

Certified Nephrology Nurse Certification (CNN) Practice Exam (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

- 1. How does diabetes mellitus affect kidney function?**
 - A. It generally improves kidney function**
 - B. It can lead to diabetic nephropathy**
 - C. It has no effect on kidney function**
 - D. It only affects kidney size**
- 2. What is the primary function of the renal tubules?**
 - A. Filtration of blood**
 - B. Reabsorption of water and solutes**
 - C. Production of urine**
 - D. Secretion of hormones**
- 3. How does the RAAS (renin-angiotensin-aldosterone system) affect blood pressure?**
 - A. By promoting fluid loss in the kidneys**
 - B. By decreasing heart rate**
 - C. By increasing blood pressure through vasoconstriction and fluid retention**
 - D. By enhancing metabolic rate**
- 4. Which electrolyte imbalance is most common in patients with chronic kidney disease (CKD)?**
 - A. Hypokalemia**
 - B. Hyponatremia**
 - C. Hyperkalemia**
 - D. Hypocalcemia**
- 5. What is a common side effect of calcium-based phosphate binders?**
 - A. Hypocalcemia**
 - B. Hypercalcemia**
 - C. Dehydration**
 - D. Hypophosphatemia**

- 6. What kidney condition is indicated by the presence of blood in urine?**
- A. Proteinuria**
 - B. Hematuria**
 - C. Oliguria**
 - D. Anuria**
- 7. Which of the following is NOT a typical sign of Nephritic Syndrome?**
- A. Hematuria**
 - B. Mild or no proteinuria**
 - C. Polyuria**
 - D. Hypertension**
- 8. Which is a common side effect of penicillins?**
- A. Acute kidney injury**
 - B. Interstitial nephritis**
 - C. Bone marrow suppression**
 - D. Liver toxicity**
- 9. Which medication is typically cleared by hemodialysis?**
- A. Digoxin**
 - B. Enalapril**
 - C. Prednisone**
 - D. Tobramycin**
- 10. Which condition does not typically recur in kidney transplant recipients?**
- A. Hypertension**
 - B. Alport Syndrome**
 - C. Polycystic Kidney Disease (PKD)**
 - D. Chronic Pyelonephritis**

Answers

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

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Explanations

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1. How does diabetes mellitus affect kidney function?

- A. It generally improves kidney function
- B. It can lead to diabetic nephropathy**
- C. It has no effect on kidney function
- D. It only affects kidney size

Diabetes mellitus significantly impacts kidney function primarily through a condition known as diabetic nephropathy. This is a progressive complication that develops due to the long-term effects of elevated blood glucose levels, which can lead to damage of the blood vessels in the kidneys. Over time, the increased glucose causes structural changes, including thickening of the glomerular basement membrane and mesangial expansion, resulting in glomerular hypertension and hyperfiltration. As diabetic nephropathy progresses, it can lead to proteinuria, reduced glomerular filtration rate (GFR), and ultimately chronic kidney disease (CKD) and end-stage renal disease (ESRD). Monitoring kidney function and managing diabetes effectively are crucial in preventing or slowing the progression of kidney damage in affected individuals. Understanding this mechanism is vital for nurses and healthcare professionals working with diabetic patients to implement timely interventions and improve patient outcomes. The other choices do not accurately reflect the established relationship between diabetes mellitus and kidney function. While diabetes can have various effects on the body, it does not improve kidney function or remain without any effect. Additionally, changes in kidney size may occur due to the disease process but are not a direct measure of kidney function or indicative of the underlying issues caused by diabetes.

2. What is the primary function of the renal tubules?

- A. Filtration of blood
- B. Reabsorption of water and solutes**
- C. Production of urine
- D. Secretion of hormones

The primary function of the renal tubules is to facilitate the reabsorption of water and solutes after the initial filtration of blood occurs in the glomerulus. After blood is filtered through the kidneys, the renal tubules play a crucial role in reclaiming essential nutrients and maintaining fluid and electrolyte balance by reabsorbing substances such as glucose, amino acids, sodium, and water back into the bloodstream. This process is essential for maintaining homeostasis, as it ensures that the body retains valuable resources while allowing waste products to be excreted. The tubular reabsorption occurs predominantly in three segments: the proximal convoluted tubule, loop of Henle, and collecting ducts, each with specialized functions in regulating different solutes and water. The other options do describe functions associated with kidney processes, but they do not capture the primary role of the renal tubules. Filtration of blood occurs in the glomerulus, production of urine involves multiple processes across various kidney structures, and secretion of hormones is not primarily a function of the renal tubules, but rather of other kidney cells and systems. In essence, the role of the renal tubules in reabsorption is critical for kidney function and fluid balance in the body.

