

College of Kinesiologists of Ontario (COKO) Registration Practice Exam (Sample)

Study Guide



Everything you need from our exam experts!

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Questions

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- 1. What must kinesiologists document after conducting a client assessment?**
 - A. Client's personal information only**
 - B. Findings, treatment plans, and rationale**
 - C. Only treatment plans**
 - D. Just client consent forms**
- 2. Which of the following is considered a primary ergonomic risk factor for musculoskeletal disorders?**
 - A. Age**
 - B. Repetitions**
 - C. Gender**
 - D. Body composition**
- 3. What type of exercise primarily utilizes anaerobic pathways?**
 - A. Endurance running**
 - B. Weightlifting**
 - C. Yoga**
 - D. Marathon running**
- 4. What is the term for when multiple healthcare professionals treat the same client for related conditions?**
 - A. Cooperative Treatment**
 - B. Concurrent Treatment**
 - C. Integrated Care**
 - D. Collaborative Treatment**
- 5. What defines the power stroke in muscle contraction?**
 - A. The release of calcium**
 - B. Binding of myosin to actin**
 - C. The cleaving of ATP**
 - D. Conformational shift of tropomyosin**

- 6. Veins can be classified based on what characteristic?**
- A. Shape**
 - B. Color**
 - C. Size**
 - D. Function**
- 7. What is the minimum retention period for equipment service records according to the standard practices of the College of Kinesiologists of Ontario?**
- A. 3 years**
 - B. 5 years**
 - C. 7 years**
 - D. 10 years**
- 8. Which physiological process explains muscle contraction at the cellular level?**
- A. Sliding-filament theory**
 - B. Muscle hypertrophy**
 - C. Oxidative phosphorylation**
 - D. Neuromuscular junction theory**
- 9. What SBP and DBP changes should lead to the immediate cessation of exercise?**
- A. An increase in systolic pressure with a decrease in diastolic pressure**
 - B. A significant drop in systolic pressure or increase in diastolic pressure**
 - C. Consistent elevation of systolic pressure within normal limits**
 - D. An increase in both systolic and diastolic pressure within normal limits**
- 10. What is the role of cancellous bone?**
- A. Structural support**
 - B. Energy storage**
 - C. Production of blood cells**
 - D. Protection of organs**

Answers

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

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Explanations

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1. What must kinesiologists document after conducting a client assessment?

- A. Client's personal information only
- B. Findings, treatment plans, and rationale**
- C. Only treatment plans
- D. Just client consent forms

Kinesiologists are required to document comprehensive information following a client assessment, which includes the findings from the assessment, the proposed treatment plans, and the rationale behind those treatment decisions. This documentation is crucial for several reasons. Firstly, it ensures continuity of care by providing a clear record for any subsequent sessions, which can be incredibly helpful for both the kinesiologist and the client. Secondly, documenting the rationale for the treatment plan helps in justifying the chosen methods and approaches, allowing for better communication with other healthcare professionals if needed. This thorough documentation also serves as a legal record, providing evidence of the kinesiologist's professional judgment and adherence to best practices within the scope of practice. Simply documenting the client's personal information or only treatment plans would not fulfill the comprehensive requirements needed for effective patient care and legal protection. Likewise, focusing solely on client consent forms neglects the critical aspects of assessment results and treatment justification, making the documentation incomplete. Therefore, the complete package of findings, treatment plans, and rationale is essential to uphold professional standards and ensure high-quality care for clients.

2. Which of the following is considered a primary ergonomic risk factor for musculoskeletal disorders?

- A. Age
- B. Repetitions**
- C. Gender
- D. Body composition

Repetitions are considered a primary ergonomic risk factor for musculoskeletal disorders because they can lead to fatigue and strain on the muscles and joints involved in repetitive tasks. When an individual performs a task repeatedly without adequate breaks, it increases the likelihood of overuse injuries. This is particularly pertinent in occupational settings where workers may engage in repetitive movements such as typing, assembly line work, or manual handling. The accumulation of strain from high repetitions, often combined with other factors like force or awkward postures, can significantly contribute to the development of conditions such as tendonitis or carpal tunnel syndrome. In contrast, while age, gender, and body composition can influence an individual's susceptibility to musculoskeletal disorders, they are not considered primary ergonomic risk factors in the same way that repetition is. Age may affect healing and overall physical health, gender might influence certain physical capacities or injuries, and body composition could impact overall body mechanics. However, these factors are more about individual characteristics and predispositions rather than direct ergonomic risks linked to specific tasks.

