Fitness

BOC-ATC

Board of Certification for the Athletic Trainer: Athletic Trainer Certification

For More Information – Visit link below:

https://www.examsempire.com/

Product Version

1. **Up to Date products, reliable and verified.**
2. **Questions and Answers in PDF Format.**

Latest Version: 6.0

Question: 1

A female soccer player is sprinting down the field and plants her left foot to change direction while attempting to pass the ball. She suddenly stops and grabs her knee, wincing in pain. She is unable to continue playing and limps off the field. The athlete points to pain along the medial side of her knee, just below the joint.
Based on the mechanism of injury and location of her knee pain, which of the following musculoskeletal conditions should be included in your initial differential diagnosis?
Choose all that apply.

A. Semitendinosus strain
B. Fibular head fracture
C. Medial meniscus tear
D. Iliotibial band friction syndrome
E. Anterior cruciate ligament (ACL) sprain
F. Biceps femoris strain
G. Acute pes anserine bursitis
H. Medial tibial plateau contusion
I. Medial collateral ligament (MCL) sprain
J. Gastrocnemius strain

Answer: A,C,E,H,I

Explanation:
An anterior cruciate ligament sprain is a possibility with sudden changes in direction, especially with an increased rotational force applied to the knee. However, this would typically result in a more generalized knee pain with potential instability, rather than being localized to the medial aspect.
The medial collateral ligament (MCL) is located on the medial side of the knee and is commonly injured with a force applied to the lateral side of the knee. The location of pain just inferior to the joint and along the medial aspect is a typical presentation for an MCL sprain, especially after a pivoting mechanism.
The medial meniscus is also located on the medial side of the knee, and tears can occur with rotational force while the foot is planted. Pain localized to the medial joint line, as described in this case, is commonly associated with a meniscus injury.
A blow or force to the medial side of the knee, like during a pivot or sudden deceleration, can cause a contusion to the tibial plateau. This can result in localized pain along the medial aspect of the knee.
The semitendinosus muscle is located on the medial side of the knee, and a strain could cause pain in the area below the joint. Given that the injury occurred with a sudden movement, a strain of this muscle is a reasonable diagnosis.
The pes anserine bursitis is typically associated with overuse and friction, rather than a traumatic mechanism like the one described here. It is more common in athletes who run frequently, but the acute nature of this injury is less likely to be a primary concern.

The biceps femoris is located on the lateral side of the knee and would not typically cause pain on the medial side, as described in this scenario.
The fibular head fracture would typically present with pain on the lateral side of the knee, not the medial side.
A gastrocnemius strain could occur with sudden movements, but the pain would more likely be in the calf or posterior knee area, not the medial side.
Iliotibial band friction syndrome typically causes pain on the lateral side of the knee, not the medial side, and is usually related to overuse or repetitive movements, which doesn't match the acute injury described.

Question: 2

An athlete is recovering from a knee injury and is looking for an alternative way to continue building strength and muscle mass while avoiding high-intensity strength training. The athletic trainer suggests incorporating blood flow restriction (BFR) training into their rehabilitation program. The athlete will be performing low-intensity strength exercises using a BFR cuff to help stimulate muscle growth.
Which recommendation should the athletic trainer make regarding BFR training in this athlete's rehabilitation program?
Choose only one.

A. The athlete should apply the BFR cuff only during cardiovascular exercise, as it is not effective during strength training
B. The athlete should perform low-intensity strength training at 15-30% of their 1-repetition maximum (1RM), with one set of 30 reps followed by three sets of 15 reps, and 30-60 seconds rest between sets
C. The athlete should use a high-intensity strength training program with heavy weights and minimal rest periods to achieve optimal results
D. The athlete should use a BFR cuff at 200 mmHg pressure to maximize the benefits of muscle growth and hypertrophy

Answer: B

Explanation:
The athlete should perform low-intensity strength training at 15-30% of their 1-repetition maximum (1RM), with one set of 30 reps followed by three sets of 15 reps, and 30-60 seconds' rest between sets is the recommended protocol for BFR training. The athlete should use low resistance (15-30% of 1RM) and perform one set of 30 reps followed by three sets of 15 reps, with 30–60 seconds of rest between sets. This method helps stimulate muscle growth and strength while using the BFR cuff to restrict venous return, thereby promoting hypertrophy.
High-intensity strength training with heavy weights is not the focus of BFR training, which is designed to combine low-intensity strength training with blood flow restriction. BFR training allows for strength and hypertrophy gains without high resistance. Therefore, this option does not align with BFR principles.
While using a BFR cuff with higher pressures (like 200 mmHg) is common, research has shown that 140-160 mmHg pressures are sufficient for achieving optimal benefits, especially when using a smaller 5 cm cuff. Higher pressures do not provide additional benefits and may increase the risk of discomfort or complications. Therefore, this recommendation is not supported by the evidence.

BFR training is effective during strength training, not just cardiovascular exercise. It is specifically designed to increase muscle hypertrophy and strength when combined with low-intensity strength exercises, making this statement inaccurate.

Question: 3

An emergency action plan (EAP) for a sports venue includes details such as emergency personnel, communication methods, emergency equipment, medical transportation, and venue directions. To ensure effective communication during an emergency, where should a copy of the EAP be displayed within the athletic training facility?
Choose only one.

