

CVP AND GI PATHOLOGY EXAM 1 PRACTICE (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

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THE FULL VERSION STUDY GUIDE**

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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. Monckeberg medial sclerosis is characterized by calcific deposits in which layer of the vessel wall?**
 - A. Tunica Adventitia
 - B. Tunica Intima
 - C. Endothelium
 - D. Tunica Media
- 2. The short-term regulation of blood pressure is primarily mediated by which mechanism?**
 - A. Renin-Angiotensin System
 - B. Atrial Natriuretic Peptide
 - C. Aldosterone
 - D. Baroreceptor Reflex
- 3. Which of the following is a known trigger of oxidative stress leading to hemolysis in G6PD deficiency?**
 - A. Vitamin C
 - B. Phenytoin
 - C. Sulfonamide antibiotics
 - D. Fava beans
- 4. Marfan syndrome is an autosomal dominant connective tissue disorder caused by a defect in the FBN1 gene on chromosome 15 encoding which protein?**
 - A. Fibrillin-1
 - B. Collagen type I
 - C. Elastin
 - D. Laminin
- 5. Pancytopenia with hypersegmented neutrophils and an abnormal Schilling test is characteristic of which anemia?**
 - A. Pernicious anemia
 - B. Folate deficiency anemia
 - C. Aplastic anemia
 - D. Iron deficiency anemia

6. Fibromuscular dysplasia has _____ and _____ of the tunica media and intima leading to stenosis/aneurysm.
- A. Hyperplasia and fibrosis of the tunica adventitia
 - B. Hypertrophy and calcification of the tunica media
 - C. Hypertrophy and thinning of the tunica intima
 - D. Hyperplasia and fibrosis of the tunica media and intima
7. Which age group is Takayasu arteritis more common?
- A. Older adults
 - B. Younger adults
 - C. Infants
 - D. Elderly
8. Extravascular hemolysis is typically manifested by which triad?
- A. Anemia, hepatomegaly, ascites
 - B. Thrombocytopenia, purpura, fever
 - C. Anemia, Splenomegaly, Jaundice
 - D. Polycythemia, splenomegaly, pruritus
9. Kawasaki disease typically affects which age group?
- A. Under 5 years old
 - B. Over 60 years old
 - C. 20-40 years old
 - D. 10-20 years old
10. Which pairing accurately describes the roles of nitric oxide and endothelin in regulating vascular tone?
- A. Nitric oxide relaxing; endothelin contracting
 - B. Nitric oxide contracting; endothelin relaxing
 - C. Nitric oxide vasodilating; endothelin vasoconstricting
 - D. Nitric oxide procoagulant; endothelin anticoagulant

Answers

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

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Explanations

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1. Monckeberg medial sclerosis is characterized by calcific deposits in which layer of the vessel wall?

- A. Tunica Adventitia
- B. Tunica Intima
- C. Endothelium
- D. Tunica Media**

Monckeberg medial sclerosis is the calcification of the tunica media of medium-sized arteries. The calcium deposits lie within the medial layer, stiffening the vessel wall while usually preserving the intima and maintaining the lumen. This distinguishes it from atherosclerosis, where the intima develops lipid-rich plaques that narrow the lumen. Medial calcification often appears as radiopaque, "pipestem" arteries and is seen more in older individuals and in conditions like diabetes or chronic kidney disease. The endothelium and adventitia are not the primary sites of these calcifications.

2. The short-term regulation of blood pressure is primarily mediated by which mechanism?

- A. Renin-Angiotensin System
- B. Atrial Natriuretic Peptide
- C. Aldosterone
- D. Baroreceptor Reflex**

Short-term arterial blood pressure is governed by the baroreceptor reflex, a rapid neural feedback loop. Stretch sensors in the carotid sinus and aortic arch detect changes in arterial pressure and send signals to the brainstem. The brain then adjusts autonomic output to the heart and blood vessels: if pressure rises, sympathetic activity decreases and parasympathetic activity increases, lowering heart rate, contractility, and vascular resistance; if pressure falls, the opposite occurs to raise blood pressure. This swift reflex operates within seconds to stabilize mean arterial pressure. Hormonal systems like the renin-angiotensin-aldosterone axis, atrial natriuretic peptide, and aldosterone regulate blood pressure more slowly by affecting blood volume and vascular tone over minutes to hours, so they are not the primary short-term regulators.

