

HEMISPHERE IV RAPID STROKE RESPONSE PRACTICE TEST (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. ASPECTS score is used to quantify ischemic changes in which vascular territory on NCCT and to determine eligibility for which procedure?**
 - A. MCA territory; mechanical thrombectomy
 - B. PCA territory; carotid endarterectomy
 - C. ACA territory; thrombolysis
 - D. Vertebrobasilar territory; surgical decompression
- 2. Which sites are commonly involved in orolingual angioedema?**
 - A. Lips, tongue, mouth, throat
 - B. Ankles and feet
 - C. Ears
 - D. Scalp
- 3. What cardiac complication is observed in about 25% of stroke patients within 72 hours?**
 - A. Myocardial infarction
 - B. Arrhythmias including A-fib
 - C. Heart failure in all patients
 - D. Pulmonary embolism within 24 hours in majority
- 4. How do DAWN and DEFUSE-3 criteria differ for extending the thrombectomy window?**
 - A. DAWN uses clinical-core mismatch within 6–24 hours; DEFUSE-3 uses perfusion mismatch within 6–16/24 hours with imaging criteria.
 - B. DAWN uses perfusion mismatch; DEFUSE-3 uses clinical-core mismatch.
 - C. Both use the same criteria.
 - D. DAWN window is 0-6 hours; DEFUSE-3 window is 6-24 hours.
- 5. If mechanical thrombectomy is being considered, what imaging is recommended?**
 - A. Plain CT head
 - B. CT angiography only
 - C. Advanced imaging such as CT perfusion or MRI
 - D. Ultrasound of the carotids

- 6. What is the primary purpose of CT Angiography (CTA) in acute stroke?**
- A. To detect intracranial vessel occlusions and assess collateral status, guiding thrombectomy decisions.
 - B. To measure intracranial pressure directly.
 - C. To assess myocardial perfusion.
 - D. To guide antibiotic therapy in stroke.
- 7. On CT, what should be observed about the ventricles in a normal study?**
- A. Asymmetrical and shifted
 - B. Not visible
 - C. Symmetrical and midline
 - D. Compressed against the skull
- 8. Diffusion-weighted imaging (DWI) is best described as:**
- A. Maps movement of water molecules at the microscopic level to reveal damaged brain tissue
 - B. Produces inverse imaging using diffusion with ADC
 - C. Detects hemorrhage exclusively
 - D. Not useful for acute stroke
- 9. List the main monitoring priorities in the first 24 hours after acute stroke treatment.**
- A. Neurological status (NIHSS), vital signs, oxygenation, glucose levels, BP management, neuroimaging as indicated, watch for hemorrhagic transformation and edema
 - B. Only vital signs
 - C. Only imaging
 - D. Discontinue monitoring after 12 hours
- 10. Which designation specifically refers to a hospital capable of performing thrombectomy?**
- A. Comprehensive Stroke Center (CSC)
 - B. Thrombectomy-capable stroke center (TSC)
 - C. Primary Stroke Center (PSC)
 - D. Acute Stroke Ready Hospital (ASRH)

Answers

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

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Explanations

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1. ASPECTS score is used to quantify ischemic changes in which vascular territory on NCCT and to determine eligibility for which procedure?

- A. MCA territory; mechanical thrombectomy**
- B. PCA territory; carotid endarterectomy
- C. ACA territory; thrombolysis
- D. Vertebrobasilar territory; surgical decompression

ASPECTS measures early ischemic changes on a non-contrast CT specifically within the middle cerebral artery territory. It looks at ten predefined brain regions, and each region showing signs of ischemia lowers the score by one, so a higher total means less established damage. This quick, regional assessment helps clinicians judge how much salvageable brain tissue remains and whether a patient with an acute ischemic stroke due to a large vessel occlusion in the anterior circulation is a good candidate for mechanical thrombectomy. In practice, a higher score suggests the patient is more likely to benefit from clot retrieval, while a very low score points to extensive established infarction where the risk/benefit of endovascular therapy is less favorable. While MCA involvement is the focus for this scoring, other territories (like PCA or vertebrobasilar) use different assessment patterns, and procedures like carotid endarterectomy or systemic thrombolysis are not guided by ASPECTS in the same way. Decompressive surgery is used for malignant edema in certain large infarcts and is not the decision point this scoring informs.

