

# Cardiac Catheterization 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

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- 1. Which imaging methods are used to assess regurgitation during cath?**
  - A. Aortography and Ventriculography**
  - B. Echocardiography and MRI**
  - C. CT Angiography**
  - D. Nuclear Perfusion**
  
- 2. Where are the typical insertion sites for a cardiac catheterization?**
  - A. An artery or vein in the arm, neck, or groin**
  - B. Only the femoral artery**
  - C. Only the internal jugular vein**
  - D. Only the radial artery**
  
- 3. Which device has a mini ultrasound transducer and images the lumen of the coronary artery and outlines blood flow, and can be used with coronary angiography?**
  - A. Intravascular ultrasound (IVUS)**
  - B. Optical coherence tomography**
  - C. Coronary flow reserve measurement**
  - D. Fractional flow reserve**
  
- 4. Which catheter is used in a right heart catheterization?**
  - A. Swan-Ganz catheter**
  - B. Pigtail catheter**
  - C. Flow-directed catheter**
  - D. Endomyocardial biopsy catheter**
  
- 5. What is a coronary angiogram?**
  - A. Where contrast is injected into the coronary arteries**
  - B. A test that measures LV ejection fraction**
  - C. A scan to evaluate lung function**
  - D. A test to measure brain perfusion**

- 6. Which procedure is performed in conjunction with an angioplasty and leaves a small expandable wire tube in the artery to keep it open?**
- A. Stenting**
  - B. Atherectomy**
  - C. Intravascular ultrasound**
  - D. Left heart catheterization**
- 7. What is the most common procedure in the cath lab?**
- A. Coronary angiogram**
  - B. Left ventriculography**
  - C. Pacemaker insertion**
  - D. Aortic valve replacement**
- 8. Which technique enables direct access to left atrial pressure during right heart catheterization?**
- A. Direct left atrial catheterization via femoral access**
  - B. Transeptal approach**
  - C. Retrograde aortic approach**
  - D. Intracardiac echocardiography**
- 9. Which of the following is not among the listed procedures to treat plaque?**
- A. Pacemaker implantation**
  - B. CABG**
  - C. Angioplasty**
  - D. Stenting**
- 10. Which of the following is a risk at the entry site during a cardiac catheterization?**
- A. Bleeding at the entry site**
  - B. Weight loss**
  - C. Hair growth**
  - D. Improved memory**

## Answers

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

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## **Explanations**

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**1. Which imaging methods are used to assess regurgitation during cath?**

- A. Aortography and Ventriculography**
- B. Echocardiography and MRI**
- C. CT Angiography**
- D. Nuclear Perfusion**

In the cath lab, regurgitation is assessed by directly visualizing backward flow across the valves with angiographic injections. Injecting contrast into the aorta (aortography) lets you see aortic regurgitation as contrast that leaks back into the left ventricle during diastole. Injecting contrast into the left ventricle (ventriculography) reveals mitral regurgitation as a jet of contrast that leaks into the left atrium during systole. Together, these two angiographic views provide immediate, invasive assessment of valve competence during the procedure. Other modalities like echocardiography or MRI are excellent for quantifying regurgitation but are not the primary invasive methods used during cath. CT angiography and nuclear perfusion don't directly visualize regurgitant jets during the cath procedure.

**2. Where are the typical insertion sites for a cardiac catheterization?**

- A. An artery or vein in the arm, neck, or groin**
- B. Only the femoral artery**
- C. Only the internal jugular vein**
- D. Only the radial artery**

Access to the heart during catheterization is gained through large vessels, and the route can be arterial or venous. Common entry points include vessels in the groin (femoral artery or femoral vein), in the arm or wrist (radial or brachial arteries or veins), and in the neck (internal jugular vein). Left-heart studies typically use arterial access, often via the femoral or radial artery, while right-heart studies use venous access, such as the femoral or internal jugular vein. Describing an artery or vein in the arm, neck, or groin captures the typical, versatile sites used in practice. Focusing on a single site or region would miss this broader, standard availability, which is why the broader description is the best choice.

**3. Which device has a mini ultrasound transducer and images the lumen of the coronary artery and outlines blood flow, and can be used with coronary angiography?**

- A. Intravascular ultrasound (IVUS)**
- B. Optical coherence tomography**
- C. Coronary flow reserve measurement**
- D. Fractional flow reserve**

Intravascular ultrasound uses a mini ultrasound transducer at the tip of a catheter to imaging the inside of the coronary artery. It provides real-time cross-sectional images of the lumen and the vessel wall, so you can see lumen size, plaque burden, and overall vessel geometry. When Doppler or flow imaging is included, it can also outline blood flow within the vessel. This imaging is especially useful alongside coronary angiography to guide interventions, as it gives depth and plaque details that angiography alone cannot show, helping with accurate stent sizing and placement. Optical coherence tomography, by contrast, uses near-infrared light rather than ultrasound, offering very high-resolution images of the lumen but not ultrasound-based flow assessment. The other two options are physiologic tests: coronary flow reserve and fractional flow reserve measure flow or pressure across a lesion rather than providing intravascular imaging of the lumen and flow patterns.

