

HESI Osteoporosis Case Study 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. When is anabolic therapy such as teriparatide considered?**
 - A. In patients as first-line therapy for all.**
 - B. In patients at very high fracture risk or who fail or cannot tolerate antiresorptives; typically limited duration up to 2 years.**
 - C. For patients with osteoarthritis.**
 - D. For patients with low calcium only.**

- 2. What is the initial imaging modality to evaluate suspected osteoporotic vertebral fractures?**
 - A. MRI**
 - B. Plain radiographs (X-ray)**
 - C. DEXA**
 - D. Ultrasound**

- 3. Which physical change indicates vertebral compression due to osteoporosis?**
 - A. Height gain**
 - B. Widened hips**
 - C. Height loss**
 - D. Increased spinal curvature**

- 4. The nurse stresses the importance of reporting which problem during teriparatide therapy?**
 - A. Headache.**
 - B. Bone pain.**
 - C. Dyspepsia.**
 - D. Rhinitis.**

- 5. During fat embolism management, the patient becomes cyanotic with decreasing SaO₂. What is the priority nursing action?**
 - A. Position the client on her right side with her head down**
 - B. Prepare the client for a blood transfusion**
 - C. Initiate cardiopulmonary resuscitation**
 - D. Ensure that intubation equipment is readily available**

- 6. What is the duration of PTH injections in this case?**
- A. Two years**
 - B. One year**
 - C. Six months**
 - D. Three months**
- 7. For weekly alendronate therapy, which instruction best supports absorption and safety?**
- A. Take on an empty stomach with a full glass of water.**
 - B. Take with breakfast to minimize nausea.**
 - C. Take with juice after meals.**
 - D. Take at bedtime with a snack.**
- 8. A patient with a pelvic fracture develops chest pain, tachycardia, tachypnea, pallor, and petechiae. What action should the nurse implement first?**
- A. Administer an analgesic**
 - B. Observe for hematuria**
 - C. Apply oxygen via mask**
 - D. Measure abdominal girth**
- 9. Bone density testing is key to diagnosing osteoporosis in which populations?**
- A. Teenagers with sports injuries**
 - B. Athletes with high bone mass**
 - C. Men with fragility fractures, older adults with few symptoms, individuals with comorbidities or malnutrition.**
 - D. Children with obesity**
- 10. Which statement best describes the case's overall outcome?**
- A. The patient achieved independence in self-care and reduced fracture risk.**
 - B. The patient developed new fractures.**
 - C. The patient discontinued treatment due to side effects.**
 - D. The patient required hospitalization.**

Answers

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

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Explanations

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1. When is anabolic therapy such as teriparatide considered?

- A. In patients as first-line therapy for all.
- B. In patients at very high fracture risk or who fail or cannot tolerate antiresorptives; typically limited duration up to 2 years.**
- C. For patients with osteoarthritis.
- D. For patients with low calcium only.

Anabolic therapy with teriparatide is considered for patients who are at very high fracture risk or who have failed or cannot tolerate antiresorptive medications. These agents actively stimulate bone formation, leading to faster gains in bone mineral density and a meaningful reduction in fracture risk compared with many antiresorptives. Because of safety data and practical treatment plans, this therapy is used for a finite period, typically up to about two years, after which the patient generally transitions to an antiresorptive to maintain the gains achieved during the anabolic phase. This isn't used as first-line therapy for everyone, since most patients with osteoporosis are started on antiresorptives, and it isn't indicated for conditions like osteoarthritis or simply low calcium. Teriparatide specifically targets bone formation and is reserved for those with the greatest need or who cannot tolerate other options.

