

National Board Certification Orthopedic Technologist 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

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1. What is the term for a fracture that occurs without any open wound?

- A. Open fracture**
- B. Closed fracture**
- C. Compound fracture**
- D. Simple fracture**

2. What type of bone is the patella classified as?

- A. Flat bone**
- B. Long bone**
- C. Short bone**
- D. Sesamoid bone**

3. What is the primary purpose of the ligaments surrounding the hip joint?

- A. To allow maximum mobility**
- B. To limit movement**
- C. To provide stability and prevent dislocation**
- D. To connect bone to muscle**

4. Which type of joint is the hip joint classified as?

- A. Hinge joint**
- B. Ball and socket joint**
- C. Pivot joint**
- D. Plane joint**

5. What primary movements does the hip joint allow?

- A. Flexion, extension, and elevation**
- B. Flexion, extension, abduction, adduction, and rotation**
- C. Rotation, tilting, and lateral bending**
- D. Adduction, depression, and circumduction**

6. Where is the patella located?

- A. Within the quadriceps tendon**
- B. Attached to the tibia**
- C. In the femoral canal**
- D. Along the lateral aspect of the knee**

7. Which term describes the anatomical position?

- A. Standing with arms at sides**
- B. Standing upright with head facing down**
- C. Standing upright with palms facing anteriorly**
- D. Standing with feet apart and arms crossed**

8. What is the common name for the breast bone?

- A. Clavicle**
- B. Sternum**
- C. Scapula**
- D. Humorous**

9. Which of the following bones is not part of the distal row of tarsal bones?

- A. Cuboid**
- B. Medial Cuneiform**
- C. Calcaneous**
- D. Intermediate Cuneiform**

10. What are the carpal bones in the distal row from lateral to medial?

- A. Hamate, Capitate, Trapezoid, Trapezium**
- B. Trapezium, Trapezoid, Capitate, Hamate**
- C. Capitate, Trapezium, Hamate, Trapezoid**
- D. Scaphoid, Lunate, Triquetrum, Pisiform**

Answers

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

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Explanations

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1. What is the term for a fracture that occurs without any open wound?

- A. Open fracture**
- B. Closed fracture**
- C. Compound fracture**
- D. Simple fracture**

A fracture that occurs without any open wound is referred to as a closed fracture. This terminology is used to distinguish it from an open fracture, where the skin is broken and there is exposure of the bone or surrounding tissue. Closed fractures typically involve fractures where the bone is still intact within the surrounding soft tissue. The distinction is important for treatment and management, as closed fractures usually have a lower risk of infection compared to open fractures. Additionally, the presence of soft tissue damage and the healing process can be significantly different between these two types of fractures. Understanding this classification helps orthopedic technologists in assessing injuries and determining appropriate treatment plans.

2. What type of bone is the patella classified as?

- A. Flat bone**
- B. Long bone**
- C. Short bone**
- D. Sesamoid bone**

The patella is classified as a sesamoid bone because it is embedded within a tendon, specifically the quadriceps tendon. Sesamoid bones serve several purposes, including protecting tendons from stress and wear, improving the mechanical advantage of muscles by altering the direction of the force exerted by a tendon, and providing stability to joints. The patella helps in the extension of the knee by acting as a fulcrum, increasing the leverage the quadriceps can exert during leg movements. This unique positioning and function differentiate sesamoid bones from flat, long, or short bones, which have distinct structural and functional roles in the skeletal system.

3. What is the primary purpose of the ligaments surrounding the hip joint?

- A. To allow maximum mobility**
- B. To limit movement**
- C. To provide stability and prevent dislocation**
- D. To connect bone to muscle**

The primary purpose of the ligaments surrounding the hip joint is to provide stability and prevent dislocation. The hip joint is a ball-and-socket joint that allows for a wide range of motion, but this mobility can make the joint susceptible to dislocation and injury. The ligaments play a crucial role in maintaining the integrity of the joint by anchoring the femur to the acetabulum of the pelvis, thus limiting excessive movement that could compromise the joint's stability. These ligaments work in conjunction with the surrounding muscles to create a supportive structure that holds the joint in place during various activities, such as walking, running, or jumping. By preventing dislocation and ensuring the joint remains properly aligned, the ligaments help protect the underlying cartilage and other structures from damage, which is essential for long-term joint health and function. While allowing some movement is important for joint function, the primary role of the ligaments in this context is stability rather than mobility. Thus, the focus on preventing dislocation underscores the vital role ligaments play in the overall anatomy and functionality of the hip joint.

4. Which type of joint is the hip joint classified as?

- A. Hinge joint**
- B. Ball and socket joint**
- C. Pivot joint**
- D. Plane joint**

The hip joint is classified as a ball and socket joint, which is characterized by a spherical head of one bone fitting into a cup-like socket of another bone. This anatomical structure allows for a wide range of motion in multiple directions including flexion, extension, abduction, adduction, and rotation. The design provides both stability and mobility, making it essential for various activities such as walking, running, and climbing. Other types of joints, like hinge joints, primarily allow movement in one direction, similar to the motion of a door, whereas pivot joints enable rotational movement around a single axis. Plane joints allow for gliding movements between flat surfaces, which is not the case in the hip joint. The classification as a ball and socket joint is significant in biomechanics as it underlines the functional capabilities and the importance of the hip in locomotion and load-bearing activities.

