B. 21-25 cm at lips**
- C. 26-30 cm at lips
- D. 15-20 cm at lips

For adults, the endotracheal tube should sit with its tip about 2 to 3 cm above the carina. Since depth is measured from the lips, a typical placement range is 21-25 cm at the lips. This range helps keep the tube secure and ventilating both lungs adequately. If the tube is inserted too shallowly (toward the mouth), it risks dislodgement or inadequate ventilation, especially if the patient moves or coughs. If it's inserted too deeply (past 25 cm or more), the tip can enter the right mainstem bronchus, leading to over-ventilation of the right lung and collapse or underventilation of the left lung. Therefore, 21-25 cm from the lips is the practical balance for most adults, with adjustments made based on height, sex, and clinical confirmation by breath sounds, CO₂, and post-intubation chest imaging.

9. The L/S ratio indicating mature lungs is which of the following?

- A. 1:1
- B. 2:1**
- C. 3:1
- D. 4:1

Lecithin-sphingomyelin (L/S) testing in amniotic fluid gauges fetal lung maturity. Lecithin (a major surfactant component) increases as the lungs mature, while sphingomyelin remains relatively constant, so the ratio rises with gestational age. A value of 2:1 or higher is the common threshold indicating enough surfactant production to suggest mature lungs and a lower risk of respiratory distress syndrome after birth. Values below that point toward immaturity. Ratios like 1:1 suggest insufficient surfactant, while 3:1 or 4:1 show even more maturity, but the clinically used cutoff is 2:1.

10. What is the normal cardiac output range?

- A. 4-8 L/min**
- B. 1-2 L/min**
- C. 6-12 L/min**
- D. 2-4 L/min**

The main idea here is understanding what cardiac output represents and the typical resting value in a healthy adult. Cardiac output is the amount of blood the heart pumps each minute, and it can be estimated from the product of heart rate and stroke volume ($CO = HR \times SV$). At rest, a healthy adult usually has a heart rate around 60-100 beats per minute and a stroke volume roughly 60-100 mL per beat, which gives about 4-8 liters per minute. So the normal resting range is about 4-8 L/min. Values like 1-2 L/min or 2-4 L/min are too low for a normal resting state, while 6-12 L/min reflects higher activity or a highly trained individual rather than the resting baseline.

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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:

<https://nbrcnormalvaluestmc.examzify.com>

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

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