3. What type of exercise primarily utilizes anaerobic pathways?

- A. Endurance running**
- B. Weightlifting**
- C. Yoga**
- D. Marathon running**

The focus on anaerobic pathways is key when considering exercises that are high in intensity and require quick bursts of energy, which is characteristic of weightlifting. This type of exercise primarily utilizes the body's anaerobic energy systems, specifically the ATP-PC system and glycolysis, to fuel short, explosive efforts. In weightlifting, athletes typically engage in repeated short-duration efforts that demand maximum effort, relying on the stored energy in the muscles rather than on oxygen supply. On the other hand, endurance running, marathon running, and yoga primarily depend on aerobic energy pathways. Endurance activities like running, especially over longer distances like a marathon, necessitate sustained energy production, which relies heavily on oxygen consumption to meet prolonged energy demands. Yoga, while beneficial for flexibility and strength, usually falls within a low-intensity aerobic framework. Thus, the anaerobic nature of weightlifting makes it the correct choice, as it exemplifies activities that engage short, intense bursts of energy rather than prolonged aerobic effort.

4. What is the term for when multiple healthcare professionals treat the same client for related conditions?

- A. Cooperative Treatment**
- B. Concurrent Treatment**
- C. Integrated Care**
- D. Collaborative Treatment**

The term for when multiple healthcare professionals treat the same client for related conditions is called Concurrent Treatment. This concept emphasizes the simultaneous involvement of different providers to address various aspects of a client's health concerns, ensuring that care is coordinated and comprehensive. In practice, concurrent treatment allows for various specialties to work together, which can improve outcomes by aligning treatment goals and sharing information on the client's progress. This is particularly important in cases where conditions are interrelated or when a client has multiple health issues that require different expertise. The healthcare professionals involved often communicate and collaborate to create a more efficient and effective treatment plan. While integrated care also focuses on working toward holistic patient management, it often implies a more structured system of care that integrates various services, possibly beyond just the simultaneous treatment by different professionals. Collaborative treatment, on the other hand, emphasizes the teamwork aspect but may not necessarily indicate that the treatment occurs at the same time. Consequently, concurrent treatment is the most precise term in the context presented.

5. What defines the power stroke in muscle contraction?

- A. The release of calcium
- B. Binding of myosin to actin
- C. The cleaving of ATP**
- D. Conformational shift of tropomyosin

The power stroke in muscle contraction is primarily characterized by the binding of myosin to actin, which initiates the cross-bridge cycle. This process begins when calcium ions are released from the sarcoplasmic reticulum and bind to troponin, causing a conformational change that moves tropomyosin away from the binding sites on actin. As a result, myosin heads can attach to these exposed binding sites, facilitating muscle contraction. During the power stroke itself, the myosin head pivots, pulling the actin filament toward the center of the sarcomere. This action is propelled by the hydrolysis of ATP. When ATP is cleaved to ADP and inorganic phosphate, the energy released from this chemical reaction is what really drives the power stroke. Therefore, while the cleaving of ATP is an important element of muscle contraction, it is not what defines the power stroke itself; instead, it provides the energy necessary for the power stroke to occur. Recognizing the role of myosin and actin interaction is fundamental to understanding the mechanics of muscle contraction.

6. Veins can be classified based on what characteristic?

- A. Shape
- B. Color
- C. Size**
- D. Function

Veins can indeed be classified based on size, which is a critical characteristic in understanding their role within the circulatory system. Veins vary in size from large, central veins that return blood to the heart, to smaller venules that collect blood from the capillary beds. This classification is significant because it relates to how blood is transported back to the heart and how the venous system functions overall. For instance, larger veins, like the superior and inferior vena cavae, play a key role in carrying large volumes of deoxygenated blood from the body back to the heart. In contrast, smaller veins and venules are responsible for collecting blood from tissues and organs, converging to form larger vessels. Understanding the size of veins helps in grasping their mechanical properties as well as their physiological roles in circulation and blood volume distribution. While shape, color, and function are important aspects of veins, they do not serve as fundamental criteria for classification in the same way that size does. Shape could refer to the general structural contours of veins, color is primarily influenced by the blood's oxygenation state, and function is a broader concept that encompasses the role of veins but isn't a specific classification. Thus, focusing on size provides a more precise understanding of how veins

7. What is the minimum retention period for equipment service records according to the standard practices of the College of Kinesiologists of Ontario?