2. Which sites are commonly involved in orolingual angioedema?

- A. Lips, tongue, mouth, throat**
- B. Ankles and feet
- C. Ears
- D. Scalp

Orolingual angioedema mainly affects the structures of the mouth and throat because these mucosal tissues are highly vascular and can rapidly swell when permeability increases. The lips, tongue, floor of the mouth, soft palate, and other parts of the oral/pharyngeal area are the classic sites because swelling here directly narrows the airway and can become life-threatening if not recognized and managed promptly. Edema in other regions like the ankles and feet, ears, or scalp isn't typical for this condition, since those areas aren't the primary sites involved in orolingual angioedema. Recognizing the pattern of swelling in the lips and tongue helps identify the risk to the airway and guides urgent assessment and appropriate management.

3. What cardiac complication is observed in about 25% of stroke patients within 72 hours?

- A. Myocardial infarction
- B. Arrhythmias including A-fib**
- C. Heart failure in all patients
- D. Pulmonary embolism within 24 hours in majority

After an acute stroke, the brain's autonomic control over the heart can become unstable, leading to electrical disturbances in the heart. In the first few days, about a quarter of patients develop cardiac rhythm problems, and atrial fibrillation is the most common among them. This makes arrhythmias including AF the best answer for the observed early cardiac complication. While a myocardial infarction can occur, it is not the typical early event in this context and doesn't happen in about 25% of patients within 72 hours. Heart failure is not universal in stroke patients. Pulmonary embolism can happen but is not seen in the majority within 24 hours.

4. How do DAWN and DEFUSE-3 criteria differ for extending the thrombectomy window?

- A. DAWN uses clinical-core mismatch within 6–24 hours; DEFUSE-3 uses perfusion mismatch within 6–16/24 hours with imaging criteria.
- B. DAWN uses perfusion mismatch; DEFUSE-3 uses clinical-core mismatch.
- C. Both use the same criteria.**
- D. DAWN window is 0-6 hours; DEFUSE-3 window is 6-24 hours.

The key idea is that these trials use different ways to identify tissue that can still be saved and, as a result, extend the treatment window in different ways. In DAWN, eligibility is based on a clinical deficit that is out of proportion to the apparent infarct core — a clinical-core mismatch. This means you look at how severe the neurological symptoms are compared with how large the infarct looks on imaging, and if they don't match up, you may still treat up to 24 hours after onset. In DEFUSE-3, eligibility relies on perfusion imaging to show a perfusion (penumbral) mismatch — there's a substantial amount of salvageable tissue relative to the core infarct. This approach extends treatment to about 16 hours after onset. So they're not the same criteria. DAWN uses clinical-core mismatch and allows a longer window up to 24 hours, while DEFUSE-3 uses perfusion mismatch and extends the window to about 16 hours.

5. If mechanical thrombectomy is being considered, what imaging is recommended?

- A. Plain CT head
- B. CT angiography only
- C. Advanced imaging such as CT perfusion or MRI**
- D. Ultrasound of the carotids

When considering thrombectomy, you need to know both where the blockage is and how much brain tissue can still be saved. A plain CT head mainly rules out bleeding and isn't enough to judge tissue viability. A CT angiography can show the occluded vessel, but it doesn't tell you how much brain is already infarcted versus how much remains at risk. Advanced imaging, like CT perfusion or MRI, provides detailed maps of blood flow and tissue viability, highlighting a potentially salvageable penumbra (tissue at risk) vs. the irreversibly damaged core. This information is especially important for patients outside the standard 6-hour window or in uncertain onset times, helping determine whether thrombectomy is likely to benefit. Ultrasound of the carotids doesn't assess brain tissue viability in this acute decision. So, advanced perfusion-based imaging is the recommended approach when thrombectomy is being considered.

6. What is the primary purpose of CT Angiography (CTA) in acute stroke?

- A. To detect intracranial vessel occlusions and assess collateral status, guiding thrombectomy decisions.**
- B. To measure intracranial pressure directly.
- C. To assess myocardial perfusion.
- D. To guide antibiotic therapy in stroke.

CT Angiography visualizes the brain's blood vessels with contrast to show where blockages are and how well collateral vessels are supplying the area. This information is crucial for deciding if a patient with acute stroke is a candidate for mechanical thrombectomy, where the blockage is located, and how robust the alternative blood flow is, all of which influence treatment strategy and outcomes. CTA isn't used to measure intracranial pressure, which requires invasive monitoring; it doesn't assess heart muscle perfusion, and it isn't used to guide antibiotic therapy in stroke.