2. What is the initial imaging modality to evaluate suspected osteoporotic vertebral fractures?

- A. MRI
- B. Plain radiographs (X-ray)**
- C. DEXA
- D. Ultrasound

Plain radiographs are the first step because they are quick, widely available, and able to show vertebral compression with height loss or wedging, giving an immediate view of fracture presence and spinal alignment. They provide a practical baseline to gauge the extent of vertebral deformity and help decide whether more detailed imaging is needed. Although MRI is more sensitive for acute fractures and can detect bone marrow edema and occult injuries, it is typically reserved for cases where X-rays are inconclusive, there are neurologic symptoms, or there's a need to differentiate fracture from other conditions. DEXA measures bone density rather than fracture and isn't used to evaluate an acute vertebral fracture. Ultrasound isn't used for assessing vertebral fractures either. If the clinical suspicion remains high despite a normal plain film, MRI or CT can be pursued to confirm the diagnosis.

3. Which physical change indicates vertebral compression due to osteoporosis?

- A. Height gain
- B. Widened hips
- C. Height loss**
- D. Increased spinal curvature

Vertebral compression from osteoporosis directly shortens the spine. When the vertebral bodies collapse vertically, the overall height decreases, so a person becomes shorter over time. That loss of height is the clearest, most direct physical sign of vertebral compression. Widened hips aren't a typical indicator of vertebral compression. Increased spinal curvature (kyphosis) can occur as a consequence of multiple compression fractures and the resulting wedge-shaped vertebrae, but it's a secondary change rather than the primary, direct sign. So the best indicator of vertebral compression is the observable height loss.

4. The nurse stresses the importance of reporting which problem during teriparatide therapy?

- A. Headache.
- B. Bone pain.**
- C. Dyspepsia.
- D. Rhinitis.

Teriparatide is a bone-building therapy for osteoporosis, but it carries a safety signal that makes new or worsening bone pain particularly important to report. While headaches, dyspepsia, or nasal symptoms may occur with this medication, persistent bone pain can indicate abnormal bone remodeling or a rare but serious risk of osteosarcoma, which has been seen in animal studies and warrants prompt evaluation. Reporting bone pain allows the clinician to assess with imaging and labs, consider stopping therapy if needed, and address any calcium balance issues. This focus on bone-related symptoms helps ensure early detection of serious skeletal adverse events, while the other common side effects are typically less urgent and managed symptomatically.

5. During fat embolism management, the patient becomes cyanotic with decreasing SaO₂. What is the priority nursing action?

- A. Position the client on her right side with her head down
- B. Prepare the client for a blood transfusion
- C. Initiate cardiopulmonary resuscitation
- D. Ensure that intubation equipment is readily available**

When fat embolism affects the lungs, oxygenation can deteriorate rapidly. If the patient becomes cyanotic with a falling SaO₂, the immediate concern is securing and protecting the airway to ensure adequate ventilation. Having intubation equipment readily available allows rapid airway management and initiation of assisted ventilation if respiratory failure develops, which can prevent progression to respiratory arrest. Other actions aren't as urgent in this moment: repositioning the patient doesn't reliably improve oxygenation and can complicate care; a blood transfusion isn't an acute, universal fix for fat embolism; CPR is only indicated if there is cardiac arrest. The priority is to be prepared to secure the airway and support breathing to maintain oxygenation.

6. What is the duration of PTH injections in this case?

- A. Two years**
- B. One year**
- C. Six months**
- D. Three months**

PTH injections act as an anabolic boost to bone, but the benefits come from a finite treatment window. The strongest bone-building responses occur over the first several months, and gains begin to plateau as the course continues. In many osteoporosis plans, a year of teriparatide (PTH analog) is used to capture the major improvement in bone density and reduce fracture risk, then the patient switches to a maintenance therapy to preserve those gains. Choosing a one-year duration balances getting the meaningful anabolic effect with minimizing prolonged exposure and complexity of care. Shorter durations would likely miss substantial improvement, while longer ones may offer diminishing returns and pose additional considerations. After completing a year, clinicians typically reassess bone density and fracture risk and then transition to an antiresorptive agent to maintain the gains.

