

RTBC LOWER EXTREMITIES PRACTICE TEST (SAMPLE)

STUDY GUIDE



**SAMPLE STUDY GUIDE
WITH LIMITED QUESTIONS**

**VISIT US ONLINE FOR
THE FULL VERSION STUDY GUIDE**

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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 muscle functions to abduct the hip?**
 - A. Rectus femoris
 - B. Gluteus medius
 - C. Biceps femoris
 - D. Adductor longus
- 2. Which two of the following positions can a patient be in for a plantodorsal axial calcaneus projection?**
 - A. Standing and seated
 - B. Seated and lying
 - C. Supine and prone
 - D. Sitting and kneeling
- 3. What is the recommended source-to-image distance (SID) for tangential sesamoid radiographs?**
 - A. 72 inches
 - B. 40 inches
 - C. 60 inches
 - D. 30 inches
- 4. In the context of knee imaging, what is the significance of the angle used in the B  cl  re method?**
 - A. It defines the patellar position
 - B. It aids in visualizing the femoral condyles
 - C. It enhances joint space visualization
 - D. It minimizes distortion of the intercondylar fossa
- 5. What is the recommended source-to-image distance (SID) for an anteroposterior (AP) projection of the fifth digit of the foot?**
 - A. 30 inches
 - B. 40 inches
 - C. 50 inches
 - D. 60 inches

- 6. What increases the risk of knee osteoarthritis, especially in athletes?**
- A. Low impact exercises
 - B. Regular stretching
 - C. High-impact sports and previous joint injuries
 - D. Weight training
- 7. How should the patient's leg be positioned for an anteroposterior (AP) projection of the distal femur?**
- A. Leg rotated so that toes point directly upward
 - B. Leg fully extended with toes pointed outward
 - C. Leg bent at the knee with toes pointing laterally
 - D. Leg positioned in a frog-leg attitude
- 8. Where should the central ray be directed for a lateral tibia and fibula radiograph?**
- A. At the knee joint
 - B. At the mid-shaft of the tibia/fibula
 - C. At the ankle joint
 - D. At the distal fibula
- 9. What condition can lead to a degenerative change in the knee joint over time?**
- A. Arthritis
 - B. Bursitis
 - C. Tendonitis
 - D. Fracture
- 10. How should the sesamoid bones appear on a tangential projection of the sesamoids?**
- A. Superimposed on the first metatarsal
 - B. Clearly outlined and free of superimposition
 - C. Projected posteriorly
 - D. Obscured by soft tissue

Answers

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

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Explanations

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1. Which muscle functions to abduct the hip?

- A. Rectus femoris
- B. Gluteus medius**
- C. Biceps femoris
- D. Adductor longus

The gluteus medius is the primary muscle responsible for hip abduction. This muscle is located on the lateral aspect of the pelvis and is essential for stabilizing the hip during activities such as walking and running. When the gluteus medius contracts, it pulls the thigh away from the midline of the body, which allows for side-to-side movement of the leg. Effective functioning of the gluteus medius is crucial not only for hip abduction but also for maintaining balance and proper gait mechanics. When the gluteus medius is weak or not functioning properly, individuals may experience difficulty in walking, running, and maintaining stability, particularly when standing on one leg. In contrast, the other muscles listed do not primarily function in hip abduction. The rectus femoris is mainly a knee extensor and plays a role in hip flexion, the biceps femoris is involved in knee flexion and external rotation at the hip, and the adductor longus primarily functions to adduct the thigh, bringing it closer to the body's midline. Understanding the specific actions of these muscles highlights the importance of the gluteus medius in hip abduction and overall lower extremity function.

2. Which two of the following positions can a patient be in for a plantodorsal axial calcaneus projection?

- A. Standing and seated
- B. Seated and lying**
- C. Supine and prone
- D. Sitting and kneeling

The plantodorsal axial calcaneus projection is an imaging technique used to visualize the heel bone (calcaneus) in a way that provides a clear view of its structure. For this projection, the patient's foot must be positioned correctly to effectively capture the anatomy of the calcaneus. Being seated allows for adjustments in foot positioning to be more comfortable and aligned, while lying down also provides stability and allows for proper positioning of the foot without the risk of movement. This positions the calcaneus in a way that aligns it with the X-ray beam, thus ensuring optimal imaging. In contrast, standing can introduce difficulties in maintaining the necessary foot position, and sitting or kneeling may not provide adequate access for the imaging technologist to obtain the desired view of the calcaneus. Therefore, the combination of seated and lying positions facilitates the required alignment and stability for a successful plantodorsal axial calcaneus projection, making this the correct choice.

