

Back Muscles - Origin, Insertion, Action & Innervation 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. The insertion of the rectus capitis posterior major is on which structure?**
 - A. Nuchal ligament**
 - B. Inferior nuchal line**
 - C. Spinous process C2**
 - D. Occipital squama**

- 2. The erector spinae group Iliocostalis, Longissimus, Spinalis originates from which structure?**
 - A. Thoracolumbar fascia**
 - B. Spinous processes of the thoracic vertebrae**
 - C. Sacroiliac ligaments**
 - D. Cranial base**

- 3. Splenius capitis acts unilaterally to produce which motion?**
 - A. Ipsilateral flexion and rotation**
 - B. Contralateral rotation**
 - C. Bilateral head extension**
 - D. Neck flexion of the trunk**

- 4. Which muscle is primarily responsible for extending the humerus?**
 - A. Latissimus dorsi**
 - B. Trapezius**
 - C. Rhomboid minor**
 - D. Levator scapulae**

- 5. Which muscle has origin including the nuchal ligament, spinous processes C7-T12, and occipital protuberance?**
 - A. Trapezius**
 - B. Latissimus dorsi**
 - C. Levator scapulae**
 - D. Rhomboid minor**

- 6. Which actions describe the trapezius muscle?**
- A. Elevates, retracts and rotates the scapula**
 - B. Depresses and protracts the scapula**
 - C. Flexes the elbow**
 - D. Abducts the arm**
- 7. What nerve innervates the latissimus dorsi?**
- A. Thoracodorsal nerve**
 - B. Axillary nerve**
 - C. Dorsal scapular nerve**
 - D. Long thoracic nerve**
- 8. Serratus posterior inferior originates from which region?**
- A. T11-L2**
 - B. T1-T4**
 - C. L4-L5**
 - D. C7-T1**
- 9. The rotatores insert on the spinous process of which vertebra?**
- A. Spinous process of one superior vertebra**
 - B. Spinous process of several inferior vertebrae**
 - C. Transverse process of the same vertebra**
 - D. Inferior nuchal line**
- 10. Which of the following describes the insertion of the trapezius muscle?**
- A. Clavicle and scapular spine**
 - B. Clavicle and acromion**
 - C. Acromion process**
 - D. Medial border of scapula**

Answers

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

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Explanations

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1. The insertion of the rectus capitis posterior major is on which structure?

- A. Nuchal ligament**
- B. Inferior nuchal line**
- C. Spinous process C2**
- D. Occipital squama**

Rectus capitis posterior major acts in the suboccipital region by attaching from the axis (C2) up to the occipital bone, specifically the inferior nuchal line. This distal attachment on the occipital bone lets it pull the head backward and rotate the face toward the same side. The nuchal ligament is a fibrous band along the back of the neck, not a bone insertion, so it isn't the attachment for this muscle. Its origin is the spinous process of C2, and the occipital squama is not where this muscle attaches either. So the insertion point is the inferior nuchal line.

2. The erector spinae group Iliocostalis, Longissimus, Spinalis originates from which structure?

- A. Thoracolumbar fascia**
- B. Spinous processes of the thoracic vertebrae**
- C. Sacroiliac ligaments**
- D. Cranial base**

The key idea is that the erector spinae group shares a strong, common origin from the thoracolumbar fascia. This fascial layer along the posterior trunk provides the broad base from which all three muscles—the iliocostalis, longissimus, and spinalis—rise (with additional attachments toward the iliac crest and sacrum). From this fascia, they course upward to their respective insertions, enabling the spine to extend and laterally flex. The other structures listed don't serve as the primary origin for the whole muscle group. Spinous processes of the thoracic vertebrae are more associated with insertion points for parts of the erector spinae, not the shared origin. Sacroiliac ligaments are part of the pelvic joints, not muscular origins. The cranial base is unrelated to where these back muscles originate.

3. Splenius capitis acts unilaterally to produce which motion?

- A. Ipsilateral flexion and rotation**
- B. Contralateral rotation**
- C. Bilateral head extension**
- D. Neck flexion of the trunk**

Unilateral contraction of the Splenius capitis pulls the head toward the same side and bends the neck to that side. Because the muscle crosses from the spine to the back of the skull, it shortens on one side to rotate the face to that same side and to produce lateral flexion (ipsilateral flexion) of the head. This matches the chosen option, which describes ipsilateral flexion and rotation. Bilateral contraction would extend the head, and motions like contralateral rotation or trunk flexion aren't produced by the Splenius capitis when acting on one side.

4. Which muscle is primarily responsible for extending the humerus?

- A. Latissimus dorsi**
- B. Trapezius**
- C. Rhomboid minor**
- D. Levator scapulae**

Extending the humerus means moving the upper arm backward at the shoulder joint. The latissimus dorsi is the primary muscle for this action because its broad origin from the lower spine and pelvis and its insertion on the humerus allow a strong posterior pull when it contracts. This makes it the main driver of arm extension, and it also assists with adduction and medial rotation of the arm. Movements like pulling yourself up or rowing rely on this action. The other muscles mainly affect the scapula or shoulder girdle rather than extending the humerus itself: trapezius moves and stabilizes the scapula and can influence neck and shoulder posture; rhomboid minor retracts the scapula; levator scapulae elevates the scapula. Their roles don't center on extending the arm at the shoulder joint. Innervation for the latissimus dorsi is the thoracodorsal nerve (C6-C8).