7. For weekly alendronate therapy, which instruction best supports absorption and safety?

- A. Take on an empty stomach with a full glass of water.**
- B. Take with breakfast to minimize nausea.**
- C. Take with juice after meals.**
- D. Take at bedtime with a snack.**

Absorption and safety hinge on taking alendronate with nothing in the stomach and with plenty of water. This medication has very limited oral absorption, and food or minerals can bind the drug or slow its movement through the stomach, drastically reducing how much actually gets into the bloodstream. A full glass of plain water helps the pill reach the stomach quickly so it can begin its action effectively. After taking it, staying upright for at least 30 minutes protects the esophagus from irritation or ulcers, a known risk with bisphosphonates. Because meals, beverages like juice, or bedtime snacks introduce food or timing that can interfere with absorption or increase reflux risk, the instruction to take it on an empty stomach with a full glass of water best supports both absorption and safety.

8. A patient with a pelvic fracture develops chest pain, tachycardia, tachypnea, pallor, and petechiae. What action should the nurse implement first?

- A. Administer an analgesic
- B. Observe for hematuria
- C. Apply oxygen via mask**
- D. Measure abdominal girth

The main concept is recognizing fat embolism syndrome after a fracture and prioritizing immediate oxygenation. The combination of chest pain, rapid breathing, rapid heart rate, pallor, and petechiae after a pelvic fracture strongly suggests fat droplets entering the bloodstream from the injured bone marrow, causing pulmonary involvement and hypoxemia. Providing oxygen via a mask is the first and most critical action because it directly improves arterial oxygenation and helps prevent hypoxic injury to the brain and other organs while further diagnostic and supportive steps are arranged. Analgesia, while important for comfort, does not address the life-threatening breathlessness and low oxygen levels. Observing for hematuria or measuring abdominal girth doesn't target the urgent respiratory compromise presented here, so they're not the immediate priority. If oxygenation remains inadequate, escalation to higher levels of respiratory support would be the next step.

9. Bone density testing is key to diagnosing osteoporosis in which populations?

- A. Teenagers with sports injuries
- B. Athletes with high bone mass
- C. Men with fragility fractures, older adults with few symptoms, individuals with comorbidities or malnutrition.**
- D. Children with obesity

Bone density testing is most informative when assessing people with risk factors that directly increase osteoporosis likelihood. In particular, measuring bone mineral density helps diagnose osteoporosis in older adults, where bone loss is common, and in men who have fragility fractures—fractures that occur from a fall from standing height or less, which signals weakened bones rather than high-energy trauma. It's also essential for individuals with conditions or treatments that compromise bone health, such as malnutrition, chronic illnesses, or long-term use of glucocorticoids, because these factors accelerate bone loss and raise fracture risk. By identifying low bone density in these groups, clinicians can confirm osteoporosis or identify osteopenia and then implement treatment or preventive strategies. Teenagers with sports injuries, athletes with high bone mass, and children with obesity do not represent typical populations for diagnosing osteoporosis via bone density testing. Teens and children have different bone development considerations, and obesity in kids does not by itself indicate osteoporosis, so routine density testing isn't the primary diagnostic tool for those groups.

10. Which statement best describes the case's overall outcome?

- A. The patient achieved independence in self-care and reduced fracture risk.**
- B. The patient developed new fractures.**
- C. The patient discontinued treatment due to side effects.**
- D. The patient required hospitalization.**

In osteoporosis case management, success is shown by regaining independence in self-care and lowering the chance of future fractures. Achieving independence in self-care means the patient can perform daily activities, follow the prescribed exercise and nutrition plan, and manage medications with minimal assistance. When this is paired with a reduced fracture risk, it reflects effective treatment and rehabilitation: better bone health, improved balance and strength, and safer daily functioning. That combination best describes a positive overall outcome because it demonstrates both functional recovery and a lowered likelihood of future fractures. Why the other outcomes don't fit as the overall result: new fractures would indicate ongoing vulnerability and insufficient control of osteoporosis; discontinuing treatment due to side effects signals poor adherence and likely poorer long-term bone health; hospitalization points to acute complications or significant health events, suggesting a less favorable overall trajectory.

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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://hesiosteoporosiscasestudy.examzify.com>

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

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