

Orthotics and Prosthetics Combined Written Boards Practice Exam (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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Table of Contents

Copyright	1
Table of Contents	2
Introduction	3
How to Use This Guide	4
Questions	6
Answers	9
Explanations	11
Next Steps	18

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

- 1. What is the maximum acceptable malalignment for managing a tibial fracture with an off-the-shelf fracture orthosis?**
 - A. No more than 5 degrees of valgus/varus and 10 degrees of anterior-posterior angulation**
 - B. 10 degrees of varus or valgus, 20 degrees of anterior-posterior angulation**
 - C. 5 degrees of valgus or varus, and 30 degrees of anterior-posterior angulation**
 - D. 10 degrees of valgus and 30 degrees of anterior-posterior angulation**
- 2. A patient has suffered a radial nerve injury. Which component is most likely to be added to the orthotic recommendation?**
 - A. Wrist extension support**
 - B. 1st MP abduction assist**
 - C. Extension assist**
 - D. Thumb splint**
- 3. What is the mechanism of injury commonly associated with a Denis 4 fracture?**
 - A. Hyperflexion**
 - B. Distraction**
 - C. Translation, flexion, and rotation**
 - D. Compression**
- 4. Which nerve roots make up the brachial plexus?**
 - A. C3 to C8**
 - B. C5 to T1**
 - C. C1 to C5**
 - D. C6 to T2**
- 5. What is the primary function of the plantar flexor muscles?**
 - A. To assist in heel strike during walking**
 - B. To stabilize the ankle during dorsiflexion**
 - C. To allow the toes to grip the ground**
 - D. To point the toes away from the body**

- 6. What is the primary mechanism of injury for an anterior compression fracture of C3-C7?**
- A. Hyperflexion**
 - B. Hyperextension**
 - C. Rotation**
 - D. Distraction**
- 7. What is the primary function of the knee during transtibial swing phase when utilizing hydraulic technology?**
- A. To provide stability**
 - B. To enable flexion**
 - C. To resist extension**
 - D. To control rate of flexion**
- 8. What adjustment is suggested if a patient experiences drop-off due to a socket being too flexed?**
- A. Adjust socket to more flexion**
 - B. Change foot to be more anterior**
 - C. Lengthen the prosthesis**
 - D. Extend the socket**
- 9. Which type of scoliotic curve is expected to progress more given its location?**
- A. Cervical curve**
 - B. Single lumbar curve**
 - C. Thoracolumbar curve**
 - D. Doubly major curve**
- 10. Which phase features the ankle at 10 degrees of dorsiflexion?**
- A. Loading response**
 - B. Terminal stance**
 - C. Pre-swing**
 - D. Initial swing**

Answers

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

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Explanations

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1. What is the maximum acceptable malalignment for managing a tibial fracture with an off-the-shelf fracture orthosis?

A. No more than 5 degrees of valgus/varus and 10 degrees of anterior-posterior angulation

B. 10 degrees of varus or valgus, 20 degrees of anterior-posterior angulation

C. 5 degrees of valgus or varus, and 30 degrees of anterior-posterior angulation

D. 10 degrees of valgus and 30 degrees of anterior-posterior angulation

The maximum acceptable malalignment for managing a tibial fracture with an off-the-shelf fracture orthosis is characterized by specific degrees of varus or valgus and anterior-posterior angulation. The choice indicating 10 degrees of varus or valgus along with 20 degrees of anterior-posterior angulation reflects an understanding of the tolerance levels for maintaining proper alignment during the healing process of a tibial fracture. In the context of fracture management, particularly with off-the-shelf devices, maintaining adequate alignment is crucial to ensure proper healing and to minimize the risk of complications. The alignment limits in this option allow for some degree of alignment instability while still being within a range acceptable for clinical practice. This ensures that while the fracture is immobilized, there is enough leeway to accommodate for slight deviations that could occur, which are not uncommon during the initial stabilization phase. Understanding the biomechanical implications of malalignment is essential in fracture management. Excessive deviation from normal alignment can lead to improper healing, malunion, or complications such as nonunion. The specified limits in this correct option align with clinical findings that have been established through guidelines and observational studies in orthopedic practice. Thus, this choice reflects an appropriate balance between the requirements for effective immobilization

2. A patient has suffered a radial nerve injury. Which component is most likely to be added to the orthotic recommendation?

