

# Rutgers Anatomy 2 Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

**This is a sample study guide. To access the full version with hundreds of questions,**

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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. Don't worry about getting everything right, 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, and take breaks to retain information better.**

## 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.**

## 7. Use Other Tools

**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!**

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## **Questions**

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- 1. Which organ stores bile between meals and concentrates it?**
  - A. Liver**
  - B. Pancreas**
  - C. Gallbladder**
  - D. Small intestine**
  
- 2. Which type of hormones will pass through the cell membrane?**
  - A. Non-steroidal hormones**
  - B. Steroidal hormones**
  - C. Water-soluble hormones**
  - D. Peptide hormones**
  
- 3. What regulates metabolism, enhances protein synthesis, and stimulates lipid breakdown?**
  - A. Thyroid hormones**
  - B. Follicular cells**
  - C. Parathyroid hormone**
  - D. Adrenaline**
  
- 4. What term describes the pressure that causes net fluid movement due to solute concentrations?**
  - A. Hydrostatic**
  - B. Osmotic**
  - C. Colloid**
  - D. Dynamic**
  
- 5. What hormone do the kidneys secrete to aid in the regulation of red blood cells?**
  - A. Insulin**
  - B. Erythropoietin**
  - C. Adrenaline**
  - D. Thyroxine**

**6. Which structure within the respiratory system is primarily responsible for gas exchange?**

- A. Bronchi**
- B. Alveoli**
- C. Trachea**
- D. Larynx**

**7. What structure enters the upper part of the interventricular septum and divides into right and left bundle branches?**

- A. SA node**
- B. AV bundle**
- C. Atrioventricular node**
- D. Pulmonary trunk**

**8. Which protein plays a crucial role in blood clotting?**

- A. Albumin**
- B. Globulins**
- C. Fibrinogen**
- D. Transferrin**

**9. What does the QRS wave of an ECG represent?**

- A. Atrial depolarization**
- B. Ventricular repolarization**
- C. Ventricular depolarization**
- D. Cardiac output**

**10. What triggers the end of the luteal phase in the absence of pregnancy?**

- A. Decrease in FSH**
- B. Increase in LH**
- C. Decrease in estrogen and progesterone**
- D. Increase in progesterone**

## **Answers**

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

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## **Explanations**

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**1. Which organ stores bile between meals and concentrates it?**

- A. Liver**
- B. Pancreas**
- C. Gallbladder**
- D. Small intestine**

The organ responsible for storing bile between meals and concentrating it is the gallbladder. Bile, produced by the liver, plays a crucial role in the digestion and emulsification of fats. During meals, when fatty foods enter the small intestine, the gallbladder contracts and releases the stored bile into the small intestine to aid in digestion. Between meals, the gallbladder retains the bile, allowing for its concentration by reabsorbing water and electrolytes, which enhances its digestive efficacy when it is needed. This function is important for ensuring that the body can efficiently digest fats and maintain digestive processes without the continuous release of bile from the liver. The liver produces bile but does not store it; the pancreas produces digestive enzymes and hormones but is not involved in bile storage; the small intestine is the site of digestion and nutrient absorption, not storage of bile.

**2. Which type of hormones will pass through the cell membrane?**

- A. Non-steroidal hormones**
- B. Steroidal hormones**
- C. Water-soluble hormones**
- D. Peptide hormones**

Steroid hormones are lipid-soluble molecules that can easily cross the cell membrane due to their hydrophobic nature. The cell membrane is primarily composed of a phospholipid bilayer, which provides a barrier to water-soluble substances. Since steroid hormones are derived from cholesterol, they are structurally similar to the lipids that make up the membrane, allowing them to diffuse directly through it. Once inside the cell, steroid hormones can bind to specific intracellular receptors in the cytoplasm or nucleus. This hormonal-receptor complex then interacts with DNA to initiate transcription and ultimately influence gene expression, thereby affecting cellular function. The ability of steroid hormones to traverse the cell membrane distinguishes them from water-soluble hormones, which cannot easily penetrate this barrier and instead rely on membrane receptors to exert their effects.

