BOC Domain 4 Treatment and Rehab – Therapeutic Modalities 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

1. Which statement correctly describes the five basic massage strokes?

A. They are Effleurage, Petrissage, Tapotement, Vibration, Friction

B. They are Effleurage, Massage, Tapotement, Stretching, Pressure

C. They are only Effleurage and Petrissage

D. They are labeled by body part names

2. The secondary injury model encompasses three factors. Which set correctly lists them?

A. Hypoxia, inadequate fuel delivery, inadequate waste removal

B. Inflammation, infection, necrosis

C. Pain, swelling, redness

D. Bleeding, bruising, scarring

3. The signal to the rest of the body that cells have been damaged is produced by which mechanism?

A. Chemical mediation

B. Hemodynamic changes

C. Phagocytosis

D. Leukocyte migration

4. In the cable method, how are the cables arranged relative to the body part?

A. Wrap around the body part

B. Two plate electrodes on each side of body

C. Towels to soak up moisture

D. Becomes part of electrical circuit

5. A commonly cited limitation in diathermy research is that studies tend to be small.

A. They are large and comprehensive

B. They are well randomized

C. They are small studies

D. They are transparent about negative effects

6. Which of the following is a bronchodilator used to treat asthma?

A. Albuterol

B. Medrol

C. Maxair

D. Singulair

7. In Cryostretch, how long should the ice remain on before stretching?

A. 5-10 minutes

B. 10-20 minutes

C. 20-30 minutes

D. Until numb for a set time, then additional stretch

8. Which duty cycle values indicate pulsed ultrasound?

A. 100

B. 20 and 50

C. 0

D. 80

9. In electrical stimulation, electrode size and placement primarily determine what?

A. Frequency of current

B. Number of motor units stimulated

C. Depth of tissue heating

D. Battery life

10. What is Raynaud's phenomenon?

A. Excessively reduced blood flow in response to cold or emotional stress, causing discoloration of the fingers, toes, and occasionally other areas.

B. An inflammation of the blood vessels that causes changes in the blood vessel walls.

C. "Cold hives" is an allergy where hives form after exposure to cold stimulus.

D. A nerve compression syndrome affecting the extremities.

Answers

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

Explanations

1. Which statement correctly describes the five basic massage strokes?

A. They are Effleurage, Petrissage, Tapotement, Vibration, Friction

B. They are Effleurage, Massage, Tapotement, Stretching, Pressure

C. They are only Effleurage and Petrissage

D. They are labeled by body part names

The five basic massage strokes are the foundational techniques used in many modalities: effleurage, petrissage, tapotement, friction, and vibration. Effleurage involves long, smooth gliding strokes to warm the tissue, spread lubricant, and promote relaxation and circulation. Petrissage is the kneading and lifting of muscle tissue to release adhesions and improve blood flow. Tapotement covers rhythmic percussion movements—tapping, cupping, or chopping—that stimulate nerves and muscle tone. Friction uses small, deep circular motions to break up adhesions and realign fibers. Vibration is rapid shaking or trembling to relax muscles and enhance circulation. This combination best captures the standard set of five basic strokes. The other options include terms not recognized as basic strokes (like Massage, Stretching, or Pressure), propose only a subset, or misstate how strokes are named.

2. The secondary injury model encompasses three factors. Which set correctly lists them?

A. Hypoxia, inadequate fuel delivery, inadequate waste removal

B. Inflammation, infection, necrosis

C. Pain, swelling, redness

D. Bleeding, bruising, scarring

Secondary injury after the initial trauma is driven by conditions that undermine cellular survival: limited oxygen, reduced delivery of energy to cells, and poor removal of metabolic wastes. Hypoxia means cells don't get enough oxygen to support normal aerobic metabolism, so ATP production drops and results in failure of ion pumps, cellular swelling, and potential cell death. Inadequate fuel delivery reflects reduced blood flow carrying glucose and other nutrients needed for energy production, compounding the energy crisis inside cells. Inadequate waste removal allows metabolic byproducts and edema to accumulate, causing acidosis and further cellular stress that accelerates injury. Together, these factors create a environment where cells continue to deteriorate long after the initial insult. The other options describe responses or signs rather than the driving factors of secondary injury. Inflammation, infection, and necrosis are processes that can follow injury but aren't the trio that explains the secondary injury mechanism. Pain, swelling, and redness are signs of inflammation, not the core metabolic drivers. Bleeding, bruising, and scarring relate to initial damage or later healing changes, not the primary secondary-injury triad.

3. The signal to the rest of the body that cells have been damaged is produced by which mechanism?

A. Chemical mediation

B. Hemodynamic changes

C. Phagocytosis

D. Leukocyte migration

When tissue is damaged, signaling to the rest of the body comes from chemical mediators released by damaged cells and surrounding tissue. These mediators—histamine, bradykinin, prostaglandins, cytokines, and others—travel to blood vessels and immune cells to alert and coordinate the inflammatory response. This chemical signaling sets off vasodilation, vascular permeability, and recruitment of immune cells, effectively telling the body that injury has occurred. Phagocytosis describes the cleanup process by engulfing debris and pathogens, and leukocyte migration is the movement of immune cells toward the site driven by chemotactic signals—both are parts of the response rather than the primary way the injury signal is produced. Hemodynamic changes refer to the vascular changes that follow the initial signaling, not the signaling itself.