5. Which muscle has origin including the nuchal ligament, spinous processes C7-T12, and occipital protuberance?

- A. Trapezius**
- B. Latissimus dorsi**
- C. Levator scapulae**
- D. Rhomboid minor**

The main idea tested is where a muscle begins (its origins) and how that placement relates to its function. The muscle described starts at the skull and upper neck and runs down the spine to the mid back, reflecting a broad anchor along the back of the neck and torso. This muscle has its origins at the external occipital protuberance and along the superior nuchal line via the nuchal ligament, and it also originates from the spinous processes of the vertebrae from C7 down to T12. That exact combination of Attachments—occipital bone region at the top, the nuchal ligament, and the long span of spinous processes down to the mid-thoracic back—fits the trapezius. The other muscles don't share this same origin pattern. The latissimus dorsi starts lower down, from the iliac crest and thoracolumbar fascia and lower thoracic to lumbar spinous processes, not from the occipital region. The levator scapulae originates around the upper cervical transverse processes (C1-C4). The rhomboid minor comes from the nuchal ligament and the spinous processes of C7-T1, but not from the full C7-T12 range or the occipital area.

6. Which actions describe the trapezius muscle?

- A. Elevates, retracts and rotates the scapula**
- B. Depresses and protracts the scapula**
- C. Flexes the elbow**
- D. Abducts the arm**

The key idea is how the trapezius moves the shoulder blade. The muscle has upper, middle, and lower fibers that together affect the scapula: the upper fibers lift it (elevation), the middle fibers pull it toward the spine (retraction), and the combined action with the lower fibers causes upward rotation of the scapula. Taken together, elevating, retracting, and rotating the scapula describes the trapezius' action pattern, making that option the best match. Other options describe actions not performed by the trapezius. Protraction is mainly done by the serratus anterior, and while the trapezius can depress the scapula with its lower fibers, it does not protract. Flexing the elbow is the job of forearm muscles like the biceps or brachialis, not the trapezius. Abducting the arm is primarily the deltoid and supraspinatus, with the trapezius assisting scapular rotation to allow abduction but not directly abducting the arm itself.

7. What nerve innervates the latissimus dorsi?

- A. Thoracodorsal nerve**
- B. Axillary nerve**
- C. Dorsal scapular nerve**
- D. Long thoracic nerve**

The latissimus dorsi is innervated by the thoracodorsal nerve. This nerve is a branch of the posterior cord of the brachial plexus and carries fibers from the C6-C8 roots. It travels to the muscle's deep surface and provides the motor supply that enables the latissimus dorsi to extend, adduct, and medially rotate the humerus. Other nerves listed innervate different muscles: the axillary nerve goes to the deltoid and teres minor, the dorsal scapular nerve to the rhomboids (and sometimes levator scapulae), and the long thoracic nerve to the serratus anterior. None of these supply the latissimus dorsi, so thoracodorsal nerve is the correct one.

8. Serratus posterior inferior originates from which region?

- A. T11-L2**
- B. T1-T4**
- C. L4-L5**
- D. C7-T1**

Serratus posterior inferior starts from the spinous processes of the lower thoracic and upper lumbar vertebrae, typically T11 through L2, and from the thoracolumbar fascia. From there, its fibers run laterally and upward to attach to the inferior borders of ribs 9-12. This makes the region T11-L2 the correct origin. Regions like C7-T1 or T1-T4 belong to upper thoracic muscles (and relate to serratus posterior superior), while L4-L5 is too far down for this muscle. So the true origin is T11-L2.

9. The rotatores insert on the spinous process of which vertebra?

A. Spinous process of one superior vertebra

B. Spinous process of several inferior vertebrae

C. Transverse process of the same vertebra

D. Inferior nuchal line

Rotatores are part of the transversospinalis group and connect a vertebra's transverse process to the spinous process of the vertebra directly above it. This means their insertion is on the spinous process of the vertebra immediately superior to the one they originate from. Short rotatores insert to the next vertebra above, while longer ones go two levels up. This arrangement supports small, rapid adjustments of rotation and stabilization at a single vertebral level, and they are innervated by the dorsal rami.

10. Which of the following describes the insertion of the trapezius muscle?

A. Clavicle and scapular spine

B. Clavicle and acromion

C. Acromion process

D. Medial border of scapula

The main concept here is where the trapezius attaches to bone. The trapezius inserts on multiple sites: the lateral third of the clavicle, the acromion, and the spine of the scapula. Saying clavicle and scapular spine captures two of these key attachment points, which together describe its insertion pattern in a concise way. The acromion is also an insertion site, so mentioning it along with either the clavicle or the scapular spine is true but incomplete if only one is listed. The acromion alone misses the clavicle and the spine attachment, and the medial border of the scapula is not a trapezius insertion at all.

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://backmusclesorigin.examzify.com>

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

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