- A. Wrist extension support**
- B. 1st MP abduction assist**
- C. Extension assist**
- D. Thumb splint**

In the case of a radial nerve injury, one of the most significant functional deficits is the inability to actively extend the wrist and fingers. This condition can lead to wrist drop, where the patient cannot maintain wrist extension during functional movements. Adding an orthotic device that provides thumb metacarpophalangeal (MP) abduction assist is particularly beneficial for patients with radial nerve injuries. The 1st MP abduction assist is crucial because it helps stabilize the thumb in an abducted position, allowing for better pinch and grip function. This feature can greatly enhance the patient's ability to perform daily tasks, as the thumb plays a vital role in grasping and holding objects. By providing support for thumb positioning, the orthotic intervention addresses the functional limitations resulting from the radial nerve injury and promotes better hand function. In contrast, while wrist extension support could provide some benefit, it does not specifically address the compromise of thumb functionality and its essential role in grasping. Extension assists might seem relevant as well, but they typically focus on aiding the extension of the fingers rather than supporting the thumb's positioning. A thumb splint would also provide stabilization but may not specifically enhance the abduction necessary for optimal hand function in grasping scenarios. Therefore, the inclusion of a

3. What is the mechanism of injury commonly associated with a Denis 4 fracture?

- A. Hyperflexion**
- B. Distraction**
- C. Translation, flexion, and rotation**
- D. Compression**

A Denis 4 fracture involves a specific pattern of injury that is characterized by complex mechanics of translation, flexion, and rotation. This type of injury typically occurs in the context of high-energy trauma, such as a car accident or a fall from a significant height. The force applied in these situations can cause the vertebral body to not only flex but also translate laterally and rotate, resulting in more complex destabilization of the spinal column. Denis 4 fractures are particularly notable because they disrupt the posterior ligamentous complex and may compromise spinal stability due to the multi-directional forces involved. Understanding the mechanism of injury is crucial for proper diagnosis and treatment planning. In cases where a fracture involves translation along with flexion and rotation, the management often becomes more complex due to the increased risk of neurological injury, requiring thorough evaluation and possibly surgical intervention. The other options address different mechanisms that may lead to fractures but do not capture the combined forces inherent to a Denis 4 fracture, which is essential for identifying the nature of the injury and the appropriate clinical response.

4. Which nerve roots make up the brachial plexus?

- A. C3 to C8
- B. C5 to T1**
- C. C1 to C5
- D. C6 to T2

The brachial plexus is a complex network of nerves that innervates the upper limb and is formed by the ventral rami of specific cervical and thoracic nerve roots. In particular, the brachial plexus is comprised of nerve roots from C5 to T1. These specific nerve roots combine to form trunks, divisions, cords, and ultimately the peripheral nerves that supply motor and sensory functions to the arm. C5 and C6 typically contribute to innervating muscles around the shoulder and upper arm, while C7 plays a crucial role in extending the arm, and C8 and T1 are essential for the muscles of the forearm and hand. The other options are incorrect because they either include nerve roots that are not part of the brachial plexus—such as C3 and C4, which are involved in the cervical plexus—or they exclude essential roots like T1.

5. What is the primary function of the plantar flexor muscles?

- A. To assist in heel strike during walking
- B. To stabilize the ankle during dorsiflexion
- C. To allow the toes to grip the ground
- D. To point the toes away from the body**

The primary function of the plantar flexor muscles is to point the toes away from the body, which is accurately described by the selected answer. Plantar flexion occurs at the ankle joint, and this movement is essential for various activities, such as walking, running, and jumping. When these muscles contract, they facilitate the motion of pushing the foot downward, enabling actions like standing on tiptoes or propelling the body forward during gait. This movement is critical in the push-off phase of walking or running, where the plantar flexors, including muscles like the gastrocnemius and soleus, generate the force needed to propel the body upward and onward. The efficient function of these muscles helps maintain balance and stability while moving. Understanding this role is fundamental for both clinical practice in orthotics and rehabilitation, as any dysfunction in plantar flexion can significantly affect mobility and performance.

6. What is the primary mechanism of injury for an anterior compression fracture of C3-C7?

- A. Hyperflexion**
- B. Hyperextension**
- C. Rotation**
- D. Distraction**

The primary mechanism of injury for an anterior compression fracture of the cervical spine, particularly at the C3-C7 levels, is hyperflexion. When the head is moved forward relative to the chest, excessive flexion can result in the loading of the anterior vertebral bodies. This force can lead to a wedge-shaped fracture, where the anterior portion of the vertebra collapses due to the compressive forces. In cases of hyperflexion, the neck is bent sharply, creating a significant load that specifically affects the front part of the vertebrae. This is distinct from other mechanisms such as hyperextension, which tends to produce different types of injuries, often involving ligament sprains or tearing, and potentially leading to posterior compression fractures or other soft tissue damage. Rotation and distraction mechanisms also involve different physiological impacts on the cervical vertebrae and are less commonly associated with anterior compression fractures compared to hyperflexion. Thus, understanding the mechanics of hyperflexion provides crucial insight into how such injuries typically occur in the cervical spine and underscores the importance of recognizing these patterns in clinical assessments.

