

# RUTGERS ANATOMY 2 PRACTICE TEST (SAMPLE)

## STUDY GUIDE



## SAMPLE STUDY GUIDE WITH LIMITED QUESTIONS

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<https://rutgersanatomy2.examzify.com>



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# 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 .....            | 16 |

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

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- 1. Which valve separates the right atrium and right ventricle?**
  - A. Pulmonary valve
  - B. Aortic valve
  - C. Bicuspid valve
  - D. Tricuspid valve
- 2. What condition can arise from an accumulation of acids or loss of bases due to obstruction of air movement?**
  - A. Respiratory alkalosis
  - B. Metabolic acidosis
  - C. Respiratory acidosis
  - D. Metabolic alkalosis
- 3. What disease causes sickled red blood cells as an adaptation to malaria?**
  - A. Sickle Cell Anemia
  - B. Hemophilia
  - C. Thalassemia
  - D. Leukemia
- 4. Which side of the pituitary gland is more neurologically based and releases anti-diuretic hormone and oxytocin?**
  - A. Anterior
  - B. Medial
  - C. Posterior
  - D. Lateral
- 5. Which glucocorticoid is involved in glucose metabolism and can be stimulated under stress?**
  - A. Corticosterone
  - B. Hydrocortisone
  - C. Cortisol
  - D. Progesterone

- 6. What is the additional amount of air that can be expired from the lungs after normal expiration called?**
- A. Residual volume
  - B. Expiratory reserve volume
  - C. Inspiratory reserve volume
  - D. Tidal volume
- 7. What term describes the entrance of the renal sinus, through which blood vessels, nerves, lymphatic vessels, and the ureter pass?**
- A. Hilum
  - B. Pelvis
  - C. Capsule
  - D. Cortex
- 8. Which hormone is released during childbirth to help with milk ejection?**
- A. Prolactin
  - B. Oxytocin
  - C. Corticotropin
  - D. TSH
- 9. Which type of cells provides long-term immunity by preventing reinfection from the same disease?**
- A. Helper T cells
  - B. Memory T cells
  - C. Regulatory T cells
  - D. Naive T cells
- 10. What physiological role does erythropoietin primarily serve in the body?**
- A. Regulation of blood pressure
  - B. Production of red blood cells
  - C. Regulation of calcium absorption
  - D. Metabolizing waste products



## **Answers**

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

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## **Explanations**

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## 1. Which valve separates the right atrium and right ventricle?

- A. Pulmonary valve
- B. Aortic valve
- C. Bicuspid valve
- D. Tricuspid valve**

The valve that separates the right atrium from the right ventricle is the tricuspid valve. This valve has three leaflets or cusps, which is how it got its name. It functions to prevent backflow of blood from the right ventricle into the right atrium during ventricular contraction, ensuring that blood flows in one direction through the heart. When the right atrium contracts, the tricuspid valve opens, allowing deoxygenated blood to flow into the right ventricle. Then, during the contraction of the right ventricle, the tricuspid valve closes to prevent any regurgitation back into the atrium as the ventricle pumps blood into the pulmonary artery toward the lungs for oxygenation. The other valves mentioned in the options serve different functions in the heart. The pulmonary valve is located between the right ventricle and the pulmonary artery; it plays a key role in allowing blood to flow from the heart to the lungs. The aortic valve is located between the left ventricle and the aorta, controlling blood flow to the body. The bicuspid valve, also known as the mitral valve, separates the left atrium from the left ventricle. Each of these valves has

## 2. What condition can arise from an accumulation of acids or loss of bases due to obstruction of air movement?

- A. Respiratory alkalosis
- B. Metabolic acidosis
- C. Respiratory acidosis**
- D. Metabolic alkalosis

The correct answer is respiratory acidosis. This condition occurs when there is an accumulation of carbon dioxide (a component of carbonic acid) in the blood, primarily due to impaired gas exchange in the lungs. When air movement is obstructed, such as in cases of chronic obstructive pulmonary disease (COPD) or severe asthma, the body cannot effectively eliminate carbon dioxide. As carbon dioxide levels rise, it leads to an increase in carbonic acid in the blood, resulting in a decrease in blood pH and causing acidosis. Respiratory acidosis is characterized by the body's inability to maintain proper acid-base balance through respiration, which is typically a compensatory mechanism for regulating acid levels. When there is a buildup of carbon dioxide, the body retains more acids than it can excrete, thereby confirming the diagnosis of respiratory acidosis. This condition stands in contrast to metabolic acidosis, which refers to acid-base imbalance resulting primarily from metabolic processes and issues not related to respiratory function. Additionally, respiratory alkalosis is linked to low levels of carbon dioxide due to hyperventilation, and metabolic alkalosis involves an excess of bicarbonate or loss of acids from the body.

