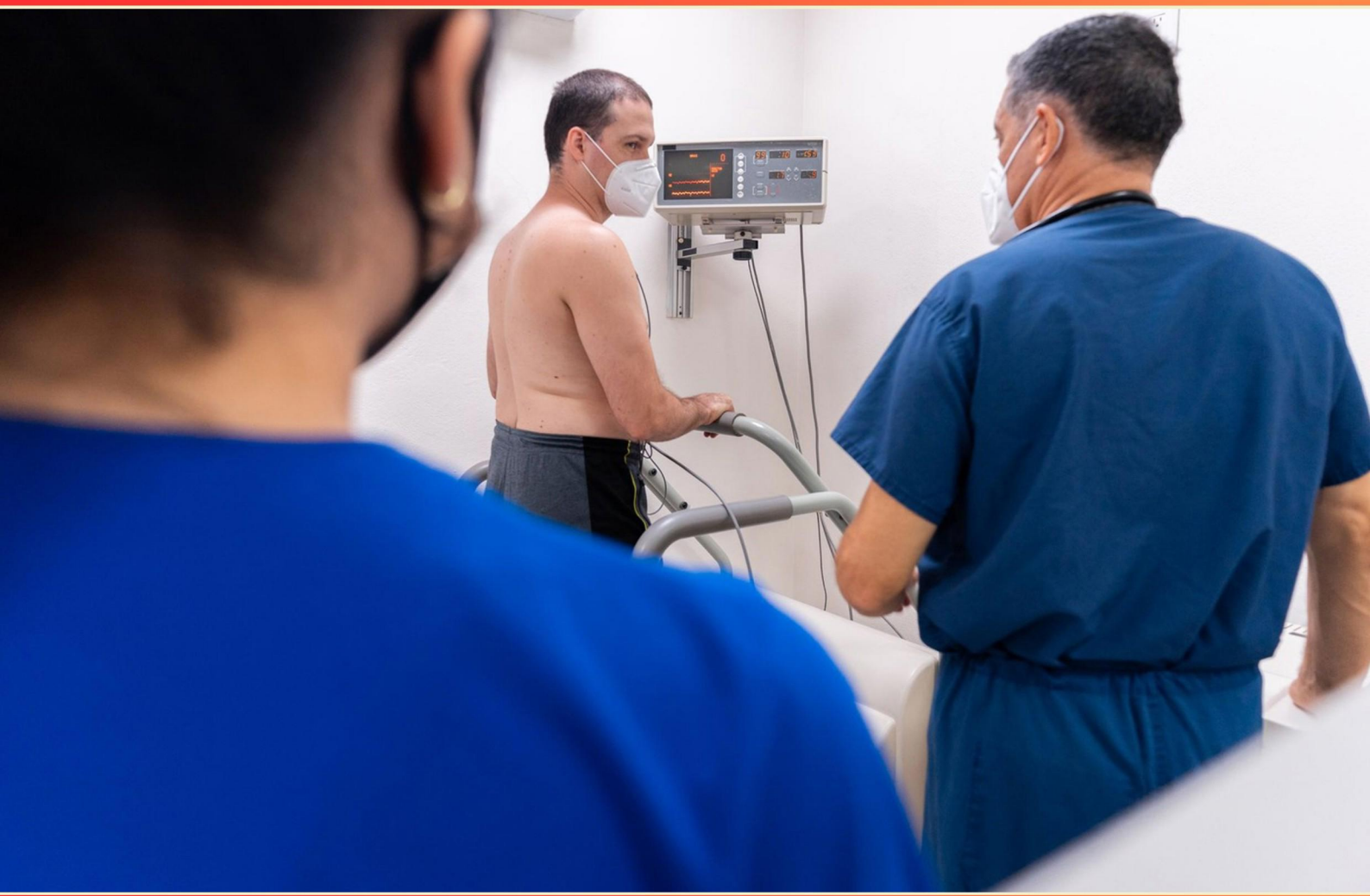
PEDIATRIC CARDIOLOGY FELLOWSHIP PRACTICE TEST (SAMPLE)

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 Sgarbossa criteria for diagnosing MI in the setting of LBBB, what total score indicates high specificity?**

