

Glucose Management 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. Which statement about GLP-1 receptor agonists is NOT supported by the material?**
 - A. They can be used for type 2 diabetes and weight loss.**
 - B. Tirzepatide is a GLP-1 receptor agonist.**
 - C. Semaglutide is a GLP-1 receptor agonist.**
 - D. They have no adverse effects.**

- 2. Alpha-glucosidase inhibitors can decrease the absorption of which nutrient?**
 - A. Calcium**
 - B. Iron**
 - C. Zinc**
 - D. Vitamin B12**

- 3. Lipohypertrophy is most likely caused by which practice?**
 - A. Repeated injections at the same site**
 - B. High blood sugar**
 - C. Poor insulin absorption**
 - D. Excessive insulin dosage**

- 4. Regular insulin MOA?**
 - A. Controls postprandial hyperglycemia or basal glycemc control**
 - B. Decreases hepatic glucose production**
 - C. Increases glucose secretion in urine**
 - D. Mimics incretin hormones**

- 5. Which adverse event is listed for new GLP-1 receptor agonists?**
 - A. Acute kidney injury**
 - B. Pancreatitis**
 - C. GI upset**
 - D. Medullary thyroid carcinoma**

- 6. Metformin can decrease absorption of which vitamins?**
- A. Vitamin A and D**
 - B. Vitamin C and E**
 - C. Vitamin B12 and folic acid**
 - D. Vitamin K and B6**
- 7. Sulfonylureas should be avoided in which situation?**
- A. Pregnancy and lactation**
 - B. Elderly**
 - C. Renal impairment**
 - D. None of the above**
- 8. Which criterion is used in the oral glucose tolerance test for diagnosing diabetes?**
- A. Fasting glucose >126 mg/dL**
 - B. 2 hour plasma glucose >200 mg/dL**
 - C. A1c >6.5%**
 - D. Random glucose >200 mg/dL**
- 9. Sulfonylurea MOA?**
- A. Promotes insulin release from beta cells**
 - B. Inhibits hepatic glucose production**
 - C. Decreases glucose absorption in gut**
 - D. Increases insulin sensitivity in muscle**
- 10. Which drug is a meglitinide?**
- A. Repaglinide**
 - B. Metformin**
 - C. Pioglitazone**
 - D. Acarbose**

Answers

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

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Explanations

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1. Which statement about GLP-1 receptor agonists is NOT supported by the material?

- A. They can be used for type 2 diabetes and weight loss.**
- B. Tirzepatide is a GLP-1 receptor agonist.**
- C. Semaglutide is a GLP-1 receptor agonist.**
- D. They have no adverse effects.**

GLP-1 receptor agonists help lower blood glucose and often promote weight loss, making them useful in type 2 diabetes management and in weight management strategies. Tirzepatide belongs to this class because it activates the GLP-1 pathway (even though it also targets GIP). Semaglutide is a well-known GLP-1 receptor agonist. A key point about these drugs is that they can cause adverse effects, most commonly gastrointestinal symptoms like nausea, vomiting, and diarrhea, and there are potential risks such as pancreatitis or gallbladder issues in some patients. Because of these known adverse effects, the statement that they have no adverse effects is not supported.

2. Alpha-glucosidase inhibitors can decrease the absorption of which nutrient?

- A. Calcium**
- B. Iron**
- C. Zinc**
- D. Vitamin B12**

Alpha-glucosidase inhibitors slow the breakdown of complex carbohydrates in the small intestine by blocking brush-border enzymes. This change in digestion alters the luminal environment and the time nutrients spend in contact with the intestinal mucosa. Iron absorption, especially non-heme iron, is sensitive to those luminal conditions and to the duration of contact with the absorptive surface. When carbohydrate digestion is delayed, the efficiency of iron uptake can decrease, making iron absorption the nutrient most likely to be reduced. Calcium, zinc, and vitamin B12 absorption rely more on other factors (like vitamin D status and gastric acid for calcium, intrinsic factor and ileal function for B12, and dietary inhibitors for zinc), so they're not as directly affected by this specific mechanism.

3. Lipohypertrophy is most likely caused by which practice?

- A. Repeated injections at the same site**
- B. High blood sugar**
- C. Poor insulin absorption**
- D. Excessive insulin dosage**

Lipohypertrophy happens when insulin is injected into the same spot repeatedly. The repeated trauma plus the anabolic effect of insulin causes the local fat tissue to enlarge and harden, forming lumps under the skin. That altered tissue changes how insulin is absorbed, often making absorption unpredictable and leading to fluctuating blood glucose levels. So the practice most likely causing it is repeatedly injecting in the same site. To prevent it, rotate injection sites in a systematic pattern, avoid areas with lumps or scar tissue, and check skin before injecting.

4. Regular insulin MOA?

- A. Controls postprandial hyperglycemia or basal glycemic control**
- B. Decreases hepatic glucose production**
- C. Increases glucose secretion in urine**
- D. Mimics incretin hormones**

Regular insulin works by replacing or supplementing the body's own insulin, signaling body tissues to take up glucose and telling the liver to reduce glucose production. This combination lowers blood sugar during fasting and after meals, helping keep levels in a steady range. That broad effect—controlling glucose levels in the fasting (basal) state and after meals (postprandial)—best describes the action of regular insulin. Decreasing hepatic glucose production is indeed a part of how insulin works, but describing the MOA as that single effect is too narrow and doesn't fully capture the overall goal of insulin therapy. Insulin does not increase glucose loss in urine, and it does not mimic incretin hormones, which are different gut-derived signals that enhance insulin secretion.