### 3. What disease causes sickled red blood cells as an adaptation to malaria?

A. Sickle Cell Anemia

B. Hemophilia

C. Thalassemia

D. Leukemia

*Sickle Cell Anemia is a genetic disorder that leads to the production of abnormal hemoglobin, known as hemoglobin S. In individuals with this condition, red blood cells take on a characteristic crescent or sickle shape, especially under low oxygen conditions. This sickling of red blood cells provides a significant adaptive advantage in regions where malaria is prevalent. The malaria parasite, particularly Plasmodium falciparum, relies on red blood cells to multiply. Sick cells have a shorter lifespan and are more susceptible to destruction by the spleen. This means that the malaria parasite has fewer chances to reproduce in the host's blood, leading to a reduced risk of severe malaria complications. Consequently, individuals with sickle cell trait, who carry one copy of the sickle cell gene, have a selective advantage in malaria-endemic areas because they can withstand the disease better than those without the trait. This evolutionary relationship is an example of balanced polymorphism, where the deleterious effects of sickle cell anemia are outweighed by the protective effect it offers against malaria in certain geographical locations. In contrast, other listed disorders like Hemophilia, Thalassemia, and Leukemia do not demonstrate this specific adaptive response to malaria, thus further solid*

### 4. Which side of the pituitary gland is more neurologically based and releases anti-diuretic hormone and oxytocin?

A. Anterior

B. Medial

C. Posterior

D. Lateral

*The posterior side of the pituitary gland is closely associated with neurological functions and is primarily responsible for the release of anti-diuretic hormone (ADH) and oxytocin. This region of the pituitary, also known as the neurohypophysis, is comprised of neural tissue that extends from the hypothalamus and plays a pivotal role in the storage and release of these hormones. ADH, also known as vasopressin, is crucial for regulating water balance in the body by promoting water reabsorption in the kidneys. Oxytocin is involved in several physiological processes, including uterine contraction during childbirth and the milk ejection reflex during breastfeeding. The relationship between the posterior pituitary and the hypothalamus, where these hormones are synthesized, further emphasizes the neurological basis of the posterior gland. The close connection allows for the direct release of these hormones into the bloodstream, reflecting a true neuroendocrine function that differentiates it from the anterior pituitary, which primarily releases hormones that regulate other endocrine glands through a different mechanism. This understanding underscores the significance of the posterior pituitary in maintaining homeostasis through its hormonal output.*

**5. Which glucocorticoid is involved in glucose metabolism and can be stimulated under stress?**

- A. Corticosterone
- B. Hydrocortisone
- C. Cortisol**
- D. Progesterone

*Cortisol is the glucocorticoid that plays a vital role in glucose metabolism and is released in response to stress. It is often referred to as the "stress hormone" because its secretion increases significantly during stressful situations, such as physical or emotional stress. The primary functions of cortisol include increasing blood glucose levels through gluconeogenesis in the liver, enhancing the breakdown of fats, and reducing the uptake of glucose by certain tissues, which makes more glucose available for the brain and other vital organs during times of stress. Cortisol also helps regulate various metabolic processes and maintains homeostasis within the body. Its action on glucose metabolism is crucial for energy production, particularly during stressful events when the body requires additional energy. Understanding the role of cortisol enhances comprehension of the body's physiological response to stress and the broader implications for metabolism and health.*

**6. What is the additional amount of air that can be expired from the lungs after normal expiration called?**

- A. Residual volume
- B. Expiratory reserve volume**
- C. Inspiratory reserve volume
- D. Tidal volume

*The additional amount of air that can be expired from the lungs after normal expiration is known as expiratory reserve volume. This volume represents the extra air that can be forcefully exhaled beyond the normal tidal volume, which is the amount of air exchanged during regular breathing. During a typical breathing cycle, after exhaling normally, there is still a reserve of air within the lungs that can be expelled with effort. This reserve is crucial, especially for activities that require increased respiratory effort, such as exercise, where the body needs to rid itself of more carbon dioxide and take in more oxygen. In contrast, other terms related to lung volumes define different aspects of respiratory capacity: residual volume refers to the air left in the lungs after maximal exhalation, inspiratory reserve volume refers to the amount of air that can be inhaled after a normal inhalation, and tidal volume simply refers to the amount of air inhaled or exhaled during normal breathing. Understanding these definitions helps in grasping how various lung volumes interact to support respiratory function.*