7. What is the primary function of the knee during transtibial swing phase when utilizing hydraulic technology?

- A. To provide stability**
- B. To enable flexion**
- C. To resist extension**
- D. To control rate of flexion**

In transtibial prosthetics that utilize hydraulic technology, the primary function of the knee during the swing phase is to control the rate of flexion. Hydraulic knees are designed to mimic the natural dynamics of movement and to provide a more fluid and adaptive response to changes in gait and terrain. During the swing phase of ambulation, the knee must flex to allow for the proper clearance of the prosthetic limb from the ground. Hydraulic systems achieve this by regulating the amount of hydraulic fluid that flows within the mechanism, allowing for a smooth and controlled flexion as the limb moves forward. This adaptability helps to ensure a safe and efficient gait pattern by allowing the user to maintain balance and control while walking. Controlling the rate of flexion is particularly important for providing a natural walking experience. If the knee flexes too quickly or too slowly, it can affect the overall balance and stability of the individual. Therefore, the hydraulic system is engineered to allow for a customizable response, accommodating the user's gait and enhancing their mobility. This adaptability sets hydraulic knees apart from other types of knee mechanisms, which may not offer the same level of control over movement dynamics during the swing phase.

8. What adjustment is suggested if a patient experiences drop-off due to a socket being too flexed?

- A. Adjust socket to more flexion**
- B. Change foot to be more anterior**
- C. Lengthen the prosthesis**
- D. Extend the socket**

When a patient experiences drop-off due to a socket being too flexed, adjusting the socket to extend is suggested to alleviate the issue. A socket that is overly flexed can lead to an improper alignment of the prosthetic limb, causing the user to feel as if they are 'falling off' the front of the prosthesis during the stance phase of gait. By extending the socket, the alignment becomes more neutral or even posterior, which can help improve stability during walking or standing. This adjustment encourages better weight distribution and allows the user to maintain a more balanced posture, ultimately enhancing their gait and overall comfort. In contrast, simply adjusting the socket to more flexion, changing the foot position to be more anterior, or lengthening the prosthesis may not address the core issue of excessive flexion that directly contributes to the drop-off sensation. These alternatives could potentially exacerbate the problem or introduce new complications, making the socket extension a more effective and focused solution.

9. Which type of scoliotic curve is expected to progress more given its location?

- A. Cervical curve**
- B. Single lumbar curve**
- C. Thoracolumbar curve**
- D. Doubly major curve**

The expected progression of scoliotic curves is influenced by their anatomical location and the complexity of the curve type. In the case of a single lumbar curve, this type of scoliosis is particularly prone to progression due to its biomechanical and compensatory dynamics. The lumbar spine has a larger range of motion and bears significant weight during daily activities, making it more susceptible to structural changes over time. A single lumbar curve can also lead to asymmetric loading patterns on the vertebrae, which can exacerbate the curvature. The lumbar region's relative motion and the lack of compensatory curves can mean that any deviation from normal alignment is more likely to worsen. Additionally, other curve types, such as cervical or thoracolumbar, generally have different progression patterns influenced by their unique biomechanical properties. For example, cervical curves typically have less gravitational pull affecting their progression, while thoracolumbar curves can often be more stable due to the supportive mechanisms involved from the upper and lower spine. Doubly major curves, comprised of both thoracic and lumbar components, may also demonstrate some compensatory features that can limit progression in one area due to balance with the other. Therefore, the single lumbar curve is considered to have a higher propensity for significant progression, given its location.

10. Which phase features the ankle at 10 degrees of dorsiflexion?

- A. Loading response**
- B. Terminal stance**
- C. Pre-swing**
- D. Initial swing**

The terminal stance phase of the gait cycle is characterized by the ankle being positioned at approximately 10 degrees of dorsiflexion. This phase occurs when the heel rises off the ground, and the body's weight shifts forward over the forefoot. As the individual moves forward, this dorsiflexion allows for optimal placement of the foot to prepare for the propulsion phase of gait, ensuring that the body can maintain balance and stability as it transitions from the stance to the swing phase. During terminal stance, the dorsiflexion angle is crucial for achieving an effective push-off and ensuring that the body can move efficiently without compromising posture. The alignment of the ankle in 10 degrees of dorsiflexion supports the mechanics required for the forward momentum, which is vital for a smooth gait cycle. In contrast, the other phases - loading response, pre-swing, and initial swing - involve different ankle positions. The loading response phase typically starts with the ankle in a more neutral or slightly plantarflexed position as the foot contacts the ground. The pre-swing phase involves a significant amount of plantarflexion as the opposite limb prepares to begin its swing. The initial swing phase also shows the ankle moving toward a neutral position as the foot begins to clear the ground.

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://orthoticsprostheticscombined.examzify.com>

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