   A. 2

   B. 4

   C. 5

   D. 3

2. **What is the upper limit for normal right ventricular base dimension?**

   A. Not more than 4.1 cm

   B. Not more than 4.5 cm

   C. Not more than 3.5 cm

   D. Not more than 4.0 cm

3. **Which statement describes the Haldane effect?**

   A. Increase in Hb affinity for CO2 with higher PO2.

   B. Decrease in Hb affinity for CO2 with higher PO2.

   C. No change in Hb-CO2 binding with PO2.

   D. Decrease in Hb PCO2 binding capacity / affinity with an increasing PO2.

4. **In Tetralogy of Fallot, what is the most common coronary artery anomaly?**

   A. Right coronary artery arising from the left coronary cusp

   B. Left circumflex artery arising from the right coronary artery

   C. Posterior descending artery arising from the left circumflex

   D. Left anterior descending arising from the right coronary artery

5. **In a chest radiograph of Tetralogy of Fallot, which cardiac silhouette finding is described?**

   A. Boot-shaped heart

   B. Upturned apex

   C. Normal cardiac silhouette

   D. Prominent pulmonary arteries

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6. In dextro-transposition of the great arteries (D-TGA), which coronary pattern is most commonly observed?

A. Normal coronaries with clockwise rotation

B. Left circumflex from right coronary artery

C. Left anterior descending from right coronary artery

D. Normal coronaries with counterclockwise rotation

7. What is the pediatric atropine dose when given by weight-based dosing?

A. 0.04 mg/kg (max 1 mg child, 2 mg adolescent)

B. 0.02 mg/kg (max 0.5 mg child, 1 mg adolescent)

C. 0.01 mg/kg (max 0.2 mg child, 0.5 mg adolescent)

D. 0.03 mg/kg (max 0.3 mg child, 0.8 mg adolescent)

8. Which statement best describes the Smith-Modified Sgarbossa criteria?

A. Concordant ST elevation ≥ 1 mm in at least one lead

B. Concordant ST depression ≥ 1 mm in leads V1-V3

C. Proportionally excessive discordant ST elevation defined by ≥ 25% depth

D. All of the above

9. In hypertriglyceridemia–induced pancreatitis, which therapy increases clearance of chylomicrons by activating lipoprotein lipase?

A. Insulin infusion

B. High-fat diet

C. Immediate plasmapheresis only

D. Glucagon therapy

10. What is the appropriate timing for IE prophylaxis before a dental procedure?

A. 2 hours prior

B. Immediately before

C. 30-60 minutes prior

D. 24 hours prior

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Answers

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

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Explanations

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1. In Sgarbossa criteria for diagnosing MI in the setting of LBBB, what total score indicates high specificity?

A. 2

B. 4

C. 5

D. 3

In this setting, the goal is to distinguish true myocardial infarction from changes caused by the left bundle branch block by weighting different ECG findings. The Sgarbossa scoring assigns big weight to concordant ST elevation (5 points), moderate weight to concordant ST depression in the anterior leads (3 points), and smaller weight to discordant ST elevation with a proportional ST to QRS relationship (2 points). These weights reflect how specific each pattern is for an MI when a BBB is present. A total score of three or more is used to indicate high specificity because even a single 3-point finding (concordant ST depression in V1–V3) is highly specific for MI in this setting, while the 2-point discordant pattern alone is less definitive. Therefore, reaching or exceeding a score of three gives strong confidence that the ECG changes represent an MI rather than a BBB-related variant. A 5-point finding is even more specific, but a threshold of three balances sensitivity and specificity in clinical practice.

2. What is the upper limit for normal right ventricular base dimension?

A. Not more than 4.1 cm

B. Not more than 4.5 cm

C. Not more than 3.5 cm

D. Not more than 4.0 cm

The main idea here is assessing RV size by a basal width measurement, taken at end-diastole in a parasternal view. In pediatric echocardiography, the right ventricular base dimension should stay within about 4.1 cm for a child or adolescent of average body size. Values at or above this threshold suggest RV dilation. While body size matters and indexing to body surface area helps, the commonly cited absolute upper limit in pediatrics is 4.1 cm. The other numbers reflect either adult norms or slightly different pediatric cutoffs, so 4.1 cm is the best match for the upper limit in this context.

