

PANCE Pulmonology 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. Cardiopulmonary exercise testing (CPET) combines the routine measurements taken during incremental exercise with which of the following analyses?**
 - A. Chest radiography**
 - B. Echocardiography**
 - C. Serum lactate levels**
 - D. Analysis of exhaled gases**

- 2. In cystic fibrosis, what is the typical chronic infection and resulting lung damage?**
 - A. Staphylococcus aureus leading to pneumothorax**
 - B. Pseudomonas aeruginosa leading to bronchiectasis and mucus plugging**
 - C. Haemophilus influenzae causing empyema**
 - D. Streptococcus pneumoniae causing lobar pneumonia**

- 3. Which statement about COPD etiologies is accurate based on the material?**
 - A. Genetic factors are the sole cause of COPD.**
 - B. Infections are not linked to COPD development.**
 - C. Autoimmune processes exclusively cause COPD.**
 - D. Environmental exposures such as smoking, biomass, pollution, and occupational factors are etiologies.**

- 4. For CAP in patients over 65 or with comorbidities, which regimen is appropriate?**
 - A. Amoxicillin-clavulanate plus azithromycin**
 - B. Amoxicillin alone**
 - C. Doxycycline alone**
 - D. Azithromycin alone**

- 5. Which statement defines pulmonary hypertension?**
 - A. Mean pulmonary artery pressure >25 mmHg on right heart catheterization**
 - B. Wedge pressure >15 mmHg**
 - C. PO₂ < 80 mmHg on room air**
 - D. Pulmonary capillary leak on imaging**

- 6. PFT screening is particularly used to evaluate which scenario?**
- A. Underlying neuromuscular disorders**
 - B. Acute bacterial infection**
 - C. Renal failure**
 - D. Liver cirrhosis**
- 7. Asbestosis is classically associated with which exposure and finding?**
- A. Coal mining with pleural plaques**
 - B. Sandblasting with dermatitis**
 - C. Welding with fibrosis**
 - D. Ships, insulation exposure with pleural plaques**
- 8. Which of the following is a first-line empiric therapy for outpatient CAP in a healthy adult without risk factors for drug resistance?**
- A. Amoxicillin alone**
 - B. Levofloxacin monotherapy**
 - C. Doxycycline**
 - D. Macrolide (Azithromycin or Clarithromycin) or Doxycycline**
- 9. Which organism is most commonly associated with chronic infection in the lungs of individuals with cystic fibrosis?**
- A. Staphylococcus aureus**
 - B. Pseudomonas aeruginosa**
 - C. Streptococcus pneumoniae**
 - D. Haemophilus influenzae**
- 10. On CT, pulmonary emboli appear as what?**
- A. Ground-glass opacities**
 - B. Bilateral pleural effusions**
 - C. Lobar pneumonia**
 - D. Intraluminal filling defects**

Answers

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

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Explanations

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1. Cardiopulmonary exercise testing (CPET) combines the routine measurements taken during incremental exercise with which of the following analyses?

- A. Chest radiography**
- B. Echocardiography**
- C. Serum lactate levels**

D. Analysis of exhaled gases

During CPET, you perform incremental exercise and collect standard physiological data, but the key addition is analyzing the exhaled gases. This breath-by-breath gas analysis measures how much oxygen you take up and how much carbon dioxide you produce as workload increases, giving VO₂ and VCO₂ in real time. With these gas exchange measurements, you can assess aerobic capacity, metabolic thresholds, and ventilatory efficiency, all while monitoring heart rate, blood pressure, ECG, and oxygen saturation. This integrated view reveals how the cardiovascular, pulmonary, and metabolic systems work together under stress and helps distinguish whether exercise limitation is due to cardiac issues, pulmonary limitations, or other factors. The other options—chest imaging, ultrasound of the heart, or blood lactate alone—do not provide this real-time analysis of expired gases, which is the defining addition of CPET.

