Invasive Cardiology Practice Test (Sample)

Study Guide

Everything you need from our exam experts!

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**

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. The cathode (-) part of a pacemaker lead is defined as:

A. The part connected directly into heart tissue

B. The part that receives the electrical impulse after depolarization

C. The part connected to the generator

D. The insulated portion extending from the generator

2. Osprey DyeVert Plus has what clinically proven effect on contrast dosage?

A. You still have your own manifold

B. It requires a dedicated manifold

C. It cannot be used with multi-patient use

D. It eliminates the need for contrast altogether

3. What is the maximum sheath size you can use for radial artery access?

A. 4F

B. 5F

C. 6F

D. 7F

4. The AngioJet uses which principle to aid thrombus removal?

A. Venturi-Bernoulli principle with low vacuum

B. Pascal's principle

C. Archimedes principle

D. Hooke's law

5. Which statement best differentiates a guide catheter from a diagnostic catheter?

A. The inner lumen of a guide catheter is larger

B. The outer diameter of the diagnostic catheter is larger

C. They have the same core dimensions

D. A diagnostic catheter has a larger inner lumen

6. Which of the following is an adverse event associated with AngioJet?

A. Embolization

B. Improved renal function

C. Decreased bleeding

D. Enhanced ultrasound signals

7. In the clotting description, the clot will grow until it reaches which of the following?

A. Flowing blood

B. RBCs fill

C. Vessel heals

D. Platelets exhausted

8. The TIMI grade that indicates minimal perfusion corresponds to which number?

A. 1

B. 0

C. 2

D. 3

9. What does the power injector flow rate setting specify?

A. The number of mL per second injected

B. The total contrast volume per injection

C. The duration of injection

D. The maximum contrast concentration

10. Which of the following is a potential complication of cardiac catheterization?

A. Pseudoaneurysm

B. MI

C. Arrhythmia

D. Leukocytosis

Answers

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

Explanations

1. The cathode (-) part of a pacemaker lead is defined as:

A. The part connected directly into heart tissue

B. The part that receives the electrical impulse after depolarization

C. The part connected to the generator

D. The insulated portion extending from the generator

Understanding which portion of a pacemaker lead acts as the cathode helps clarify how pacing delivers a beat. The cathode is the negative pole of the pacing circuit, and the electrode that actually delivers the stimulus to the heart is the tip that is implanted into the heart tissue. This tip electrode is the negative, active electrode; the current flows from the positive pole (the anode) toward this cathode to depolarize the myocardium. So, the part that's directly in contact with heart tissue is the cathode. The portion connected to the generator is the path back to the device and can be considered the return path, not the site of stimulation. The part that "receives the impulse after depolarization" describes what happens after stimulation, not the electrode delivering the pulse. The insulated portion does not conduct current at all.

2. Osprey DyeVert Plus has what clinically proven effect on contrast dosage?

A. You still have your own manifold

B. It requires a dedicated manifold

C. It cannot be used with multi-patient use

D. It eliminates the need for contrast altogether

Reducing the amount of contrast delivered to the patient while preserving image quality is the key concept. DyeVert Plus is an inline device that sits on the contrast injection line and diverts a portion of the contrast to a waste path, so the patient receives less contrast overall. This reduction has been clinically demonstrated without compromising visualization, workflow, or safety. A major reason this option is best is that the device is designed to work with your existing injection hardware. It doesn't require a dedicated, new manifold, so you can keep using your own manifold and typical multi-patient setup. It does not eliminate the need for contrast altogether—there will still be some contrast used, just less.

3. What is the maximum sheath size you can use for radial artery access?

A. 4F

B. 5F

C. 6F

D. 7F

Matching the sheath size to the radial artery diameter is the key idea. The radial artery in adults is typically about 2.0 to 2.5 mm in diameter, and using a sheath that's too large increases the risk of vasospasm, arterial injury, and radial artery occlusion. A six-French sheath is the standard maximum size used for most transradial procedures because it fits the typical artery well while still allowing a wide range of interventional devices. A seven-French sheath is larger and commonly exceeds the vessel's caliber in many patients, raising complication risk; it's generally reserved for select cases with unusually large radial arteries and careful technique.

4. The AngioJet uses which principle to aid thrombus removal?

A. Venturi-Bernoulli principle with low vacuum

B. Pascal's principle

C. Archimedes principle

D. Hooke's law

The device relies on the Venturi-Bernoulli principle. By directing high-velocity saline jets through tiny nozzles, the flow accelerates and, according to Bernoulli's relationship, the static pressure in the fast stream decreases. This creates a localized negative pressure that entrains the thrombus into the catheter and aids its fragmentation and aspiration. In practice, this suction is generated by the jet itself rather than a separate vacuum pump, which is why it's described as a low-vacuum effect. The other principles don't describe how thrombus is removed with this device: Pascal's principle is about pressure transmission in fluids, Archimedes' principle concerns buoyancy, and Hooke's law deals with elastic deformation.