**3. What regulates metabolism, enhances protein synthesis, and stimulates lipid breakdown?**

- A. Thyroid hormones**
- B. Follicular cells**
- C. Parathyroid hormone**
- D. Adrenaline**

The correct choice focuses on follicular cells, particularly their role in producing thyroid hormones. These hormones, such as thyroxine (T4) and triiodothyronine (T3), play a crucial role in regulating the body's metabolism. They enhance protein synthesis by increasing the rate at which the body converts amino acids into proteins. This is essential for growth, tissue repair, and overall metabolic function. Additionally, thyroid hormones stimulate lipid metabolism by promoting the breakdown of stored fats, which releases energy and provides substrates for other metabolic processes. This action contributes to maintaining energy homeostasis and proper metabolic rate. Other options provided in the question have distinct functions. While adrenaline does play a role in metabolism by stimulating the breakdown of glycogen and fats during stress responses, it does not primarily regulate metabolism in the way thyroid hormones do. Parathyroid hormone primarily regulates calcium levels in the body, and while follicular cells are involved in the synthesis of thyroid hormones, they do not have a direct role in lipid breakdown or protein synthesis regulation on their own. Understanding the specific roles of follicular cells and the hormones they produce helps clarify why they are integral to metabolic regulation, making this option the most accurate response to the question.

**4. What term describes the pressure that causes net fluid movement due to solute concentrations?**

- A. Hydrostatic**
- B. Osmotic**
- C. Colloid**
- D. Dynamic**

Osmotic pressure is the driving force behind the movement of water across a semipermeable membrane, influenced by solute concentrations on either side of that membrane. When there is a difference in solute concentrations, water will move from an area of lower solute concentration (higher solvent concentration) to an area of higher solute concentration. This process is known as osmosis and is critical to maintaining fluid balance in biological systems. In the context of the provided choices, osmotic pressure is specifically associated with the presence of solutes and dictates how and where water will move to achieve equilibrium. This term is fundamental in physiology and medicine, particularly in understanding fluid dynamics within cells and tissues, as well as in conditions such as edema or dehydration. Understanding osmotic pressure is essential for comprehending various physiological processes, including nutrient absorption, waste removal, and the regulation of blood volume and pressure. The other terms listed do not convey the same concept; for example, hydrostatic pressure refers to fluid pressure in a system due to gravitational effects, while colloid relates to a mixture where fine particles are dispersed rather than fully dissolved, and dynamic typically refers to forces in motion rather than fluid movement rooted in solute concentration differences.

**5. What hormone do the kidneys secrete to aid in the regulation of red blood cells?**

- A. Insulin**
- B. Erythropoietin**
- C. Adrenaline**
- D. Thyroxine**

The kidneys secrete erythropoietin, a hormone that plays a crucial role in the regulation of red blood cell production. Erythropoietin stimulates the bone marrow to increase the production of red blood cells in response to low oxygen levels in the blood (a condition known as hypoxia). When oxygen levels are sufficient, erythropoietin secretion decreases, balancing the production of red blood cells according to the body's needs. This regulatory mechanism is vital for maintaining adequate oxygen transport throughout the body. Increased red blood cell production leads to higher hemoglobin levels, which enhances the blood's capacity to carry oxygen. Understanding the function of erythropoietin is essential in the context of conditions such as anemia, where the body may not produce enough red blood cells, or in states of chronic kidney disease, where erythropoietin production may be impaired.

**6. Which structure within the respiratory system is primarily responsible for gas exchange?**

- A. Bronchi**
- B. Alveoli**
- C. Trachea**
- D. Larynx**

The alveoli are the key structures in the respiratory system that facilitate gas exchange. They are tiny, thin-walled sacs located at the ends of the bronchioles in the lungs. The walls of the alveoli are composed of a single layer of epithelial cells, allowing for efficient diffusion of gases. During respiration, oxygen from the air in the alveoli diffuses through the alveolar walls into the capillaries that surround them, where it then enters the bloodstream. Simultaneously, carbon dioxide, which is a waste product of metabolism, diffuses from the blood into the alveoli to be exhaled. This process of diffusion occurs due to the differences in concentration gradients of the gases, allowing for effective exchange. Other structures mentioned serve different roles in the respiratory process. The bronchi are involved in conducting air to and from the lungs but do not participate in gas exchange. The trachea is the primary airway leading to the bronchi and also does not facilitate gas exchange. The larynx functions primarily in voice production and as a passageway for air, but like the bronchi and trachea, it does not play a direct role in gas exchange. Therefore, the alveoli are uniquely suited to perform the critical function