2. In cystic fibrosis, what is the typical chronic infection and resulting lung damage?

A. Staphylococcus aureus leading to pneumothorax

B. Pseudomonas aeruginosa leading to bronchiectasis and mucus plugging

C. Haemophilus influenzae causing empyema

D. Streptococcus pneumoniae causing lobar pneumonia

In cystic fibrosis the ongoing, cumulative lung damage is driven by persistent infection with *Pseudomonas aeruginosa*, especially the mucoid strains that form biofilms and resist clearance. The thick, dehydrated mucus and impaired mucociliary function allow this organism to colonize airways chronically, provoking continuous neutrophilic inflammation and release of proteases. That inflammatory cascade leads to airway destruction and remodeling, producing bronchiectasis and mucus plugs that block smaller airways. The combination of bronchiectasis and mucus plugging explains the progressive lung decline seen in CF. While *Staphylococcus aureus* and *Haemophilus influenzae* can be present earlier in life, they do not typically drive the same chronic, destructive pattern as *Pseudomonas* does in the long term, and *Streptococcus pneumoniae* is more associated with acute lobar pneumonia rather than the chronic CF lung disease trajectory.

3. Which statement about COPD etiologies is accurate based on the material?

- A. Genetic factors are the sole cause of COPD.**
- B. Infections are not linked to COPD development.**
- C. Autoimmune processes exclusively cause COPD.**
- D. Environmental exposures such as smoking, biomass, pollution, and occupational factors are etiologies.**

Chronic obstructive pulmonary disease mainly arises from long-term exposure to harmful particles and gases in the environment. The most important risk factor is cigarette smoking, but other environmental exposures play a major role too. Burning biomass fuels for cooking or heating, outdoor and indoor air pollution, and occupational inhalants like dusts, fumes, and chemicals all contribute to the airway inflammation and structural changes that characterize COPD. Genetic factors such as alpha-1 antitrypsin deficiency can increase susceptibility, and infections or autoimmune processes may influence disease in some individuals, but they are not the primary etiologies. Therefore, environmental exposures—including smoking, biomass smoke, pollution, and occupational factors—are the etiologies described.

4. For CAP in patients over 65 or with comorbidities, which regimen is appropriate?

- A. Amoxicillin-clavulanate plus azithromycin**
- B. Amoxicillin alone**
- C. Doxycycline alone**
- D. Azithromycin alone**

In CAP for patients older than 65 or with comorbidities, covering both typical bacteria (like *Streptococcus pneumoniae* and *Haemophilus influenzae*) and atypical pathogens (such as *Mycoplasma*, *Chlamydia*, and *Legionella*) is important, and risks of resistant organisms are higher. A beta-lactam plus a macrolide achieves that broad, dual coverage: amoxicillin-clavulanate targets the typical pathogens and beta-lactamase producers, while azithromycin adds activity against atypicals. This approach reduces the chance of treatment failure in higher-risk patients. Amoxicillin alone misses atypicals; doxycycline alone may not reliably cover resistant pneumococcus in comorbid patients; and azithromycin alone lacks robust coverage for resistant *S. pneumoniae* and beta-lactamase-producing organisms.

5. Which statement defines pulmonary hypertension?

- A. Mean pulmonary artery pressure >25 mmHg on right heart catheterization**
- B. Wedge pressure >15 mmHg**
- C. PO₂ < 80 mmHg on room air**
- D. Pulmonary capillary leak on imaging**

Pulmonary hypertension is defined by elevated pressure in the pulmonary arterial system, best confirmed by direct measurement with right heart catheterization. The benchmark used is a mean pulmonary artery pressure greater than 25 mmHg at rest, which reflects that the pulmonary vascular resistance is high enough to challenge the right ventricle. This invasive measurement is the gold standard for diagnosing PH, since noninvasive clues like symptoms or imaging can be misleading. Understanding the other statements helps clarify why they don't define PH. A wedge pressure above 15 mmHg points to elevated left-sided filling pressures, which classifies PH as post-capillary (due to left heart disease) rather than defining PH itself. Low PO₂ indicates hypoxemia, not the pulmonary arterial pressure. Imaging showing pulmonary capillary leak suggests edema or capillary injury but does not establish the hemodynamic threshold that defines PH.

6. PFT screening is particularly used to evaluate which scenario?

- A. Underlying neuromuscular disorders**
- B. Acute bacterial infection**
- C. Renal failure**
- D. Liver cirrhosis**

Pulmonary function tests measure lung volumes, flows, and the function of the respiratory muscles, revealing how well ventilation is working. They are especially useful when the problem lies in the muscles that drive breathing. In neuromuscular disorders, weakness of the diaphragm and other respiratory muscles reduces vital capacity and lowers maximal inspiratory and expiratory pressures, often before breathing becomes noticeably difficult. PFTs can detect this early, quantify the level of weakness, and help monitor progression or guide interventions like respiratory therapies or preoperative risk assessment. In contrast, acute bacterial infections are diagnosed from symptoms and tests rather than screening with PFTs, and while kidney failure or liver cirrhosis can have lung-related complications, PFT screening isn't the primary method to evaluate those conditions.

