

Registered Physician in Vascular Interpretation (RPVI) Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

Copyright © 2026 by Examzify - A Kaluba Technologies Inc. product.

ALL RIGHTS RESERVED.

No part of this book may be reproduced or transferred in any form or by any means, graphic, electronic, or mechanical, including photocopying, recording, web distribution, taping, or by any information storage retrieval system, without the written permission of the author.

Notice: Examzify makes every reasonable effort to obtain accurate, complete, and timely information about this product from reliable sources.

SAMPLE

Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	5
Answers	8
Explanations	10
Next Steps	15

SAMPLE

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

SAMPLE

- 1. Laminar flow features**
 - A. Orderly Movement With Uniform Speeds**
 - B. Turbulent Mixing**
 - C. Random RBC Spacing**
 - D. No Flow**

- 2. How is plaque ulceration best assessed with ultrasound?**
 - A. Ulceration can always be definitively diagnosed on a single grayscale image**
 - B. Irregular surface contour with cavity within plaque and blood flow within cavity on color Doppler across multiple views**
 - C. Rely on grayscale alone**
 - D. Color Doppler cannot assess ulceration**

- 3. How does the celiac artery waveform behave during fasting and postprandial states?**
 - A. Becomes high resistance during fasting and low after meals**
 - B. Remains low resistance through fasting or postprandial**
 - C. Exhibits high pulsatility in fasting**
 - D. Shows reversed flow during postprandial**

- 4. Which vessel courses posterior to the inferior vena cava?**
 - A. Left renal artery**
 - B. Right renal artery**
 - C. Hepatic artery**
 - D. Superior mesenteric artery**

- 5. Which statement is NOT typical of severe turbulence post-stenosis waveform?**
 - A. Serration of the peak velocity envelope**
 - B. Fill-in of the spectral window**
 - C. Smooth peak velocity envelope**
 - D. Increased brightness in the spectral display**

- 6. Which material is commonly used for a bypass graft and would appear as woven material on ultrasound?**
- A. Dacron (polyester) woven material**
 - B. Stainless steel mesh**
 - C. Gore-Tex graft**
 - D. Silicone tubing**
- 7. Transmit power reduced by factor 100; how many decibels?**
- A. -10 dB**
 - B. -20 dB**
 - C. -30 dB**
 - D. -40 dB**
- 8. In endoleak evaluation, a vessel communicating with the residual aneurysm sac demonstrates flow patterns similar to which feature?**
- A. Inflow-only from the artery**
 - B. To-and-fro directionality in the neck of a pseudoaneurysm**
 - C. No flow variation**
 - D. Turbulent venous flow**
- 9. What ultrasound characteristic helps distinguish a bypass graft from a stent?**
- A. Woven material like Dacron**
 - B. Metallic stent struts visible on ultrasound**
 - C. Smooth silicone lining**
 - D. Calcified plaque only**
- 10. A reflection from a large smooth surface is most accurately described as which type of reflection?**
- A. Diffuse reflection**
 - B. Backscattering reflection**
 - C. Rayleigh reflection**
 - D. Specular reflection large smooth surface**

Answers

SAMPLE

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

SAMPLE

Explanations

SAMPLE

1. Laminar flow features

A. Orderly Movement With Uniform Speeds

B. Turbulent Mixing

C. Random RBC Spacing

D. No Flow

Laminar flow is smooth, orderly movement where fluid travels in parallel layers with minimal cross-layer mixing. In a vessel, the no-slip condition at the wall makes flow slowest near the edge and fastest at the center, giving a predictable, layered velocity profile. Within each layer, speeds are relatively uniform, and the layers slide past one another without chaotic mixing. This contrasts with turbulent flow, which features eddies and irregular mixing, and with no flow at all. So the description of orderly movement with uniform speeds best captures laminar flow.

2. How is plaque ulceration best assessed with ultrasound?

A. Ulceration can always be definitively diagnosed on a single grayscale image

B. Irregular surface contour with cavity within plaque and blood flow within cavity on color Doppler across multiple views

C. Rely on grayscale alone

D. Color Doppler cannot assess ulceration

Ultrasound identification of a plaque ulcer hinges on showing a communication between the lumen and a cavity within the plaque that contains blood flow. The irregular surface of the plaque alone isn't enough, because surface roughness can mimic ulcers or be an artifact. The key is detecting a cavity inside the plaque that fills with color Doppler flow from the lumen, and doing this across multiple views to confirm the finding. So, an irregular plaque surface with an intraplaque cavity that demonstrates flow on color Doppler in more than one plane is the best evidence of ulceration. This approach cannot be achieved by grayscale alone, and it relies on Doppler to confirm perfused communication with the lumen.

3. How does the celiac artery waveform behave during fasting and postprandial states?

A. Becomes high resistance during fasting and low after meals

B. Remains low resistance through fasting or postprandial

C. Exhibits high pulsatility in fasting

D. Shows reversed flow during postprandial

The celiac artery typically maintains forward, continuous flow with relatively low resistance, and this pattern doesn't dramatically change with feeding state. Even though postprandially there is a boost in overall splanchnic flow and portal venous inflow, the foregut circulation relies on constant perfusion, and hepatic arterial buffer modulates hepatic inflow so that diastolic forward flow persists. So the waveform remains low-resistance in both fasting and postprandial states, rather than becoming highly pulsatile, reversing flow, or showing a marked high-resistance pattern.