**7. What structure enters the upper part of the interventricular septum and divides into right and left bundle branches?**

- A. SA node**
- B. AV bundle**
- C. Atrioventricular node**
- D. Pulmonary trunk**

The structure that enters the upper part of the interventricular septum and divides into right and left bundle branches is the AV bundle, also known as the bundle of His. This specialized cardiac conducting tissue is crucial for the propagation of electrical signals from the atria to the ventricles. When an electrical impulse originates from the sinoatrial (SA) node, it travels through the atria and reaches the atrioventricular (AV) node. From there, the impulse moves into the AV bundle, which extends into the interventricular septum. Once in this area, the AV bundle splits into the right and left bundle branches, facilitating coordinated contraction of both ventricles by allowing the impulse to reach them simultaneously. This is essential for maintaining an effective heartbeat and ensuring that blood is pumped efficiently from the heart. Other options represent different components of the cardiac conduction system or structures unrelated to the division into bundle branches. The SA node is responsible for initiating the heartbeat, the atrioventricular node serves as a gatekeeper that regulates impulses between the atria and ventricles, and the pulmonary trunk is a vessel that carries blood from the right ventricle to the lungs. Each plays a unique role, but none is responsible for the division

**8. Which protein plays a crucial role in blood clotting?**

- A. Albumin**
- B. Globulins**
- C. Fibrinogen**
- D. Transferrin**

Fibrinogen is a vital protein in the blood clotting process, also known as coagulation. When an injury occurs to a blood vessel, the body initiates a series of reactions known as the coagulation cascade. Fibrinogen, which is a soluble plasma protein produced by the liver, is converted into fibrin by the enzyme thrombin during this cascade. Fibrin strands then weave through the platelets that aggregate at the site of the injury, forming a stable clot that effectively helps to stop bleeding. This process is critical for wound healing and maintaining hemostasis in the body. Albumin, globulins, and transferrin serve other important functions in the body but are not primarily involved in the coagulation process. Albumin helps maintain osmotic pressure and transports various substances. Globulins include a diverse group of proteins with functions in immune responses and transport. Transferrin is primarily responsible for transporting iron in the bloodstream. These proteins play vital roles in various physiological processes, but fibrinogen is specifically crucial for initiating and maintaining the clotting process.

## 9. What does the QRS wave of an ECG represent?

- A. Atrial depolarization
- B. Ventricular repolarization
- C. Ventricular depolarization**
- D. Cardiac output

The QRS wave of an electrocardiogram (ECG) represents ventricular depolarization, which is the electrical activation of the ventricles that leads to their contraction. During this phase, the electrical impulse rapidly spreads through the ventricles, causing them to contract and pump blood out of the heart—either to the lungs via the right ventricle or to the rest of the body via the left ventricle. The QRS complex is usually the most prominent part of the ECG waveform due to the mass of the ventricles compared to the atria. This phase of the cardiac cycle is crucial because it influences cardiac output, heart rate, and overall heart function. Understanding the significance of the QRS wave allows for assessment of the heart's electrical activity and can indicate various conditions if abnormalities are present.

## 10. What triggers the end of the luteal phase in the absence of pregnancy?

- A. Decrease in FSH
- B. Increase in LH
- C. Decrease in estrogen and progesterone**
- D. Increase in progesterone

The end of the luteal phase is primarily marked by a decrease in the levels of estrogen and progesterone. During this phase, after ovulation, the corpus luteum forms and produces these hormones, which are essential for maintaining the uterine lining for a potential pregnancy. If fertilization does not occur, the corpus luteum begins to degenerate around day 14 of the luteal phase, leading to a decline in progesterone and estrogen levels. This hormonal drop is crucial because the decreased concentration of these hormones removes the hormonal signals that were maintaining the uterine lining, thereby leading to menstruation. In essence, it's this decline in progesterone and estrogen that signifies the end of the luteal phase, allowing for the cycle to start anew.

# 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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