5. Which statement best differentiates a guide catheter from a diagnostic catheter?

A. The inner lumen of a guide catheter is larger

B. The outer diameter of the diagnostic catheter is larger

C. They have the same core dimensions

D. A diagnostic catheter has a larger inner lumen

The main idea is that the guiding catheter is designed to carry interventional devices, so it needs a larger inner lumen. This larger space allows passage and exchange of equipment such as guidewires, balloons, microcatheters, and stents while also enabling reliable contrast delivery. Diagnostic catheters, by contrast, are optimized for imaging and contrast injection, not for passing bulky devices, so their internal bore is smaller. That's why the statement about the inner lumen being larger in a guide catheter is the best differentiator. Outer diameter and other "core dimension" details aren't the defining factor—it's the amount of space inside the catheter. The other options either misstate which catheter has the larger lumen or imply the same or opposite relationships, which aren't correct given how these catheters are purpose-built.

6. Which of the following is an adverse event associated with AngioJet?

A. Embolization

B. Improved renal function

C. Decreased bleeding

D. Enhanced ultrasound signals

AngioJet uses high-velocity saline jets to fragment and aspirate thrombus, creating a suction effect. This mechanism can cause pieces of clot to break off and travel downstream, leading to embolization in the distal vessels. That downstream blockage is a recognizable adverse event during mechanical thrombectomy. The other options describe beneficial effects (improved renal function, decreased bleeding) or non-adverse imaging observations (enhanced ultrasound signals), which are not complications.

7. In the clotting description, the clot will grow until it reaches which of the following?

A. Flowing blood

B. RBCs fill

C. Vessel heals

D. Platelets exhausted

The main idea is that clot growth is limited by the boundary where flowing blood begins again. The thrombus expands by platelet deposition and fibrin formation at the site of vessel injury, but it continues outward only until it reaches a region where blood is flowing. The presence of circulating blood at that edge creates shear and washout that prevent further adhesion and coagulation beyond that point, effectively stopping the clot's outward growth. RBCs getting filled into the clot is something that happens inside the thrombus itself, not the reason why its edge stops. Vessel healing is the longer-term outcome that may eventually stabilize the area, but it doesn't define the immediate boundary of clot growth. Platelet exhaustion could alter clot formation under extreme consumption, but it isn't the normal boundary that halts growth in this description.

8. The TIMI grade that indicates minimal perfusion corresponds to which number?

A. 1

B. 0

C. 2

D. 3

TIMI flow grading assesses how well blood is moving through a coronary artery after an event like occlusion. Minimal perfusion is the grade described as penetration without perfusion. This means contrast reaches beyond the occlusion but does not fill the distal myocardial bed, reflecting only very limited flow. It's a step above no perfusion (where nothing passes beyond the blockage) but far from partial or normal perfusion. If you see distal bed filling with contrast, that would be partial perfusion, and normal perfusion would show full, unobstructed distal filling. So minimal perfusion corresponds to the grade that shows penetration without true perfusion.

9. What does the power injector flow rate setting specify?

A. The number of mL per second injected

B. The total contrast volume per injection

C. The duration of injection

D. The maximum contrast concentration

Flow rate is the pace at which contrast is pushed into the vein, expressed as milliliters per second. This setting determines how fast the injector delivers the contrast during the injection, which directly influences the bolus shape and the timing of peak enhancement. If you want a faster, sharper bolus, you increase the flow rate; a slower rate gives a more gradual bolus. The total amount of contrast delivered is not fixed by the flow rate alone—it equals flow rate multiplied by the injection duration, so changing either value changes the total dose. The duration of the injection is a separate setting that tells the injector how long to run, while the maximum concentration depends on the contrast's concentration and dilution, not solely on the flow rate.

10. Which of the following is a potential complication of cardiac catheterization?

A. Pseudoaneurysm

B. MI

C. Arrhythmia

D. Leukocytosis

Complications after cardiac catheterization often involve the vascular access site. A pseudoaneurysm forms when the arterial wall is breached at the access site and blood tracks into surrounding tissue while maintaining a connection to the artery. This creates a pulsatile hematoma that can grow if not treated. It's a classic, well-recognized vascular complication of arterial access and is most likely to occur with femoral or radial entry, especially with larger sheaths, inadequate hemostasis, or anticoagulation. Management is typically ultrasound-guided thrombin injection or compression, with surgery reserved for large or expanding cases. Mi can occur if there's coronary occlusion, severe spasm, or dissection during catheter manipulation, and arrhythmias can arise from catheter contact with the conduction system, but these are less common and not as specific to the access-site complication as a pseudoaneurysm. Leukocytosis is not a direct, expected complication of the procedure.

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://invasivecardiology.examzify.com

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