4. Which vessel courses posterior to the inferior vena cava?

- A. Left renal artery
- B. Right renal artery**
- C. Hepatic artery
- D. Superior mesenteric artery

In the abdomen, the inferior vena cava sits along the posterior wall on the right side. The vessel that reaches the right kidney by passing behind the IVC is the right renal artery. It arises from the aorta and then travels upward to the hilum of the right kidney, taking a course posterior to the IVC to reach its target. This posterior relationship to the IVC is what identifies it as the vessel that courses behind the IVC. The other vessels don't share this posterior path relative to the IVC: the hepatic artery travels toward the liver within the hepatoduodenal ligament, the superior mesenteric artery runs anterior to the IVC as it branches off the aorta, and the left renal artery goes to the left kidney without this characteristic posterior relationship to the IVC.

5. Which statement is NOT typical of severe turbulence post-stenosis waveform?

- A. Serration of the peak velocity envelope
- B. Fill-in of the spectral window
- C. Smooth peak velocity envelope**
- D. Increased brightness in the spectral display

Severe turbulence downstream of a stenosis produces a chaotic mix of velocities, so the Doppler spectrum contains many frequency components. This broadens the spectral envelope, makes the peak velocity envelope appear serrated or jagged, and fills in the spectral window with energy across a wider velocity range. The overall spectral signal also appears brighter due to the increased energy from the turbulent flow. A smooth peak velocity envelope is characteristic of laminar or less turbulent flow, not the chaotic pattern seen with severe turbulence. Therefore, describing a smooth peak velocity envelope is not typical of severe turbulence post-stenosis.

6. Which material is commonly used for a bypass graft and would appear as woven material on ultrasound?

- A. Dacron (polyester) woven material**
- B. Stainless steel mesh
- C. Gore-Tex graft
- D. Silicone tubing

Dacron (polyester) woven grafts are the material commonly used for bypass grafts that would appear as a woven pattern on ultrasound. The fabric-like interlacing of polyester fibers creates a woven echotexture within the graft wall, which ultrasound can depict as a braided or fabric-like pattern. Gore-Tex (ePTFE) grafts, by contrast, are smooth and not woven, so they don't show that woven pattern. Stainless steel mesh isn't used as a typical vascular bypass graft, and silicone tubing isn't used as a durable long-term vascular graft in humans.

7. Transmit power reduced by factor 100; how many decibels?
- A. -10 dB
 - B. -20 dB**
 - C. -30 dB
 - D. -40 dB

Decibels express ratios on a log scale, and for power the formula is $\text{dB} = 10 \log_{10}(P_2/P_1)$. If power is reduced by a factor of 100, $P_2/P_1 = 1/100$. So $\text{dB} = 10 \log_{10}(1/100) = 10 \times (-2) = -20$ dB. The negative sign simply indicates attenuation. In words: a 100× reduction in power corresponds to a 20 dB drop.

8. In endoleak evaluation, a vessel communicating with the residual aneurysm sac demonstrates flow patterns similar to which feature?
- A. Inflow-only from the artery
 - B. To-and-fro directionality in the neck of a pseudoaneurysm**
 - C. No flow variation
 - D. Turbulent venous flow

A vessel that communicates with the residual aneurysm sac shows bidirectional, to-and-fro flow because the sac acts as a small reservoir that intermittently fills and empties through a narrow channel. During systole, arterial pulsatile flow pushes blood into the sac, and during diastole, blood can recede back through the same channel, producing a characteristic to-and-fro pattern seen at the neck of a pseudoaneurysm. This pattern reflects the cyclical inflow and outflow through the communicating vessel, which is typical of endoleak channels feeding the sac. If the flow were inflow-only from the artery, you'd see continuous forward flow without reversal. No flow variation would imply a non-pulsatile or insignificant flow, which isn't characteristic of a sac communicating through a narrow neck. Turbulent venous flow would have a venous spectral pattern and velocity characteristics, not the arterial-to-sac bidirectional pattern described here.

9. What ultrasound characteristic helps distinguish a bypass graft from a stent?
- A. Woven material like Dacron**
 - B. Metallic stent struts visible on ultrasound
 - C. Smooth silicone lining
 - D. Calcified plaque only

A bypass graft is made from nonmetallic graft material, often Dacron, which appears on ultrasound as a woven fabric pattern around the lumen. This knit-like texture is a hallmark of graft material and helps distinguish it from a stent. Stents are metallic and show up as bright echogenic struts with potential shadowing, not a woven fabric. So, the presence of a woven, fabric-like graft wall points to a bypass graft, whereas metallic struts would suggest a stent.

10. A reflection from a large smooth surface is most accurately described as which type of reflection?

A. Diffuse reflection

B. Backscattering reflection

C. Rayleigh reflection

D. Specular reflection large smooth surface

When a surface is smooth on the scale of the light's wavelength, reflected rays preserve a definite direction: the angle of incidence equals the angle of reflection. This produces a clear image, like a mirror. That behavior is called specular reflection. A large smooth surface provides a single, well-defined reflection direction, unlike rough surfaces that scatter light in many directions (diffuse reflection). Terms like backscattering or Rayleigh scattering describe other scattering phenomena and don't capture the typical mirror-like reflection from a smooth surface. So, the reflection from a large smooth surface is best described as specular reflection.

SAMPLE

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://rpvi.examzify.com>

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

SAMPLE