3. Which of the following is a known trigger of oxidative stress leading to hemolysis in G6PD deficiency?

- A. Vitamin C
- B. Phenytoin
- C. Sulfonamide antibiotics**
- D. Fava beans

G6PD deficiency leaves red blood cells vulnerable to oxidative stress because the NADPH-dependent glutathione system can't be maintained, so reactive oxygen species accumulate and damage the cell membrane, sometimes forming Heinz bodies and causing hemolysis. Sulfonamide antibiotics are a classic drug-induced trigger of this oxidative stress. They act as oxidants in red cells, and without sufficient NADPH and reduced glutathione, the cells can't neutralize the damage, leading to hemolysis in G6PD-deficient individuals. Fava beans are another known trigger due to their oxidative compounds, but among common exam choices, sulfonamides are the standard example of an oxidative drug precipitating hemolysis. Vitamin C is not typically a trigger at usual doses, and phenytoin is not a primary oxidative stress inducer in this scenario.

4. Marfan syndrome is an autosomal dominant connective tissue disorder caused by a defect in the FBN1 gene on chromosome 15 encoding which protein?

- A. Fibrillin-1**
- B. Collagen type I
- C. Elastin
- D. Laminin

The main point is that Marfan syndrome arises from a defect in a gene that encodes a major extracellular matrix glycoprotein critical for elastic fiber formation. The gene on chromosome 15, FBN1, encodes fibrillin-1, which assembles into microfibrils that form the scaffold for elastin in many connective tissues. When fibrillin-1 is faulty, elastic fibers become weak, leading to the characteristic tall habitus, arachnodactyly, and especially vascular (aortic root dilatation) and ocular (lens subluxation) issues seen in Marfan. Additionally, defective fibrillin-1 disrupts sequestration of TGF- β in the extracellular matrix, contributing to the tissue fragility. Other options refer to different proteins: collagen type I is a primary structural component of bone and dermis unrelated to FBN1; elastin is a separate protein encoded by a different gene and forms the elastic fibers; laminin is a basement membrane component. Therefore, the protein encoded by FBN1 is fibrillin-1.

5. Pancytopenia with hypersegmented neutrophils and an abnormal Schilling test is characteristic of which anemia?

- A. Pernicious anemia**
- B. Folate deficiency anemia
- C. Aplastic anemia
- D. Iron deficiency anemia

This scenario reflects a failure of vitamin B12–dependent DNA synthesis, which drives megaloblastic changes in the bone marrow. When B12 is deficient, hematopoietic cells can't synthesize DNA properly, leading to large, immature cells and hypersegmented neutrophils. Pancytopenia arises from ineffective hematopoiesis affecting all lineages. The Schilling test measures how well vitamin B12 is absorbed in the gut; an abnormal result points to B12 malabsorption, most classically from pernicious anemia, where autoimmune destruction of intrinsic factor or gastric parietal cells impairs B12 uptake. Folate deficiency can also cause hypersegmented neutrophils and pancytopenia, since it, too, disrupts DNA synthesis, but the Schilling test would be normal because B12 absorption is unaffected. Aplastic anemia shows pancytopenia with a hypocellular marrow and does not feature hypersegmented neutrophils or rely on a Schilling test. Iron deficiency anemia typically causes microcytic changes rather than macrocytosis or hypersegmentation and is unrelated to B12 absorption testing.