4. In the cable method, how are the cables arranged relative to the body part?

A. Wrap around the body part

B. Two plate electrodes on each side of body

C. Towels to soak up moisture

D. Becomes part of electrical circuit

The cable method is about wrapping the cables around the body part to enclose it and provide a circumferential pathway for the current. This wrap-around arrangement increases contact area, helps distribute the current evenly, and minimizes hotspots or impedance variations along the part being treated. Wrapping around the limb contrasts with using flat plate electrodes on either side, which creates a different, non-wrap configuration. Towels to soak up moisture don't describe how the cables are positioned, and while every electrode is part of the electrical circuit, that doesn't explain the specific arrangement around the body.

5. A commonly cited limitation in diathermy research is that studies tend to be small.

A. They are large and comprehensive

B. They are well randomized

C. They are small studies

D. They are transparent about negative effects

In diathermy research, the quality of evidence is often constrained by the small size of the studies. Small samples have low statistical power, meaning they may fail to detect real benefits or harms. The resulting effect estimates are imprecise and variable, which makes it hard to draw firm, generalizable conclusions, especially when devices, dosages, and target tissues vary across studies. Because the topic involves different modalities and parameters, small studies also increase the influence of random error and potential bias, contributing to inconsistent findings in the literature. That combination—limited power, imprecision, and poorer generalizability—is why the notion that studies tend to be small is the commonly cited limitation. The other statements don't capture the typical limitations as consistently: research being large and comprehensive is not characteristic of diathermy literature, randomization quality varies across studies, and transparency about negative effects is not the defining, universal barrier to strong conclusions.

6. Which of the following is a bronchodilator used to treat asthma?

A. Albuterol

B. Medrol

C. Maxair

D. Singulair

Bronchodilators open the airways by relaxing the smooth muscle around the bronchi, providing quick relief from asthma symptoms. Albuterol is a rapid-acting beta-2 adrenergic agonist that quickly relaxes those airway muscles, so it's the go-to choice for immediate relief during an asthma flare. Medrol is a corticosteroid that reduces airway inflammation over time, not immediate bronchodilation, so it isn't used for quick relief. Singulair is a leukotriene receptor antagonist that helps prevent symptoms with daily use, not a fast-acting bronchodilator. Maxair is another short-acting bronchodilator, but albuterol is the best-known and most widely used option for rapid relief in asthma.

7. In Cryostretch, how long should the ice remain on before stretching?

A. 5-10 minutes

B. 10-20 minutes

C. 20-30 minutes

D. Until numb for a set time, then additional stretch

Cooling before stretching lowers tissue temperature and reduces nerve conduction and muscle guarding, making the stretch safer and more effective. About 10-20 minutes of ice is the right balance: it's long enough to achieve meaningful analgesia and increased tissue compliance, but not so long that you risk cold injury or numbness. Shorter times may not reduce guarding enough, while longer times increase the risk of frostbite and loss of normal sensation, which can compromise the safety and effectiveness of the stretch. So, applying ice for roughly 10-20 minutes before stretching aligns with the goal of Cryostretch without waiting for numbness.

8. Which duty cycle values indicate pulsed ultrasound?

A. 100

B. 20 and 50

C. 0

D. 80

Duty cycle is the fraction of time the ultrasound is actually emitting during one cycle. Pulsed ultrasound emits in bursts with off intervals, so the duty cycle is greater than zero but less than 100%. Values like 20% and 50% clearly show on-and-off activity, which is what defines pulsed emission. A value of 0% means no emission at all, while 100% means continuous emission with no pause, not pulsed. Among the choices, 20% and 50% best illustrate the pulsed pattern by having definite "on" times separated by pauses.

9. In electrical stimulation, electrode size and placement primarily determine what?

A. Frequency of current

B. Number of motor units stimulated

C. Depth of tissue heating

D. Battery life

Electrode size and placement determine how electrical current is distributed in tissue, which controls how many motor units are recruited. Smaller electrodes concentrate current into a smaller area, producing more focal activation of nerves beneath them, while larger electrodes spread current over a wider area, engaging motor units across a broader region. The result is that the number of motor units stimulated depends on where and how the current is delivered, not on the device's frequency setting, the depth of heating (which depends on intensity, duration, and tissue properties), or the battery life (which depends on overall power use).

10. What is Raynaud's phenomenon?

A. Excessively reduced blood flow in response to cold or emotional stress, causing discoloration of the fingers, toes, and occasionally other areas.

B. An inflammation of the blood vessels that causes changes in the blood vessel walls.

C. "Cold hives" is an allergy where hives form after exposure to cold stimulus.

D. A nerve compression syndrome affecting the extremities.

Raynaud's phenomenon is episodes of excessive vasoconstriction in the small arteries of the fingers and toes in response to cold or emotional stress, leading to color changes in the skin. An attack typically progresses from white (ischemia) to blue (deoxygenation) and then red as blood flow returns, and may be accompanied by numbness or tingling. It results from vasospasm rather than inflammation of the vessel walls, and it can occur on its own (primary) or with an underlying condition such as scleroderma or lupus (secondary). The other descriptions point to different conditions—vasculitis involves vessel wall inflammation, cold urticaria is an allergic reaction to cold, and nerve compression is a mechanical issue—so the vasospastic pattern best fits Raynaud's.

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://bocdom4therapeuticmodalities.examzify.com

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