- A. 3 years
- B. 5 years**
- C. 7 years
- D. 10 years

The minimum retention period for equipment service records is five years. This requirement is grounded in the need to ensure accountability and provide a clear history of maintenance and service for equipment used in a clinical or therapeutic setting. Retaining records for this duration allows kinesiologists to support their practice through documentation, ensuring that equipment is properly maintained and functioning safely for clients. The five-year standard aligns with general best practice guidelines across various health professions, facilitating continuity of care and adherence to regulatory requirements. Keeping records for a shorter period may not adequately protect practitioners in the event of liability issues or audits, while retaining them beyond the five-year period is often unnecessary unless specified by organizational policies or specific equipment manufacturer recommendations.

8. Which physiological process explains muscle contraction at the cellular level?

- A. Sliding-filament theory**
- B. Muscle hypertrophy
- C. Oxidative phosphorylation
- D. Neuromuscular junction theory

The sliding-filament theory is the process that accurately explains muscle contraction at the cellular level. This theory describes how muscle fibers contract by the interaction between two types of filaments within the muscle cells: actin (thin filaments) and myosin (thick filaments). During contraction, the myosin heads attach to binding sites on the actin filaments, pulling them closer together and shortening the sarcomere, which is the basic functional unit of skeletal muscle. This process is triggered by the presence of calcium ions and is regulated by proteins like troponin and tropomyosin. The sliding-filament theory is fundamental to understanding how muscles generate force and movement, as it directly outlines the changes that occur within the muscle fibers during contraction. This framework helps explain various functional aspects of muscle activity, from gross movement to fine motor skills. Other options, although related to muscle physiology, do not specifically describe the cellular mechanism of muscle contraction. Muscle hypertrophy refers to the increase in muscle size due to factors such as resistance training but does not explain the immediate process of contraction. Oxidative phosphorylation is a metabolic process for ATP production that fuels muscle activity but is not directly related to the contraction mechanism itself. The neuromuscular junction theory involves how

9. What SBP and DBP changes should lead to the immediate cessation of exercise?

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- B. A significant drop in systolic pressure or increase in diastolic pressure**
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- D. An increase in both systolic and diastolic pressure within normal limits**

The correct response indicates that a significant drop in systolic pressure or an increase in diastolic pressure should lead to the immediate cessation of exercise. This is crucial because changes in blood pressure during exercise can be indicative of an individual's cardiovascular health and their ability to cope with physical stress. A significant drop in systolic pressure can signal a potential problem, such as inadequate blood flow to vital organs, which could pose serious health risks. An increase in diastolic pressure, on the other hand, might indicate excessive vascular resistance or strain on the heart. Both situations could suggest the onset of complications like exercise-induced hypotension or hypertensive crisis, necessitating the immediate discontinuation of physical activity to ensure the safety of the individual. Monitoring these blood pressure responses is fundamental for practitioners to make informed decisions regarding their clients' exercise regimens. Identifying these critical changes helps in preventing adverse health events during physical activity.

10. What is the role of cancellous bone?

- A. Structural support**
- B. Energy storage**
- C. Production of blood cells**
- D. Protection of organs**

Cancellous bone, also known as trabecular or spongy bone, plays a critical role in the production of blood cells, particularly those found in the bone marrow. This type of bone is characterized by its porous structure, which provides a large surface area for hematopoiesis—the process by which blood cells are formed, including red blood cells, white blood cells, and platelets. The bone marrow located within the cavities of cancellous bone is rich in stem cells, which differentiate into various blood cell types. This function is vital for maintaining healthy blood cell levels in the body, contributing to essential processes like oxygen transport, immune response, and blood clotting. While cancellous bone does provide some structural support due to its presence in areas of the skeleton, this is not its primary role compared to the function of compact bone. It is less dense than compact bone and, therefore, does not significantly contribute to energy storage or organ protection, which are more associated with different types of bone tissue or other body systems.