5. What primary movements does the hip joint allow?

- A. Flexion, extension, and elevation**
- B. Flexion, extension, abduction, adduction, and rotation**
- C. Rotation, tilting, and lateral bending**
- D. Adduction, depression, and circumduction**

The hip joint is a ball-and-socket joint, which allows for a wide range of motion. The primary movements that the hip joint permits include flexion, extension, abduction, adduction, and rotation. Flexion and extension refer to the movement of the thigh in relation to the body, where flexion decreases the angle between the thigh and the pelvis, and extension increases it. Abduction and adduction refer to movements away from and towards the midline of the body, respectively. Additionally, rotation allows the thigh to move around its longitudinal axis, which is crucial for various activities and functions. This diverse range of movements is essential for daily activities like walking, running, and sitting, as well as for maintaining balance and coordination. Understanding these movements is vital for orthopedic technologists when assessing, diagnosing, or treating hip-related conditions. The other options do not accurately describe the full spectrum of movements available at the hip joint, highlighting the importance of recognizing the correct set of movements.

6. Where is the patella located?

- A. Within the quadriceps tendon**
- B. Attached to the tibia**
- C. In the femoral canal**
- D. Along the lateral aspect of the knee**

The patella, commonly known as the kneecap, is classified as a sesamoid bone, which means that it is embedded within a tendon. Specifically, it is located within the quadriceps tendon at the front of the knee joint. This positioning allows the patella to serve as a protective shield for the knee and to enhance the leverage of the muscles acting on the knee, thus improving the efficiency of movements such as walking, running, and jumping. The other mentioned locations do not accurately describe where the patella is situated. While it does play a role in the overall function of the knee, it is not directly attached to the tibia; rather, it articulates with the femur. Its presence in the femoral canal is inaccurate, as the femoral canal contains vessels and nerves, not the patella. Additionally, the patella does not reside exclusively along the lateral aspect of the knee; rather, it is centrally positioned in relation to the knee joint. This understanding is fundamental in recognizing the anatomical relationships and functions associated with the patella.

7. Which term describes the anatomical position?

- A. Standing with arms at sides**
- B. Standing upright with head facing down**
- C. Standing upright with palms facing anteriorly**
- D. Standing with feet apart and arms crossed**

The anatomical position is a standard reference point in anatomy that provides a clear and consistent way to describe the location and orientation of body parts. This position consists of a person standing upright, facing forward, with feet flat on the ground, legs together, and arms positioned at the sides with palms facing forward (anteriorly).

Choosing the option that describes standing upright with palms facing anteriorly aligns perfectly with the definition of the anatomical position. This orientation is critical as it allows healthcare professionals to communicate effectively about body parts and their relationships to one another without ambiguity. In contrast, the other descriptions do not represent the anatomical position accurately. The reference to standing upright with the head facing down is incorrect, as the anatomical position requires the head to be facing forward. Similarly, the description of standing with feet apart and arms crossed deviates from the defined posture, which necessitates arms at the sides instead of crossed. Each of these discrepancies highlights the importance of the specific alignment of the body in relation to anatomical terminology.

8. What is the common name for the breast bone?

- A. Clavicle**
- B. Sternum**
- C. Scapula**
- D. Humorous**

The common name for the breastbone is the sternum. The sternum is a flat bone located in the center of the chest and serves as a key component of the ribcage, providing protection for the heart and lungs. It also serves as an attachment point for the ribs and the clavicles (collarbones). This makes it essential for the structural integrity of the upper body and plays a vital role during the respiratory cycle as it helps in the movement of the ribcage. Other options refer to different bones in the body. The clavicle, commonly known as the collarbone, connects the arm to the body and is not located in the center of the chest. The scapula, or shoulder blade, facilitates movements of the shoulder but is also not located in the area where the breastbone is found. The humorous is a humorous misspelling; the correct term is humerus, which refers to the bone in the upper arm. Thus, the identification of the sternum as the breastbone is accurate and reflects its anatomical significance.

9. Which of the following bones is not part of the distal row of tarsal bones?

- A. Cuboid**
- B. Medial Cuneiform**
- C. Calcaneous**
- D. Intermediate Cuneiform**

The calcaneus is not part of the distal row of tarsal bones, which is why it is the correct answer. The tarsal bones are divided into two main rows: the proximal row and the distal row. The proximal row consists of the talus and the calcaneus, while the distal row includes the cuboid and the three cuneiform bones (medial, intermediate, and lateral). In this grouping, the calcaneus is the largest bone in the foot and sits in the proximal row, supporting weight and forming the heel. The other choices, such as the cuboid and the intermediate cuneiform, are indeed part of the distal row. Understanding the anatomical arrangement of tarsal bones is critical for anyone studying orthopedic technology, as it helps inform treatment and management strategies for foot-related issues.

10. What are the carpal bones in the distal row from lateral to medial?

- A. Hamate, Capitate, Trapezoid, Trapezium**
- B. Trapezium, Trapezoid, Capitate, Hamate**
- C. Capitate, Trapezium, Hamate, Trapezoid**
- D. Scaphoid, Lunate, Triquetrum, Pisiform**

The distal row of carpal bones, from lateral to medial, consists of the Trapezium, Trapezoid, Capitate, and Hamate. This sequence is essential for understanding wrist anatomy and its functional implications. The Trapezium is located on the radial side and articulates with the base of the first metacarpal, forming the carpometacarpal joint of the thumb, which is critical for opposition and gripping. The Trapezoid is next, acting as a bridge to the Capitate, which is the largest carpal bone and serves as a central anchor for the carpal structure. The Hamate, with its distinctive hook, provides attachment for the flexor retinaculum and is involved in supporting the fourth and fifth metacarpals. The other options include incorrect arrangements or combinations of carpal bones. Some include proximal row bones or do not reflect the correct lateral to medial orientation. Understanding the anatomy and relationships of the carpal bones is vital for diagnosing and treating wrist injuries and conditions effectively.

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://natlboardorthotech.examzify.com>

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

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