3. Which statement describes the Haldane effect?

A. Increase in Hb affinity for CO2 with higher PO2.

B. Decrease in Hb affinity for CO2 with higher PO2.

C. No change in Hb-CO2 binding with PO2.

D. Decrease in Hb PCO2 binding capacity / affinity with an increasing PO2.

The Haldane effect describes how the ability of hemoglobin to bind CO2 depends on its oxygenation state. When hemoglobin is deoxygenated (lower PO2), it has a greater affinity for CO2 and can carry more CO2 as carbaminohemoglobin. When PO2 rises and hemoglobin becomes more oxygenated, its affinity for CO2 decreases, so it binds less CO2. In the lungs, this increased oxygen saturation prompts release of CO2 from hemoglobin to be exhaled, while in tissues with low PO2, deoxyhemoglobin binds CO2 more readily to be carried back to the lungs. This makes the statement that there is a decrease in Hb CO2 binding capacity with increasing PO2 the best description of the Haldane effect. The Bohr effect is related but describes how CO2 and H+ reduce Hb's affinity for O2, not how O2 affects CO2 binding.

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4. In Tetralogy of Fallot, what is the most common coronary artery anomaly?

A. Right coronary artery arising from the left coronary cusp

B. Left circumflex artery arising from the right coronary artery

C. Posterior descending artery arising from the left circumflex

D. Left anterior descending arising from the right coronary artery

In Tetralogy of Fallot the most common coronary artery anomaly is an anomalous origin of the left anterior descending artery from the right coronary artery, with the LAD often crossing the right ventricular outflow tract. This configuration is particularly important surgically because the LAD can lie in the path where the RVOT is reconstructed; injuring it during repair would cause significant myocardial injury. Recognizing this pattern preoperatively helps the surgeon plan the patch and incision to avoid the anomalous LAD. Other listed anomalies exist in TOF but are far less common and do not carry the same procedural risk or typical course over the RVOT.

5. In a chest radiograph of Tetralogy of Fallot, which cardiac silhouette finding is described?

A. Boot-shaped heart

B. Upturned apex

C. Normal cardiac silhouette

D. Prominent pulmonary arteries

In Tetralogy of Fallot, obstruction of the right ventricular outflow tract leads to right ventricular hypertrophy. This enlarges and tilts the right ventricle upward, elevating the heart's apex. On a chest radiograph, this gives an appearance where the apex seems to point upward—a description often called an upturned apex. This upward shift of the apex is the hallmark radiographic consequence of the RV hypertrophy seen in TOF and is essentially the same thing clinicians mean when they say the silhouette has a boot-like shape—the apex is displaced upward. Normal cardiac silhouette would not fit TOF, because the heart shape is altered by the RV enlargement. Prominent pulmonary arteries would suggest increased pulmonary flow or pulmonary hypertension, which is not typical of classic TOF (pulmonary vasculature is often reduced due to decreased flow).

6. In dextro-transposition of the great arteries (D-TGA), which coronary pattern is most commonly observed?

A. Normal coronaries with clockwise rotation

B. Left circumflex from right coronary artery

C. Left anterior descending from right coronary artery

D. Normal coronaries with counterclockwise rotation

In D-TGA, coronary artery origins can vary, and the pattern seen most often reflects how the coronary buds develop from the aortic root in this anomalous setup. The most common pattern is the left circumflex artery arising from the right coronary artery, meaning the LCx comes off the RCA rather than from a separate left coronary system. This arrangement is frequently encountered in D-TGA and has important surgical implications for arterial switch operations, where the coronaries must be reimplanted intact; knowing that the LCx originates from the RCA guides how the transfer is planned to avoid compromising the LCx blood supply. Other patterns—such as normal coronaries with a particular rotation of the great vessels or separate origins of the left anterior descending from the right coronary artery—are seen less often in this condition, which is why the LCx from the RCA stands out as the most characteristic finding in D-TGA.

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7. What is the pediatric atropine dose when given by weight-based dosing?