6. Fibromuscular dysplasia has _____ and _____ of the tunica media and intima leading to stenosis/aneurysm.

- A. Hyperplasia and fibrosis of the tunica adventitia
- B. Hypertrophy and calcification of the tunica media
- C. Hypertrophy and thinning of the tunica intima
- D. Hyperplasia and fibrosis of the tunica media and intima**

Fibromuscular dysplasia is a non-atherosclerotic, non-inflammatory arteriopathy that causes fibromuscular proliferation within the vessel wall, leading to irregular thickening and luminal narrowing with possible aneurysm formation. The hallmark histology is hyperplasia and fibrosis of the tunica media and intima, which produces the stenotic segments and, in places, aneurysmal dilation. The other patterns described don't fit this combination of medial and intimal fibrous changes that drive the characteristic beading and segments of narrowed lumen.

7. Which age group is Takayasu arteritis more common?

- A. Older adults
- B. Younger adults**
- C. Infants
- D. Elderly

Takayasu arteritis is a large-vessel vasculitis that classically affects younger individuals, especially women, with onset typically in the second to third decades of life. The most common age range is roughly late teens to early 40s, with many patients presenting in their 20s. This youthful predominance helps distinguish it from other vasculitides, such as giant cell arteritis, which occurs mainly in people over 50. Infants are not typically affected, and elderly individuals are much less commonly affected, making younger adults the age group most associated with Takayasu arteritis.

8. Extravascular hemolysis is typically manifested by which triad?

- A. Anemia, hepatomegaly, ascites
- B. Thrombocytopenia, purpura, fever
- C. Anemia, Splenomegaly, Jaundice**
- D. Polycythemia, splenomegaly, pruritus

Extravascular hemolysis happens when red cells are primarily destroyed by macrophages in the spleen. This ongoing clearance reduces circulating red cells, producing anemia, and the spleen works harder to remove the old or damaged cells, leading to splenomegaly. The heme from destroyed red cells is converted to bilirubin, mainly unconjugated, which accumulates and causes jaundice. So the classic clinical trio you'd expect is anemia, splenomegaly, and jaundice. The other findings don't fit this pattern. Hepatomegaly with ascites points more toward liver disease or portal hypertension, not the spleen-dominant clearance seen in extravascular hemolysis. Thrombocytopenia with purpura and fever suggests a different hematologic or infectious process. Polycythemia with splenomegaly and pruritus aligns more with a myeloproliferative state like polycythemia vera, not hemolysis.

9. Kawasaki disease typically affects which age group?

- A. Under 5 years old**
- B. Over 60 years old
- C. 20-40 years old
- D. 10-20 years old

Kawasaki disease is a pediatric vasculitis that most commonly affects very young children. The typical age range is under 5 years, with the highest incidence in toddlers around ages 1–2. While it can occur in older children or adults, those groups are far less typical. That's why the best answer is under 5 years old. The other age ranges are far less representative of the usual presentation.

10. Which pairing accurately describes the roles of nitric oxide and endothelin in regulating vascular tone?

- A. Nitric oxide relaxing; endothelin contracting
- B. Nitric oxide contracting; endothelin relaxing
- C. Nitric oxide vasodilating; endothelin vasoconstricting
- D. Nitric oxide procoagulant; endothelin anticoagulant

Nitric oxide and endothelin act as opposing regulators of vascular tone. Nitric oxide is produced by endothelial cells and diffuses into vascular smooth muscle, where it activates soluble guanylate cyclase to raise cGMP. This lowers intracellular calcium and promotes smooth muscle relaxation, leading to vasodilation. Endothelin-1, also produced by the endothelium, binds to endothelin receptors on smooth muscle and triggers calcium-raising signaling that causes sustained contraction, i.e., vasoconstriction. In a healthy vessel, there is a balance between these factors, with nitric oxide promoting dilation and endothelin promoting constriction. The pairing described in the options—nitric oxide relaxing and endothelin contracting—best captures their classic roles.

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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://cvpgipath1.examzify.com>

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

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