

# Electrophysiology Unit (EPU) 26.19 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. How does AV block typically affect atrial tachycardia?**
  - A. AV block does not affect tachycardia.**
  - B. AV block terminates tachycardia.**
  - C. AV block accelerates tachycardia.**
  - D. AV block converts tachycardia to flutter.**
  
- 2. Which features on the electrocardiogram characterize atrial tachycardia?**
  - A. P waves are always visible before QRS with sinus-like morphology.**
  - B. P waves morphology differs and may be before QRS or hidden in T wave; there are isoelectric lines between P waves; AV block does not affect tachycardia.**
  - C. QRS complexes are wide with absent P waves.**
  - D. P waves are absent.**
  
- 3. Which structure is routinely observed in the ICE home view?**
  - A. Right Atrium**
  - B. Left Atrium**
  - C. Left Ventricle**
  - D. Pulmonary Artery**
  
- 4. Phase 2 of the cardiac cell action potential corresponds to what?**
  - A. The Resting Potential**
  - B. The Absolute Refractory Period**
  - C. Plateau Phase**
  - D. The Effective Refractory Period**
  
- 5. In atrial tachycardia ablation planning, what is the primary purpose of an activation map?**
  - A. To locate the earliest activation site for ablation**
  - B. To measure conduction velocity**
  - C. To delineate scar tissue**
  - D. To map the endocardial surface only**

- 6. The ostium of the coronary sinus opens into which part of the right atrium?**
- A. Anterior Wall**
  - B. Inferior Wall Near IVC**
  - C. Superior Wall Near SVC**
  - D. Posterior Septal Wall of RA**
- 7. NSR in the context of AVNRT ablation stands for which heart rhythm?**
- A. Normal Sinus Rhythm**
  - B. Non-sustained rhythm**
  - C. Neurogenic sinus rhythm**
  - D. Normal sympathetic rhythm**
- 8. Which thaw rate is beneficial for cryo lesion formation?**
- A. Slow thaw**
  - B. Rapid thaw**
  - C. No thaw**
  - D. Moderate thaw**
- 9. Which statement best describes a typical PVC on ECG?**
- A. Narrow QRS with preceding P waves**
  - B. Wide QRS with preceding P waves**
  - C. Wide QRS without a preceding P wave**
  - D. Normal rhythm**
- 10. AVRT entrainment results in PPI-TCL of what?**
- A. <115 ms**
  - B. >115 ms**
  - C. =115 ms**
  - D. Not determinable**

## Answers

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

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## **Explanations**

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**1. How does AV block typically affect atrial tachycardia?**

- A. AV block does not affect tachycardia.**
- B. AV block terminates tachycardia.**
- C. AV block accelerates tachycardia.**
- D. AV block converts tachycardia to flutter.**

In atrial tachycardia, the rapid rhythm comes from an ectopic focus in the atria, outside the AV node. AV block changes how many of those atrial impulses reach the ventricles, not the source of the tachycardia itself. So the atrial rate—the tachycardia rate—continues regardless of the block. What you'll see is a modified ventricular response: fewer impulses get through, so the ventricular rate may be slower or irregular, but the atrial tachycardia keeps going. The block doesn't terminate, accelerate, or convert the atrial tachycardia into another rhythm; it mainly affects how the ventricles respond to the atrial rate.

**2. Which features on the electrocardiogram characterize atrial tachycardia?**

- A. P waves are always visible before QRS with sinus-like morphology.**
- B. P waves morphology differs and may be before QRS or hidden in T wave; there are isoelectric lines between P waves; AV block does not affect tachycardia.**
- C. QRS complexes are wide with absent P waves.**
- D. P waves are absent.**

Atrial tachycardia shows atrial activity that comes from an ectopic focus, so the P waves reflect atrial depolarization that is not the normal sinus pattern. Because the impulse originates outside the SA node, the P-wave morphology is different from normal and can occur before each QRS with a non-sinus shape, or sometimes be hidden within the preceding T-wave when the rate is very fast. Between successive P waves you see an isoelectric baseline, showing organized atrial activity. The ventricular rate then depends on how the AV node conducts; even if AV block occurs, the atrial tachycardia can continue, producing a variable or slowed ventricular response. This combination—atypical P-wave morphology, possible P waves buried in the T wave, and an isoelectric interval between P waves with ongoing atrial activity—best characterizes atrial tachycardia. In contrast, patterns like wide QRS with no P waves or absent P waves point to other rhythms such as ventricular or junctional tachycardias, not atrial tachycardia.

**3. Which structure is routinely observed in the ICE home view?**

**A. Right Atrium**

**B. Left Atrium**

**C. Left Ventricle**

**D. Pulmonary Artery**

In intracardiac echocardiography, the standard starting view—often called the home view—is obtained with the ICE catheter in the right atrium. From this position, the right atrial anatomy is most readily visualized and serves as a stable reference frame for guiding catheters during EP procedures. This makes the right atrium the structure routinely observed in the home view. To see the left atrium, left ventricle, or pulmonary artery, you typically rotate or redirect the probe to different angles, which is not the default home view.