A. 0.04 mg/kg (max 1 mg child, 2 mg adolescent)

B. 0.02 mg/kg (max 0.5 mg child, 1 mg adolescent)

C. 0.01 mg/kg (max 0.2 mg child, 0.5 mg adolescent)

D. 0.03 mg/kg (max 0.3 mg child, 0.8 mg adolescent)

Weight-based dosing for atropine in children is 0.02 mg/kg per dose given IV, with a minimum of about 0.1 mg and a maximum single dose of 0.5 mg in children (1 mg in adolescents). This dosing achieves enough antimuscarinic effect to increase heart rate during bradycardia or high vagal tone, while avoiding excessive anticholinergic toxicity. The option that fits this standard is 0.02 mg/kg with the specified max doses for child and adolescent. Doses like 0.04 mg/kg or 0.03 mg/kg push the per-kilogram amount beyond the typical per-dose maximum or risk unnecessary toxicity, and 0.01 mg/kg underdoses may not produce the desired heart-rate response. In practice, administer IV, repeat every 3–5 minutes as needed until the rhythm improves, not exceeding the per-dose maximums.

8. Which statement best describes the Smith-Modified Sgarbossa criteria?

A. Concordant ST elevation ≥ 1 mm in at least one lead

B. Concordant ST depression ≥ 1 mm in leads V1-V3

C. Proportionally excessive discordant ST elevation defined by ≥ 25% depth

D. All of the above

In left bundle branch block or paced rhythms, recognizing acute myocardial infarction on ECG isn't reliable with the usual ST-elevation rules, so the Smith-Modified Sgarbossa criteria define three patterns that raise concern for MI. First, if you see ST elevation that is concordant with the QRS — meaning the ST segment rises in the same direction as the overall QRS deflection — of at least 1 mm in any lead, that pattern is suspicious. Second, concordant ST depression of at least 1 mm in the anterior leads V1–V3 is also a red flag, because the ST changes align with the QRS rather than oppose it. Third, and unique to the Smith modification, is disproportionate discordant ST elevation: in a lead where the QRS is predominantly negative (a deep S wave), the ST segment elevates by at least 25% of the S-wave depth. That proportional criterion helps identify MI when there isn't a large absolute ST change. Since all three patterns are part of the Smith-Modified Sgarbossa criteria, choosing "All of the above" correctly captures the full set of criteria.

9. In hypertriglyceridemia–induced pancreatitis, which therapy increases clearance of chylomicrons by activating lipoprotein lipase?

A. Insulin infusion

B. High-fat diet

C. Immediate plasmapheresis only

D. Glucagon therapy

The key idea is that clearing the triglyceride-rich chylomicrons from blood in this situation relies on activating lipoprotein lipase to hydrolyze their triglycerides. Insulin stimulates lipoprotein lipase on the capillary endothelium, increasing the breakdown of triglycerides in chylomicrons and VLDL into fatty acids that tissues can take up. This accelerates clearance of chylomicrons from the circulation and lowers plasma triglyceride levels, which is crucial in hypertriglyceridemia–induced pancreatitis. Insulin also helps by reducing hepatic VLDL production, further lowering triglycerides. High-fat intake would worsen the problem by adding more triglyceride-rich particles. Plasmapheresis can rapidly reduce triglyceride levels by physically removing chylomicrons, but it does not activate lipoprotein lipase. Glucagon promotes lipolysis in adipose tissue but does not enhance LPL activity to clear chylomicrons. Therefore, insulin infusion is the therapy that increases clearance of chylomicrons via LPL activation.

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10. What is the appropriate timing for IE prophylaxis before a dental procedure?

A. 2 hours prior

B. Immediately before

C. 30-60 minutes prior

D. 24 hours prior

Timing prophylaxis is about having the antibiotic at its peak in the bloodstream when dental manipulation can cause bacteremia. The best window is 30–60 minutes before the procedure, so peak serum and tissue levels are present during the bacteremia that occurs with gingival manipulation. Giving it much earlier risks the drug levels waning by the time bacteremia starts, while dosing immediately before may not allow enough time for absorption and peak concentration. A dose given 24 hours prior would not protect against bacteremia created by the procedure.

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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://pediatriccardiologyfellowship.examzify.com

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

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