3. How does the RAAS (renin-angiotensin-aldosterone system) affect blood pressure?

- A. By promoting fluid loss in the kidneys
- B. By decreasing heart rate
- C. By increasing blood pressure through vasoconstriction and fluid retention**
- D. By enhancing metabolic rate

The renin-angiotensin-aldosterone system (RAAS) plays a crucial role in regulating blood pressure through its multifaceted actions. When blood pressure drops, the kidneys sense this change and release renin, which catalyzes the conversion of angiotensinogen (produced by the liver) into angiotensin I. Angiotensin I is then transformed into angiotensin II by the enzyme ACE (angiotensin-converting enzyme) primarily in the lungs. Angiotensin II has several physiological effects that contribute to the elevation of blood pressure: 1. ****Vasoconstriction****: Angiotensin II is a potent vasoconstrictor, meaning it narrows blood vessels. This constriction increases the resistance the heart must work against, which raises blood pressure. 2. ****Fluid Retention****: Angiotensin II stimulates the adrenal glands to release aldosterone, a hormone that prompts the kidneys to retain sodium and water. This increase in blood volume also contributes to elevated blood pressure. 3. ****Stimulating Thirst and ADH Release****: Angiotensin II can also enhance thirst and stimulate the release of antidiuretic hormone (ADH), which further aids in water retention by the kidneys.

4. Which electrolyte imbalance is most common in patients with chronic kidney disease (CKD)?

- A. Hypokalemia
- B. Hyponatremia
- C. Hyperkalemia**
- D. Hypocalcemia

In patients with chronic kidney disease (CKD), hyperkalemia is the most common electrolyte imbalance encountered. This condition arises due to the kidneys' decreased ability to excrete potassium, which results in its accumulation in the bloodstream. As kidney function declines, the filtration of potassium becomes impaired, leading to elevated potassium levels. Hyperkalemia can pose serious health risks, including cardiac arrhythmias, which makes monitoring potassium levels critical in CKD patients. The management of this electrolyte imbalance often involves dietary restrictions, medications to promote potassium excretion, or even dialysis in severe cases. Other electrolyte disturbances can occur in CKD, but they are not as prevalent. For example, hypokalemia is less common because the kidneys usually retain potassium, and while hyponatremia can occur, it's often more associated with fluid overload rather than directly due to kidney function. Hypocalcemia is also noted in CKD due to disruptions in calcium metabolism and vitamin D activation, but immediately hyperkalemia remains the primary concern associated with CKD's progression.

5. What is a common side effect of calcium-based phosphate binders?

- A. Hypocalcemia**
- B. Hypercalcemia**
- C. Dehydration**
- D. Hypophosphatemia**

The use of calcium-based phosphate binders is primarily in the management of hyperphosphatemia in patients with chronic kidney disease. These binders help to reduce phosphate absorption from the food consumed, which is crucial as patients with kidney issues often struggle to excrete phosphate. Calcium-based binders contain calcium, which can lead to increased levels of calcium in the blood, known as hypercalcemia. This is a common side effect due to the additional calcium intake, especially if the dietary intake of calcium is not monitored or if patients are taking high doses of these binders. Hypercalcemia can result in various symptoms, including nausea, vomiting, confusion, and renal impairment, making it important for healthcare providers to monitor calcium levels in patients using these binders closely. While hypocalcemia is associated with other conditions or treatments, it's not typically a result of calcium-based binders. Dehydration and hypophosphatemia are not direct side effects of calcium-based phosphate binders either, as dehydration relates more to fluid management and hypophosphatemia occurs in different contexts unrelated to the use of these binders. Thus, hypercalcemia stands out as the most relevant side effect linked to the administration of calcium-based phosphate binders.

6. What kidney condition is indicated by the presence of blood in urine?

- A. Proteinuria**
- B. Hematuria**
- C. Oliguria**
- D. Anuria**

The presence of blood in urine is specifically referred to as hematuria. This condition can be indicative of various underlying health issues, ranging from urinary tract infections to kidney stones or even more serious conditions such as tumors. Hematuria can be classified into two types: gross hematuria, which is visible to the naked eye, and microscopic hematuria, which can only be identified under a microscope. Recognizing hematuria is essential for diagnosing potential renal or urinary pathology and guiding further diagnostic evaluation and management. Proteinuria refers to the presence of excess protein in the urine, which is related to kidney function and is not directly indicative of blood presence. Oliguria is characterized by a decrease in urine output, and anuria indicates the absence of urine production altogether. These conditions do not involve blood in the urine. Therefore, hematuria is the correct term that accurately describes the presence of blood in urine.

