

# Movement Analysis 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. Terminal swing quadriceps activity is primarily what type of activation?**
  - A. Concentric**
  - B. Eccentric**
  - C. Passive only**
  - D. Isometric hip activation**
  
- 2. The second vertical GRF peak primarily reflects which muscular action?**
  - A. Foot slap**
  - B. Knee buckling**
  - C. Push from the plantar flexors to reverse downward movement**
  - D. Hip flexor deceleration only**
  
- 3. At the beginning of stance, the hip is described as being slightly what?**
  - A. Externally rotated**
  - B. Internally rotated**
  - C. Abducted**
  - D. Extended**
  
- 4. When the right leg is going through swing, what occurs at the pelvis?**
  - A. Bilateral Pelvic Elevation**
  - B. Right Pelvic Drop**
  - C. Left Pelvic Drop**
  - D. No Pelvic Movement**
  
- 5. Rectus abdominis activity occurs during which two general portions of the gait cycle?**
  - A. 0-10% and 50-60%**
  - B. 10-20% and 40-50%**
  - C. 20-40% and 70-90%**
  - D. 40-60% and 90-100%**

- 6. Soleus and gastrocnemius are not active during which portion of stance?**
- A. Last 10%**
  - B. Midstance**
  - C. First 10%**
  - D. Terminal stance**
- 7. At roughly 73% of the gait cycle, which event occurs?**
- A. Heel rise**
  - B. Opposite initial contact**
  - C. Feet adjacent**
  - D. Next initial contact**
- 8. In the context of gait, what is the term for the movement of the arch that tibialis anterior helps decelerate to prevent excessive flattening?**
- A. Lateral arch bending**
  - B. Transverse arch widening**
  - C. Medial longitudinal arch lowering**
  - D. No arch involvement**
- 9. Sagittal plane ankle rotation reduces downward COM displacement through which joint motions?**
- A. Abduction and adduction**
  - B. Dorsiflexion and plantarflexion**
  - C. Internal and external rotation only**
  - D. Inversion and eversion only**
- 10. End-range connective tissue deformation significance: which range is most associated with this behavior?**
- A. End-range**
  - B. Mid-range**
  - C. Early swing**
  - D. Quiet standing**

## Answers

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

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## **Explanations**

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**1. Terminal swing quadriceps activity is primarily what type of activation?**

- A. Concentric
- B. Eccentric**
- C. Passive only
- D. Isometric hip activation

In terminal swing, the leg is moving forward and the knee is moving toward full extension in preparation for heel strike. The quadriceps work to brake that knee extension, absorbing energy so the knee doesn't slam into extension. That braking action is accomplished by an eccentric contraction—the muscle is active while lengthening as it opposes the external momentum trying to extend the knee. This controlled lengthening stabilizes the knee and sets up a safe, stable contact with the ground. Concentric activation would actively shorten to extend the knee, which is more characteristic of propulsion earlier in the cycle, not the braking phase here. Isometric or passive-only activation wouldn't provide the dynamic control needed for smooth, safe heel contact, and hip-focused activation isn't the primary driver for controlling knee motion in this phase.

**2. The second vertical GRF peak primarily reflects which muscular action?**

- A. Foot slap
- B. Knee buckling**
- C. Push from the plantar flexors to reverse downward movement
- D. Hip flexor deceleration only

The second vertical GRF peak occurs during the push-off phase, when the ankle plantarflexors contract to propel the body upward and forward. This concentric plantarflexion against the ground provides the impulse that reverses the downward movement of the body's center of mass from the preceding stance, creating the second peak in the vertical ground reaction force. Foot slap happens at initial contact, not during push-off; knee buckling would indicate instability rather than a propulsive peak; hip flexor deceleration alone doesn't account for the main upward propulsion at this stage.

**3. At the beginning of stance, the hip is described as being slightly what?**

- A. Externally rotated**
- B. Internally rotated
- C. Abducted
- D. Extended

At the start of stance, the hip sits in slight external rotation because the leg lands with a small toe-out angle, placing the femur a bit rotated outward relative to the pelvis. This orientation helps align the knee and ankle for stable weight acceptance and smooth forward progression during gait, while accommodating the natural progression of the limb as weight shifts onto that leg. The other orientations describe positions that aren't typical of the initial stance: internal rotation would turn the thigh inward, abducted would move the leg away from the midline, and extension describes a different hip angle rather than its rotational position at heel strike.

**4. When the right leg is going through swing, what occurs at the pelvis?**

- A. Bilateral Pelvic Elevation**
- B. Right Pelvic Drop**
- C. Left Pelvic Drop**
- D. No Pelvic Movement**

During swing of the right leg, the body is supported by the left leg, so the pelvis tends to tilt downward on the moving (swing) side in the frontal plane. Gravity and the need for leg clearance cause the right side of the pelvis to drop slightly while the left side remains relatively elevated to support the weight. That is why a right pelvic drop occurs when the right leg is advancing. The other possibilities don't fit normal swing-phase mechanics: there isn't a requirement for both sides to elevate together, and the left side dropping would indicate a different pattern than the one produced by the swinging leg's motion. No pelvic movement would ignore the observable obliquity that accompanies swing.