3. What is the recommended source-to-image distance (SID) for tangential sesamoid radiographs?

- A. 72 inches
- B. 40 inches**
- C. 60 inches
- D. 30 inches

The recommended source-to-image distance (SID) for tangential sesamoid radiographs is typically 40 inches. This distance is favored because it provides a good balance between image quality and the need to visualize the sesamoid bones clearly. Using a 40-inch SID helps to minimize the magnification of the sesamoids, which are relatively small structures located beneath the first metatarsophalangeal joint. At this distance, the radiographic technique allows for optimal detail and minimizes distortion, which is especially important for accurately assessing these small bones and any related pathologies. In radiography, longer distances, like 60 or 72 inches, are generally employed for chest or other imaging that requires less magnification and more depth, but for the purpose of capturing detailed images of small bones like sesamoids, the shorter 40-inch distance is more effective. A shorter distance, such as 30 inches, could potentially increase magnification too much, affecting the clarity and accuracy of the image. Therefore, 40 inches is the ideal choice for achieving high-quality tangential images of sesamoids.

4. In the context of knee imaging, what is the significance of the angle used in the B  cl  re method?

- A. It defines the patellar position
- B. It aids in visualizing the femoral condyles
- C. It enhances joint space visualization
- D. It minimizes distortion of the intercondylar fossa**

The B  cl  re method is a specific radiographic technique used to obtain an optimal view of the knee joint, particularly for visualizing structures such as the intercondylar fossa. The significance of the angle in this method is that it is specifically designed to minimize distortion of the intercondylar fossa, which is crucial for accurate assessment of structures such as the cruciate ligaments and other intra-articular components. By using an appropriate angle, the method reduces the superimposition of bones and allows for a clearer view of the intercondylar area, improving diagnostic accuracy. In contrast, while the other options may relate to knee imaging, they do not accurately capture the primary purpose of the angle in the B  cl  re method. The focus on minimizing distortion ensures that medical professionals have a clear representation of the knee's anatomy, which is essential for both diagnosis and treatment planning.

5. What is the recommended source-to-image distance (SID) for an anteroposterior (AP) projection of the fifth digit of the foot?

- A. 30 inches
- B. 40 inches**
- C. 50 inches
- D. 60 inches

For the anteroposterior (AP) projection of the fifth digit of the foot, a source-to-image distance (SID) of 40 inches is commonly recommended. This distance helps to minimize distortion and ensures a better image quality, which is critical for accurately visualizing the bony structures of the foot, particularly in a smaller area such as the fifth digit. Using the appropriate SID is essential because it influences the magnification and sharpness of the image. A 40-inch SID strikes an optimal balance, allowing for detailed visualization while maintaining clarity and reducing the potential for distortion. Compared to other distances such as 30, 50, or 60 inches, 40 inches aligns with standard radiographic practices, particularly for lower extremity imaging where precise detail is needed for diagnosis and treatment planning.

6. What increases the risk of knee osteoarthritis, especially in athletes?

- A. Low impact exercises
- B. Regular stretching
- C. High-impact sports and previous joint injuries**
- D. Weight training

Knee osteoarthritis is a degenerative joint disease that can be influenced by various factors, particularly in athletes who engage in high-impact sports. High-impact sports and previous joint injuries significantly elevate the risk of developing knee osteoarthritis. Athletes involved in sports that require repetitive stress on the knees—such as running, basketball, or soccer—often experience physical wear and tear on the joint cartilage over time. This repetitive strain can lead to microtraumas in the cartilage, making it more susceptible to degeneration. Additionally, athletes who have a history of knee injuries (for example, ligament tears or meniscus injuries) are at a greater risk. These injuries can disrupt the normal functioning and stability of the knee joint, which can contribute to the development of osteoarthritis later in life. In contrast, low-impact exercises and regular stretching tend to be protective of joint health and are generally recommended for maintaining joint function and mobility. Weight training, when properly managed and not performed excessively high-impact, can also be beneficial for strengthening the musculature around the knee, thereby reducing the risk of injury and joint deterioration. Therefore, the combination of high-impact sports and previous joint injuries is a critical factor in understanding the increased risk of knee osteoarthritis in athletes.