7. Which of the following is NOT a typical sign of Nephritic Syndrome?

- A. Hematuria**
- B. Mild or no proteinuria**
- C. Polyuria**
- D. Hypertension**

In evaluating the signs associated with Nephritic Syndrome, it's important to understand the characteristic features of this condition. Nephritic Syndrome is primarily marked by glomerular inflammation, which generally leads to specific clinical manifestations. Hematuria is commonly seen in Nephritic Syndrome due to the damage to the kidney's glomeruli, which allows red blood cells to leak into the urine. Mild or no proteinuria is also consistent with this syndrome, as the level of protein loss is usually less significant compared to Nephrotic Syndrome. Hypertension is frequently present because of fluid retention and alterations in renal autoregulation linked to kidney injury. In contrast, polyuria, which refers to excessive urination, is not a typical sign of Nephritic Syndrome. Instead, patients often experience oliguria (reduced urine output) due to inflammation and impaired kidney function. Thus, the presence of polyuria would be atypical in this context, which is why it is the correct answer to the question. Understanding these distinctions reinforces the overall clinical picture of Nephritic Syndrome and assists in differentiating it from other renal conditions.

8. Which is a common side effect of penicillins?

- A. Acute kidney injury**
- B. Interstitial nephritis**
- C. Bone marrow suppression**
- D. Liver toxicity**

The selection of interstitial nephritis as a common side effect of penicillins is well-founded. Interstitial nephritis is an immune-mediated response that can occur as a result of exposure to certain medications, including penicillins. This condition involves inflammation of the kidney interstitium, leading to symptoms such as fever, rash, and renal impairment. It is important to recognize interstitial nephritis because it can lead to acute kidney injury if not promptly addressed, making awareness of this side effect critical for monitoring patients on penicillin therapy. In the context of other options, acute kidney injury can indeed occur due to various factors including dehydration or nephrotoxic agents, but it is not a direct or common side effect specifically attributed to penicillins. Bone marrow suppression is more commonly associated with certain chemotherapeutic agents or drugs like chloramphenicol, but not typically with penicillins, which do not have significant effects on bone marrow function. Liver toxicity is a known concern with several medications, yet it is not primarily related to penicillin use, making interstitial nephritis the more appropriate and direct answer in this case.

9. Which medication is typically cleared by hemodialysis?

- A. Digoxin
- B. Enalapril
- C. Prednisone
- D. Tobramycin**

The medication that is typically cleared by hemodialysis is tobramycin. This aminoglycoside antibiotic is highly water-soluble and has a low volume of distribution, making it effectively removed from the body during the hemodialysis process. Hemodialysis is particularly useful for drugs that are primarily eliminated via the kidneys or that have a low protein binding capacity, which allows for more efficient removal during dialysis sessions. Other options, such as digoxin, enalapril, and prednisone, have different pharmacokinetic properties. Digoxin is primarily cleared through renal excretion but is also highly protein-bound and may not be significantly removed by dialysis. Enalapril is an ACE inhibitor that is partially cleared by the kidneys, and its active metabolite, enalaprilat, can also be removed, although it doesn't clear as effectively as tobramycin. Prednisone, a corticosteroid, is mainly metabolized in the liver and is not significantly cleared by hemodialysis due to its extensive protein binding and liver metabolism. In the context of managing patients with renal impairment, understanding the clearance characteristics of various medications helps clinicians make informed decisions about medication management and the necessity for adjustments or alternative therapies.

10. Which condition does not typically recur in kidney transplant recipients?

- A. Hypertension
- B. Alport Syndrome**
- C. Polycystic Kidney Disease (PKD)
- D. Chronic Pyelonephritis

Alport Syndrome does not typically recur in kidney transplant recipients due to the fact that it is primarily a genetic disorder characterized by defects in the type IV collagen, which affects the glomeruli. When a kidney is transplanted, the recipient receives a healthy kidney from a donor that does not carry the same genetic mutations associated with Alport Syndrome. Therefore, the new kidney functions normally and is not affected by the hereditary aspects of the condition, leading to a lack of recurrence post-transplant. In contrast, conditions like hypertension often persist in transplant recipients due to the presence of underlying cardiovascular issues or medication side effects such as those from immunosuppressants. Polycystic Kidney Disease (PKD) is also hereditary and can be a concern if the recipient has PKD themselves; in such cases, there is potential for development of cysts in the transplanted kidney or other renal complications related to the disease. Chronic Pyelonephritis may recur in a transplant setting if there is a history of urinary tract infections or anatomical abnormalities, impacting the transplanted kidney. Thus, the absence of recurrence of Alport Syndrome in transplanted patients illustrates a key aspect of the condition, highlighting the importance of distinguishing genetic disorders from those influenced by other factors or previous kidney

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://cnn.examzify.com>

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