**5. Rectus abdominis activity occurs during which two general portions of the gait cycle?**

- A. 0-10% and 50-60%**
- B. 10-20% and 40-50%**
- C. 20-40% and 70-90%**
- D. 40-60% and 90-100%**

Rectus abdominis helps stabilize the trunk and control forward lean during walking, so its activation is most beneficial in two key windows of the gait cycle. In the early part of stance, roughly 20-40% of the cycle, the body weight loads onto the leg and the pelvis tends to tilt forward while the spine can extend due to momentum. A contraction of the rectus abdominis counters this tendency, pulling the rib cage toward the pelvis to maintain a neutral spine and stable trunk as weight is accepted. Later in the cycle, about 70-90%, the leg is swinging forward and the body must brace in preparation for heel contact. The rectus abdominis again activates to stabilize the trunk and pelvis as forward momentum is controlled. These two periods—early stance and late swing—are when this muscle most helpfully contributes to maintaining posture and stability during gait.

**6. Soleus and gastrocnemius are not active during which portion of stance?**

- A. Last 10%
- B. Midstance
- C. First 10%**
- D. Terminal stance

In walking, the ankle plantarflexors (the gastrocnemius and soleus) are mainly responsible for propulsion and controlling forward progression later in stance. During the first 10% of stance, the body is absorbing impact at heel strike, and the ankle is held in a relatively neutral position while the tibia advances over the foot. This phase relies more on eccentric control from other muscles (like the tibialis anterior to control dorsiflexion and knee/hip extensors to stabilize), so the plantarflexors are not required to be active. As stance progresses into midstance and especially terminal stance, these muscles become more active to help stabilize the ankle and then generate the push-off that propels the body forward. Therefore, they are not active during the initial portion of stance.

**7. At roughly 73% of the gait cycle, which event occurs?**

- A. Heel rise
- B. Opposite initial contact
- C. Feet adjacent**
- D. Next initial contact

In a normal gait cycle, timing of events around three-quarters of the way through the cycle corresponds to the moment when the two limbs are transitioning and briefly align side-by-side. At about 73% of the cycle, the leg that just swung finishes its forward motion while the other leg is preparing to accept weight, so the feet come into a side-by-side (adjacent) position. This adjacency reflects the late swing/early stance transition as the body shifts support from one limb to the other. Heel rise happens a bit earlier in the cycle, during the push-off phase. The event of the opposite foot making initial contact typically occurs before or around that same late portion but is not the moment described here. The next initial contact marks the start of the next gait cycle, not the current one.

**8. In the context of gait, what is the term for the movement of the arch that tibialis anterior helps decelerate to prevent excessive flattening?**

- A. Lateral arch bending
- B. Transverse arch widening
- C. Medial longitudinal arch lowering**
- D. No arch involvement

During gait, the foot pronates to absorb shock, which naturally lowers the medial longitudinal arch. Tibialis anterior helps control this by contracting eccentrically to decelerate the arch's descent, using dorsiflexion and inversion to prevent excessive flattening and keep the arch from collapsing too much as the foot moves through stance. This specific action is described by the lowering of the medial longitudinal arch. Other options describe different parts or aspects of foot mechanics that don't capture this particular arch behavior.

**9. Sagittal plane ankle rotation reduces downward COM displacement through which joint motions?**

- A. Abduction and adduction**
- B. Dorsiflexion and plantarflexion**
- C. Internal and external rotation only**
- D. Inversion and eversion only**

Sagittal-plane ankle rotation controls how high the body sits over the foot during stance and swing. Dorsiflexion—the shin moving toward the foot—lets the tibia progress forward over the foot in a controlled way, preventing a steep drop of the center of mass. Plantarflexion—the toes pushing downward—occurs during push-off and helps lift the heel and propel the body, helping maintain a higher center of mass as you leave the ground. These two motions together shape the vertical trajectory of the center of mass, whereas movements in other planes mainly affect alignment or balance rather than the vertical path of the COM.

**10. End-range connective tissue deformation significance: which range is most associated with this behavior?**

- A. End-range**
- B. Mid-range**
- C. Early swing**
- D. Quiet standing**

The main idea here is how passive connective tissues behave as a joint moves toward its end of range. End-range deformation is greatest when a joint is near its maximum excursion, so the ligaments, joint capsules, and other passive structures are stretched to or near their limit. This stretch provides passive resistance and stability, and it also supplies proprioceptive feedback about how far the joint can safely move. That's why the end-range is the range most associated with this behavior. In the mid-range, those passive structures are less stretched and movement relies more on active muscle control rather than end-range tissue deformation. Early swing and quiet standing involve different motor demands and don't emphasize the same end-range tissue stretch.

## 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](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://movementanalysis.examzify.com>**

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

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