5. Which adverse event is listed for new GLP-1 receptor agonists?

- A. Acute kidney injury**
- B. Pancreatitis**
- C. GI upset**
- D. Medullary thyroid carcinoma**

GLP-1 receptor agonists have a safety signal for pancreatitis. Product labeling for this drug class lists pancreatitis as a potential adverse event and advises clinicians to consider pancreatitis in patients with persistent, severe abdominal pain, with appropriate evaluation and discontinuation if pancreatitis is suspected. This risk has been observed in postmarketing reports and clinical trials, which is why it's highlighted in labeling as a serious adverse event to watch for. GI upset is indeed common with these agents, but it's a frequent, expected side effect rather than a listed serious adverse event. Acute kidney injury can occur in the setting of dehydration, but it isn't a primary labeled adverse event for this class. Medullary thyroid carcinoma is addressed in labeling as a contraindication or caution (not a typical adverse event), given concerns from animal data and human risk considerations.

6. Metformin can decrease absorption of which vitamins?

- A. Vitamin A and D
- B. Vitamin C and E
- C. Vitamin B12 and folic acid**
- D. Vitamin K and B6

Metformin can impair the absorption of certain vitamins, most notably vitamin B12 and folic acid. Vitamin B12 absorption happens in the terminal ileum and requires calcium-dependent uptake aided by intrinsic factor. Long-term metformin use has been linked to reduced B12 absorption, likely by interfering with the calcium-dependent transport process, which can lead to B12 deficiency with potential macrocytic anemia and neuropathy. Folate (folic acid) status can also be affected in some patients, contributing further to a risk of deficiency in this context, though the link is less consistent than with B12. That's why monitoring B12 levels is commonly recommended for people on prolonged metformin therapy, and supplementation is used if deficiency is found. Other vitamins—such as A, D, C, E, K, or B6—are not typically impacted by metformin, so their absorption isn't a usual concern with this medication.

7. Sulfonylureas should be avoided in which situation?

- A. Pregnancy and lactation**
- B. Elderly
- C. Renal impairment
- D. None of the above

Sulfonylureas stimulate the pancreas to release insulin, but they can cross the placenta and reach the fetus. That exposes the developing baby to the drug, which can cause fetal and neonatal hypoglycemia after birth and potential other risks. Similarly, during breastfeeding, the drug and its metabolites can pass into breast milk and may induce hypoglycemia in the nursing infant. For these safety reasons, sulfonylureas are avoided in pregnancy and lactation, with insulin being the preferred option to control blood glucose in these states. In contrast, while elderly patients or those with renal impairment require careful monitoring and sometimes dose adjustments due to higher hypoglycemia risk, these conditions do not by themselves mandate avoiding sulfonylureas.

8. Which criterion is used in the oral glucose tolerance test for diagnosing diabetes?

- A. Fasting glucose >126 mg/dL
- B. 2 hour plasma glucose >200 mg/dL**
- C. A1c >6.5%
- D. Random glucose >200 mg/dL

In the oral glucose tolerance test, you look at how the body handles a glucose load by measuring the glucose level two hours after drinking a fixed amount of glucose. A 2-hour plasma glucose level of 200 mg/dL or higher is diagnostic for diabetes with this test because it shows the body's tissues aren't clearing glucose efficiently after the load. The other numbers come from different tests: fasting glucose uses a 126 mg/dL threshold, A1c uses 6.5% or higher, and a random glucose of 200 mg/dL with symptoms is diagnostic in the appropriate clinical context. But for the OGTT, the key criterion is the 2-hour value at or above 200 mg/dL.

9. Sulfonylurea MOA?

A. Promotes insulin release from beta cells

B. Inhibits hepatic glucose production

C. Decreases glucose absorption in gut

D. Increases insulin sensitivity in muscle

Sulfonylureas promote insulin release from pancreatic beta cells by closing the ATP-sensitive potassium (KATP) channels. When these channels close, the beta-cell membrane depolarizes, voltage-gated calcium channels open, calcium rushes into the cell, and insulin-containing granules are released. This mechanism relies on functional beta cells to secrete insulin, which is why these drugs are effective in type 2 diabetes with preserved beta-cell function but not in absolute insulin deficiency. They do not primarily reduce hepatic glucose production, nor do they decrease glucose absorption from the gut or increase insulin sensitivity in muscle—that's the actions of metformin, alpha-glucosidase inhibitors, and thiazolidinediones, respectively.

10. Which drug is a meglitinide?

A. Repaglinide

B. Metformin

C. Pioglitazone

D. Acarbose

Meglitinides are insulin secretagogues that prompt the pancreas to release insulin by closing ATP-dependent potassium channels on beta cells, which depolarizes the cell and triggers calcium influx leading to insulin release. They are rapid-acting and short-lived, so they're taken just before meals to boost the post-meal insulin response. Repaglinide is a meglitinide, so it fits this mechanism and timing perfectly. The other drugs do not act as insulin secretagogues: metformin lowers hepatic glucose production, pioglitazone improves insulin sensitivity via PPAR gamma, and acarbose delays carbohydrate absorption in the gut.

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://glucosemgmt.examzify.com>

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

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