7. How should the patient's leg be positioned for an anteroposterior (AP) projection of the distal femur?

- A. Leg rotated so that toes point directly upward**
- B. Leg fully extended with toes pointed outward
- C. Leg bent at the knee with toes pointing laterally
- D. Leg positioned in a frog-leg attitude

For an anteroposterior (AP) projection of the distal femur, the correct positioning involves having the leg fully extended with the toes pointing directly upward. This positioning ensures that the femur and knee joint are properly aligned with the x-ray beam, allowing for optimal visualization of the anatomical structures of the distal femur and the surrounding areas. In an AP projection, it's essential to achieve a straight and symmetrical alignment of the limb being examined. By having the toes point directly upward, the femoral condyles are parallel to the film or detector, minimizing distortion and enabling accurate evaluation of any pathological conditions or injuries. Positioning the leg correctly is crucial for radiographic quality and diagnostic accuracy. While other positions may provide views of the femur, they would not be appropriate for an AP projection, which specifically requires this alignment to accurately capture the anatomical details needed for assessment.

8. Where should the central ray be directed for a lateral tibia and fibula radiograph?

- A. At the knee joint
- B. At the mid-shaft of the tibia/fibula**
- C. At the ankle joint
- D. At the distal fibula

For a lateral tibia and fibula radiograph, the central ray should be directed at the mid-shaft of the tibia and fibula. Positioning the central ray in this manner ensures that both the tibia and fibula are captured clearly in their entirety, thus providing an accurate representation of the bones for diagnostic purposes. Directing the central ray at the mid-shaft allows for optimal visualization of any potential fractures, lesions, or other pathologies that may be present, as this area is typically of greatest clinical interest in radiographic evaluations of these bones. Proper alignment also helps minimize distortion and ensures that the anatomic details are adequately highlighted. While directing the ray at the knee joint, the ankle joint, or the distal fibula may capture some relevant anatomy, it does not provide the comprehensive view required for effective assessment of both long bones in a lateral projection.

9. What condition can lead to a degenerative change in the knee joint over time?

- A. Arthritis**
- B. Bursitis
- C. Tendonitis
- D. Fracture

Arthritis is a collective term for conditions that cause inflammation of the joints, leading to degenerative changes over time. In the case of osteoarthritis, the most common form, the cartilage that cushions the joints gradually breaks down, causing pain, swelling, and reduced mobility. Over the years, this degeneration can lead to increased friction between the bones, a decrease in the joint space, and can result in bone spurs. This progressive wear and tear can severely impact the function of the knee joint, often leading to chronic pain and disability. Other conditions like bursitis, tendonitis, and fractures may affect the knee but do not typically result in the same degenerative changes over time. Bursitis is an inflammation of the bursa (the small fluid-filled sacs that cushion the knee joint) and may cause acute pain but does not inherently lead to a long-term degenerative process of the joint itself. Tendonitis refers to tendon inflammation, which can result in pain and impairment as well, but again, it doesn't involve the progressive degenerative changes seen in arthritis. Fractures can cause immediate damage but often heal with proper treatment without leading to ongoing degeneration of the knee joint itself.

10. How should the sesamoid bones appear on a tangential projection of the sesamoids?

- A. Superimposed on the first metatarsal
- B. Clearly outlined and free of superimposition**
- C. Projected posteriorly
- D. Obscured by soft tissue

In a tangential projection of the sesamoid bones, they should appear clearly outlined and free of superimposition. This clarity is crucial for proper visualization and assessment, as sesamoid bones, particularly the two located beneath the first metatarsophalangeal joint, can often be difficult to visualize due to their small size and position. The tangential projection helps to provide a view that minimizes overlapping structures, allowing for an unobstructed view of the sesamoids. When the sesamoids are well positioned in this projection, they should stand out against the background of the surrounding tissues and bones, allowing for accurate identification and diagnosis of any potential issues, such as fractures or degenerative changes. This makes the clear outlining of the sesamoids an essential element in evaluating their condition and function within the foot.

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://rtbclowerextremities.examzify.com>

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

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