7. Asbestosis is classically associated with which exposure and finding?

- A. Coal mining with pleural plaques**
- B. Sandblasting with dermatitis**
- C. Welding with fibrosis**

D. Ships, insulation exposure with pleural plaques

Asbestos exposure causes chronic lung disease that often shows both interstitial fibrosis (asbestosis) and pleural involvement. The classic setting is work with ships and insulation, where asbestos was heavily used. Pleural plaques—calcified fibrous thickenings on the diaphragmatic or lateral pleura—are a hallmark imaging finding associated with prior asbestos exposure. They can occur with or without significant lung fibrosis and are strong evidence of past exposure. Coal mining causes coal workers' pneumoconiosis with nodules and progressive fibrosis, not the pleural plaques typical of asbestos. Sandblasting can expose to silica, leading to silicosis with upper-lobe nodules and eggshell calcifications, not the pleural plaques typical of asbestos. Welding fumes may cause metal-related lung changes but are not the classic source of pleural plaques. Therefore, exposure to ships and insulation with pleural plaques best fits as the asbestos-associated pattern.

8. Which of the following is a first-line empiric therapy for outpatient CAP in a healthy adult without risk factors for drug resistance?

- A. Amoxicillin alone**
- B. Levofloxacin monotherapy**
- C. Doxycycline**

D. Macrolide (Azithromycin or Clarithromycin) or Doxycycline

In outpatient CAP for a healthy adult with no risk factors for drug resistance, the goal is to use an antibiotic that covers both the usual bacteria that cause pneumonia and the atypical pathogens, while avoiding unnecessarily broad coverage. A macrolide (such as azithromycin or clarithromycin) or doxycycline fits this role well because each provides reliable activity against typical organisms like *Streptococcus pneumoniae* and also covers atypical pathogens such as *Mycoplasma* and *Chlamydia*. This approach keeps the therapy effective but avoids the broader risks associated with fluoroquinolones. Levofloxacin monotherapy is a potent option, but it's a fluoroquinolone with broader spectrum and more potential adverse effects, so it's reserved for patients with asthma/COPD exacerbations, comorbidities, or prior treatment failures, rather than healthy individuals with no DR risk. Amoxicillin alone focuses on typical bacteria and misses atypicals, making it less ideal as first-line in this scenario. Therefore, the best choice reflects either a macrolide or doxycycline as first-line therapy for healthy outpatients with CAP.

9. Which organism is most commonly associated with chronic infection in the lungs of individuals with cystic fibrosis?

- A. Staphylococcus aureus**
- B. Pseudomonas aeruginosa**
- C. Streptococcus pneumoniae**
- D. Haemophilus influenzae**

In cystic fibrosis, the thick, sticky mucus in the airways creates an environment where certain bacteria can persist long-term. *Pseudomonas aeruginosa* is the organism most commonly linked to chronic lung infection in CF because it readily establishes persistent colonization, especially in its mucoid biofilm-producing form. This biofilm protects the bacteria from antibiotics and the immune system, allowing it to persist for years, drive ongoing airway inflammation, and contribute to progressive lung damage and bronchiectasis. *Staphylococcus aureus* often appears early in CF but is less likely to sustain a lifelong chronic infection compared with *Pseudomonas*. *Streptococcus pneumoniae* and *Haemophilus influenzae* are common respiratory pathogens in general and can appear in CF patients, but they do not typically become the dominant chronic colonizers like *Pseudomonas aeruginosa*.

10. On CT, pulmonary emboli appear as what?

- A. Ground-glass opacities**
- B. Bilateral pleural effusions**
- C. Lobar pneumonia**
- D. Intraluminal filling defects**

Pulmonary emboli are best seen on contrast-enhanced CT as intraluminal filling defects within the pulmonary arteries. After contrast is given, the artery should be fully opacified; the clot blocks the contrast, so it appears as a non-enhancing, filling defect inside the vessel. This intraluminal defect is the classic sign of a PE on CT angiography. Other findings like ground-glass opacities, pleural effusions, or lobar consolidation can occur with other conditions and are not specific for PE. Occasionally, a PE can be associated with peripheral wedge-shaped infarcts, but the defining feature on CT is the filling defect within the contrast-filled artery.

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://pancepulmonology.examzify.com>

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