**4. Phase 2 of the cardiac cell action potential corresponds to what?**

**A. The Resting Potential**

**B. The Absolute Refractory Period**

**C. Plateau Phase**

**D. The Effective Refractory Period**

Phase 2 is the plateau phase, a period of sustained depolarization where calcium entry through L-type calcium channels roughly balances potassium efflux. This keeps the membrane potential around 0 mV for an extended time, allowing a strong, coordinated contraction of the cardiac muscle and giving the heart time to fill. Refractoriness is a separate concept that describes when the cell can respond to a new stimulus. The absolute refractory period occurs when Na<sup>+</sup> channels are inactivated and no stimulus can trigger another action potential. The effective refractory period is the later portion of refractoriness during which a stronger-than-normal stimulus can evoke a new impulse, and this window overlaps with the plateau and early to mid-recovery of repolarization. The resting potential corresponds to phase 4, when the cell is quiet between beats. So, the specific phase held for phase 2 is the plateau phase due to the sustained calcium influx, while refractoriness describes when excitability is possible, which spans later phases.

5. In atrial tachycardia ablation planning, what is the primary purpose of an activation map?

- A. To locate the earliest activation site for ablation**
- B. To measure conduction velocity**
- C. To delineate scar tissue**
- D. To map the endocardial surface only**

Activation mapping focuses on timing of electrical activation across the atrial tissue during tachycardia. By plotting when each region activates relative to a reference, you can see the wavefront's spread and identify the point that activates first. That earliest activation site is the most likely origin or the critical part of the reentrant circuit, making it the best target for ablation. Delivering energy there interrupts the mechanism sustaining the tachycardia and often terminates it. Other aspects like measuring conduction velocity or delineating scar tissue are valuable in different mapping contexts, but they're not the primary goal of activation mapping for AT ablation. Activation mapping is typically used to localize the earliest activation and guide precise lesion placement; it isn't limited to the endocardial surface, though endocardial mapping is most commonly used.

6. The ostium of the coronary sinus opens into which part of the right atrium?

- A. Anterior Wall**
- B. Inferior Wall Near IVC**
- C. Superior Wall Near SVC**
- D. Posterior Septal Wall of RA**

The essential point is where the coronary sinus ends as it drains into the right atrium. The coronary sinus opens into the right atrium in the posteroseptal region—the posterior wall near the interatrial septum. This location places the ostium on the posterior wall close to the septal side, rather than on the anterior, superior, or inferior walls. Thebesian valve may guard this ostium, helping regulate flow between the coronary sinus and the right atrium.

7. NSR in the context of AVNRT ablation stands for which heart rhythm?

- A. Normal Sinus Rhythm**
- B. Non-sustained rhythm**
- C. Neurogenic sinus rhythm**
- D. Normal sympathetic rhythm**

Normal Sinus Rhythm is NSR; in AVNRT ablation, NSR indicates the heart is beating with the natural pacemaker from the SA node, not in a reentrant tachycardia. After a successful ablation, the rhythm typically returns to NSR, meaning a regular rhythm with P waves before each QRS complex and a normal rate, reflecting proper atrial and ventricular conduction. The other terms aren't standard ways to describe the resting rhythm in this setting (non-sustained rhythm refers to brief tachyarrhythmias, and neurogenic sinus rhythm or normal sympathetic rhythm aren't used to label the typical postoperative rhythm).

## 8. Which thaw rate is beneficial for cryo lesion formation?

- A. Slow thaw**
- B. Rapid thaw**
- C. No thaw**
- D. Moderate thaw**

The key idea here is that tissue damage from cryoablation doesn't stop at the moment of freezing; it continues during thaw due to ice crystal behavior. When thawing proceeds slowly, ice crystals have time to recrystallize into larger crystals. These larger crystals more aggressively disrupt cell membranes and organelles, increasing cell death and producing a larger, more complete lesion. If thaw happens quickly, recrystallization is limited, so the injury is less extensive and the lesion smaller. So the thaw rate that best promotes lesion formation is a slow thaw. Rapid or no thaw would not maximize injury, and a moderate thaw falls short of the effectiveness seen with slow thaw.

## 9. Which statement best describes a typical PVC on ECG?

- A. Narrow QRS with preceding P waves**
- B. Wide QRS with preceding P waves**
- C. Wide QRS without a preceding P wave**
- D. Normal rhythm**

PVCs are premature beats that originate in the ventricles. Because the impulse starts in the ventricular tissue rather than the atria, the depolarization spreads through the ventricles in a slower, abnormal way, producing a wide QRS complex (usually greater than 120 ms). There is typically no preceding P wave because the atria aren't triggering this beat, so you don't see a P wave just before the wide complex. This combination—an early beat with a wide, bizarre-looking QRS and no preceding P wave—is what characterizes a typical PVC. After a PVC, a compensatory pause often follows. The other patterns describe normal sinus rhythm or atrial-origin beats, which have different P-QRS relationships and QRS widths.

## 10. AVRT entrainment results in PPI-TCL of what?

- A. <115 ms**
- B. >115 ms**
- C. =115 ms**
- D. Not determinable**

During AVRT entrainment, the postpacing interval minus the tachycardia cycle length (PPI-TCL) tells you how close your pacing site is to the reentrant circuit. If you pace from a site that's part of the circuit (for example, near the bypass tract or AV nodal region involved in the circuit), the impulse plugs back into the tachycardia quickly, so the PPI closely tracks the TCL. That makes the PPI-TCL value small, typically less than about 115 ms. If your pacing site is far from the circuit, the impulse has to travel to the circuit and back, making the PPI-TCL noticeably larger—often well above 115 ms. So the best answer is that AVRT entrainment yields a PPI-TCL shorter than 115 ms.

## 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://epu2619.examzify.com>**

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

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