**7. What term describes the entrance of the renal sinus, through which blood vessels, nerves, lymphatic vessels, and the ureter pass?**

- A. Hilum**
- B. Pelvis
- C. Capsule
- D. Cortex

*The entrance of the renal sinus, where blood vessels, nerves, lymphatic vessels, and the ureter pass, is known as the hilum. This structure is pivotal in the anatomy of the kidney, as it serves as the primary entry and exit point for these crucial components. The hilum allows for the proper functioning of the kidney by facilitating the connection to the vascular system for blood supply and waste removal through urine. It is an anatomical feature that is observable at the medial border of each kidney. Other choices, while related to the anatomy of the kidney, describe different structures. The renal pelvis is a funnel-shaped structure within the kidney that collects urine before it moves to the ureter. The capsule refers to the outer layer surrounding the kidney, providing protection, while the cortex is the outer portion of the kidney where filtration occurs, but neither are involved in the passage of vessels and nerves at the entrance to the renal sinus. Thus, hilum is the specific term that accurately describes this critical entrance.*

**8. Which hormone is released during childbirth to help with milk ejection?**

- A. Prolactin
- B. Oxytocin**
- C. Corticotropin
- D. TSH

*The hormone that is released during childbirth to aid in milk ejection is oxytocin. This hormone plays a crucial role in several aspects of the reproductive process, including stimulating uterine contractions during labor and facilitating the release of milk during breastfeeding. When a baby suckles at the breast, sensory signals from the nipple reach the brain, prompting the release of oxytocin from the posterior pituitary gland. This hormone then acts on the myoepithelial cells surrounding the milk-producing glands, causing them to contract and thereby eject milk into the ducts where it can be accessed by the breastfeeding infant. This mechanism is often described as the "let-down reflex." Prolactin, while important for milk production, does not have a direct role in the milk ejection process; its primary function is to stimulate the synthesis of milk in the mammary glands. Corticotropin (also known as ACTH) and TSH (thyroid-stimulating hormone) are involved in different physiological processes unrelated to childbirth or lactation. Therefore, oxytocin is specifically recognized for its essential role in the ejection of milk during breastfeeding following childbirth.*

**9. Which type of cells provides long-term immunity by preventing reinfection from the same disease?**

- A. Helper T cells
- B. Memory T cells**
- C. Regulatory T cells
- D. Naive T cells

*Memory T cells are specifically designed to provide long-term immunity. When the body is exposed to a pathogen for the first time, such as a virus or bacterium, T cells are activated and respond to the infection. Some of these activated T cells, instead of immediately battling the pathogen, become memory T cells after the infection has been cleared. These memory T cells persist in the body long after the initial infection has resolved, maintaining a form of "memory" of the specific pathogen. If the same pathogen invades again in the future, these memory T cells can recognize it quickly and mount a faster and more robust immune response compared to the body's first encounter. This rapid and potent response is crucial for preventing reinfection from the same disease, thus providing long-term immunity. In comparison, helper T cells primarily assist other immune cells in responding to infections, regulatory T cells help maintain immune tolerance and prevent autoimmunity, and naive T cells are those that have yet to encounter their specific antigen and participate in their first immune response.*

**10. What physiological role does erythropoietin primarily serve in the body?**

- A. Regulation of blood pressure
- B. Production of red blood cells**
- C. Regulation of calcium absorption
- D. Metabolizing waste products

*Erythropoietin is a glycoprotein hormone primarily produced by the kidneys in response to low oxygen levels in the blood. Its main physiological role is to stimulate the production of red blood cells (erythrocytes) in the bone marrow. When oxygen levels are low, erythropoietin is released into the bloodstream, where it binds to specific receptors on progenitor cells in the bone marrow, promoting their differentiation into red blood cells. These red blood cells are crucial for transporting oxygen throughout the body. By increasing red blood cell production, erythropoietin effectively enhances the oxygen-carrying capacity of the blood, which is vital in maintaining cellular metabolism and overall physiological function. This process is especially important in conditions such as anemia, hypoxia, or after significant blood loss, where erythropoietin helps to restore adequate oxygen levels in the tissues.*



## 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://rutgersanatomy2.examzify.com>

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

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