7. On CT, what should be observed about the ventricles in a normal study?

- A. Asymmetrical and shifted
- B. Not visible
- C. Symmetrical and midline**
- D. Compressed against the skull

In a normal CT brain, the ventricles are symmetric and lie on the midline. They should have regular, smooth outlines and be of expected size for the patient, with no pushing or distortion of surrounding brain structures. This symmetry and midline position reflect absence of mass effect, edema, or hydrocephalus. If one ventricle were noticeably larger or shifted compared with the other, that would suggest a space-occupying process or increased intracranial pressure. Similarly, ventricles that are not visible or appear compressed against the skull would indicate abnormal pathology rather than a normal study.

8. Diffusion-weighted imaging (DWI) is best described as:

- A. Maps movement of water molecules at the microscopic level to reveal damaged brain tissue**
- B. Produces inverse imaging using diffusion with ADC
- C. Detects hemorrhage exclusively
- D. Not useful for acute stroke

Diffusion-weighted imaging probes how water molecules move within tissue. In a healthy brain, water diffuses relatively freely, but during an acute stroke energy failure causes cells to swell (cytotoxic edema), shrinking the extracellular space and restricting water diffusion. This restricted diffusion stands out on DWI as bright signal in the affected area, with the corresponding ADC map showing decreased diffusion. Because diffusion restriction appears early in ischemia, DWI is highly sensitive for acute stroke and can reveal changes within minutes, guiding urgent treatment. The idea of "inverse imaging using diffusion with ADC" isn't how DWI is described clinically; ADC maps quantify diffusion and are derived from diffusion-weighted data, but there isn't an official concept of inverse imaging here. Hemorrhage detection isn't exclusive to DWI—the best sequences for hemorrhage are other MRI sequences like T2 or SWI—so DWI's primary strength isn't hemorrhage detection. And DWI is indeed very useful for acute stroke, not not useful.*

9. List the main monitoring priorities in the first 24 hours after acute stroke treatment.

- A. Neurological status (NIHSS), vital signs, oxygenation, glucose levels, BP management, neuroimaging as indicated, watch for hemorrhagic transformation and edema**
- B. Only vital signs
- C. Only imaging
- D. Discontinue monitoring after 12 hours

The focus after acute stroke treatment is to detect deterioration early and prevent secondary brain injury by watching brain function, systemic stability, and potential treatment-related complications. Neurological status should be checked frequently, often using the NIH Stroke Scale, to quantify deficits and identify any new or worsening signs. Vital signs, oxygenation, and glucose levels are monitored continuously because instability, hypoxia, or abnormal glucose can worsen brain injury and affect recovery. Blood pressure management is essential to balance maintaining adequate cerebral perfusion with minimizing the risk of bleeding, with targets guided by whether reperfusion therapy was used. Imaging is performed as indicated to catch complications such as hemorrhagic transformation or edema and to assess infarct evolution, rather than on a rigid schedule. Finally, be vigilant for hemorrhagic transformation and edema, especially after thrombolysis or in large strokes, since these changes can rapidly impact function and require prompt intervention.

10. Which designation specifically refers to a hospital capable of performing thrombectomy?

- A. Comprehensive Stroke Center (CSC)
- B. Thrombectomy-capable stroke center (TSC)**
- C. Primary Stroke Center (PSC)
- D. Acute Stroke Ready Hospital (ASRH)

A hospital that can perform thrombectomy is identified by the designation indicating thrombectomy-capable stroke center. Thrombectomy is an endovascular procedure to remove a clot in a large vessel during an acute ischemic stroke, and centers with this designation have the on-site interventional neuroradiology team, 24/7 imaging and procedural capabilities, and established protocols to perform the procedure and manage care before and after it. While other designations involve broad stroke care, they don't specify the interventional thrombectomy capability. A comprehensive stroke center can provide advanced, wide-ranging stroke services (including thrombectomy), but the explicit label that communicates the ability to perform thrombectomy is the thrombectomy-capable stroke center. Primary stroke centers focus on rapid assessment and initial therapy like thrombolysis but typically lack interventional thrombectomy capability, and Acute Stroke Ready Hospitals do not denote thrombectomy capability.

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://hemisphereivrapidstrokeresp.examzify.com>

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

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