**4. Which catheter is used in a right heart catheterization?**

- A. Swan-Ganz catheter**
- B. Pigtail catheter**
- C. Flow-directed catheter**
- D. Endomyocardial biopsy catheter**

In right heart catheterization, a balloon-tipped, flow-directed catheter is threaded through a central vein into the right heart and then into a branch of the pulmonary artery to measure pressures and obtain wedge pressures. This is exactly what the Swan-Ganz catheter is designed to do: it floats with the blood flow, can be advanced into the pulmonary artery, and its balloon can be inflated to wedge, providing a surrogate for left atrial pressure while also allowing measurement of right atrial, right ventricular, and pulmonary artery pressures and mixed venous oxygen saturation. Other catheters have different primary uses—pigtail catheters are mainly for imaging, endomyocardial biopsy catheters obtain tissue samples—whereas the term flow-directed describes the catheter's working principle, but the standard device used for this purpose in practice is the Swan-Ganz catheter.

**5. What is a coronary angiogram?**

- A. Where contrast is injected into the coronary arteries**
- B. A test that measures LV ejection fraction**
- C. A scan to evaluate lung function**
- D. A test to measure brain perfusion**

A coronary angiogram is an invasive imaging study in which a catheter is guided to the coronary arteries and a contrast dye is injected. Under X-ray fluoroscopy, the dye outlines the arteries so you can see the inside of the vessels and detect any narrowings or blockages. This view of the coronary lumen helps diagnose coronary artery disease and guides treatments like balloon angioplasty or stent placement. It's different from tests that measure how well the heart pumps left ventricular blood (usually done with echocardiography or ventriculography) and from scans used to assess lung function or brain perfusion.

**6. Which procedure is performed in conjunction with an angioplasty and leaves a small expandable wire tube in the artery to keep it open?**

- A. Stenting**
- B. Atherectomy**
- C. Intravascular ultrasound**
- D. Left heart catheterization**

After balloon angioplasty, a stent is often placed to keep the artery open. A stent is a small expandable mesh tube inserted at the treated site that acts as a scaffold, holding the vessel lumen open as it heals. This prevents elastic recoil and reduces the chance of restenosis or dissection causing re-narrowing. Over time the stent becomes integrated into the vessel wall, and many stents are coated with drugs to further reduce tissue growth that could narrow the artery again. Other procedures don't leave a permanent scaffold: removing plaque with atherectomy, imaging with intravascular ultrasound, or performing a diagnostic left heart catheterization.

**7. What is the most common procedure in the cath lab?**

- A. Coronary angiogram**
- B. Left ventriculography**
- C. Pacemaker insertion**
- D. Aortic valve replacement**

The most common cath lab procedure is diagnostic coronary angiography. This test visualizes the coronary arteries by injecting contrast and taking X-ray images, allowing clinicians to see where blockages or narrowings exist. It serves as the frontline diagnostic step for suspected coronary artery disease and often determines the next move in treatment, whether that's medical management or proceeding to an intervention. Because nearly all workups for chest pain or suspected CAD start with mapping the coronary arteries, this angiography is performed far more frequently than other procedures. The alternatives—pacemaker insertion, left ventriculography, or aortic valve replacement—are more specialized or less routinely needed. Pacemaker implantation is common in certain patient groups but not a universal cath lab procedure; left ventriculography is used selectively to assess ventricular function; and aortic valve replacement is a major intervention, done far less often than a standard diagnostic angiogram.

**8. Which technique enables direct access to left atrial pressure during right heart catheterization?**

- A. Direct left atrial catheterization via femoral access**
- B. Transeptal approach**
- C. Retrograde aortic approach**
- D. Intracardiac echocardiography**

Accessing left atrial pressure during a right heart study is achieved by crossing from the right atrium into the left atrium with a transseptal puncture. This transseptal approach lets a catheter be placed directly in the left atrium so the pressure can be measured there. Imaging guidance, such as intracardiac echocardiography, helps locate the fossa ovalis and perform the puncture safely. Other methods either don't provide direct left atrial access via the venous route or involve an arterial route or purely imaging without recording LA pressure, so they're not the correct way to obtain direct LA pressure during a right heart catheterization.

**9. Which of the following is not among the listed procedures to treat plaque?**

- A. Pacemaker implantation**
- B. CABG**
- C. Angioplasty**
- D. Stenting**

Treating plaque in the coronary arteries means restoring blood flow by opening or bypassing blocked segments. Angioplasty expands the narrowed artery, often with a stent to keep it open. CABG creates a new route for blood around the blocked area. Pacemaker implantation, however, is used to regulate heart rhythm and does not remove plaque or directly improve blood flow through a blocked coronary artery. So it's not a procedure used to treat plaque. (In some cases a pacemaker may be needed for rhythm problems, but that's separate from addressing atherosclerotic blockages.)

**10. Which of the following is a risk at the entry site during a cardiac catheterization?**

**A. Bleeding at the entry site**

**B. Weight loss**

**C. Hair growth**

**D. Improved memory**

When a catheter is threaded into a blood vessel for a cardiac procedure, the body relies on rapid sealing of the puncture after the device is removed. The most likely risk at the entry site is bleeding. This happens because the procedure involves puncturing an artery and patients are often heparinized or otherwise anticoagulated to prevent clotting during the test. If the puncture site doesn't seal promptly, blood can escape into surrounding tissues, causing a visible hematoma or even more serious bleeding. Understanding this helps explain why bleeding at the entry site is the central concern: it is a direct consequence of creating an arterial access point and the need for anticoagulation, whereas other options listed—weight loss, hair growth, or memory improvement—are not related risks of vascular entry during catheterization. Clinically, you'd monitor the access site for ongoing bleeding, swelling, or expanding hematoma, and manage with firm direct pressure, appropriate reversal or adjustment of anticoagulation as needed, and, if indicated, vascular closure devices.

## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://cardiaccatheterization.examzify.com>**

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

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