A. Near the facility entrance
B. Near the treatment tables
C. Near the landline telephone
D. Near the entrance to the storage room

Answer: C

Explanation:
The purpose an emergency action plan (EAP) in place is to ensure that all staff and emergency responders can act quickly and efficiently during an emergency. The EAP provides crucial information on emergency personnel, communication protocols, medical transportation, emergency equipment, and the layout of the venue, which can save valuable time in a crisis.
Displaying the EAP near the landline telephone is the most effective choice because it ensures that the person making the emergency call has immediate access to the plan while on the phone. The landline is often a reliable communication tool in emergencies, especially when mobile phones may not work properly due to network issues or low battery. Additionally, this location ensures that the EAP is available to those who are actively coordinating the response, such as the athletic trainer or any staff members, so they can quickly reference the necessary procedures for contacting medical personnel or providing other support during an emergency.
While other locations like the facility entrance or treatment tables may seem logical, they might not be as immediately accessible during a time-sensitive emergency. Near the treatment tables, for example, would primarily ensure the trainers know the plan, but it would not be as convenient if someone else needs to make an emergency call. The entrance to the storage room is not ideal, as it may not be a central, accessible location for all personnel.

Question: 4

Which closed-chain exercises may be used in a rehabilitation program?
Choose all that apply.

A. Bicep curls
B. Shoulder press
C. Mountain climbers
D. Push-ups

E. Squats

Answer: C,D,E

Explanation:
The terms "open-chain" and "closed-chain" exercises refer to the relationship between the body and the ground or a stationary object during movement. The primary difference lies in the position of the distal body segment, typically the hands or feet, and how they interact with the environment.
In open-chain exercises, the distal segment is free to move in space and is not fixed or in contact with a surface. Open-chain exercises often target specific muscles or joints, and they can isolate a particular muscle group (e.g., quadriceps, biceps).
In closed-chain exercises, the distal segment is fixed or in contact with a stationary surface (e.g., the ground, a wall, or a bench). A squat is a classic closed-chain exercise in which the feet are planted on the ground, and the body moves up and down in space. Closed-chain exercises typically involve multiple joints and muscle groups working together. For example, during a squat, the knee, hip, and ankle joints are involved.

Question: 5

An athlete falls directly onto their knee and presents with noticeable swelling about the size of a golf ball just below the skin over the patell
a. Which bursa is most likely involved?
Choose only one.
A. Prepatellar
B. Superficial infrapatellar
C. Suprapatellar
D. Deep infrapatellar

Answer: A

Explanation:
The prepatellar bursa is located directly anterior to the patella, just under the skin, and is responsible for protecting the patella and reducing friction during movement. A fall directly onto the knee can cause trauma to the prepatellar bursa, leading to swelling or a lump in the area, often described as "a golf ball-sized lump." This presentation is commonly associated with prepatellar bursitis or inflammation of the prepatellar bursa.
The deep infrapatellar bursa is located just below the patella, but deeper within the knee joint, and it is not typically visible from the outside in cases of swelling. It is less likely to cause a visible lump over the patella compared to the prepatellar bursa.
The suprapatellar bursa is located above the patella, not below, and is usually associated with swelling above the patella, not directly below it.
The superficial infrapatellar bursa is located just below the patella, but it's deeper within the soft tissue than the prepatellar bursa and is less likely to present as a visible lump in the same way that prepatellar bursitis would.

Question: 6

An athletic trainer is evaluating a basketball player who recently injured their shoulder during a game. They report sharp pain and weakness in their shoulder, particularly with overhead movements such as shooting and passing. The athletic trainer wants to assess the severity of the shoulder injury and determine how it affects their daily and sports-related activities.
Which of the following scales would be MOST appropriate to assess the athlete's shoulder function and guide rehabilitation?
Choose only one.

A. Neck Disability Index (NDI)
B. Shoulder Pain and Disability Index (SPADI)
C. Oswestry Low Back Pain Disability Questionnaire
D. Disabilities of the Arm, Shoulder, and Hand (DASH)

Answer: D

Explanation:
The Disabilities of the Arm, Shoulder, and Hand (DASH) scale is a widely used tool to assess upper extremity function, particularly focusing on the arm, shoulder, and hand. Given that the athlete is experiencing pain and weakness in the shoulder, the DASH is ideal for evaluating the severity of injury, its impact on daily activities, and its effect on sports-specific tasks like shooting and passing. It provides a comprehensive assessment of the shoulder and upper limb function, making it a valuable tool for guiding her rehabilitation.
The Shoulder Pain and Disability Index (SPADI) is another excellent tool for assessing shoulder pain and disability. While it is a relevant scale for this case, the DASH might be more comprehensive, as it evaluates a wider range of upper extremity dysfunction (arm, shoulder, and hand).
The Neck Disability Index (NDI) is designed to assess neck-related disability, specifically for conditions like neck pain, radiculopathy, or other cervical spine issues. Since the athlete's injury is in their shoulder and not related to their neck, this tool would not be relevant.
The Oswestry Low Back Pain Disability Questionnaire is used to assess low back pain and its impact on daily life and function. Since the athlete's issue is shoulder-related, this scale would not be appropriate.

Question: 7

In the management of a potential cervical spine injury, spinal motion restriction (SMR) is essential to prevent further damage to the spinal cord. In which of the following scenarios is SMR indicated?
Choose all that apply.

A. Headache
B. Spinal tenderness
C. Motor weakness related to spinal nerve roots
D. Tinnitus
E. Spinal pain
F. Sensory deficits related to spinal nerve roots

Answer: B,C,E,F

Explanation:
Spinal pain suggests that the patient could have sustained a cervical spine injury. If the spine is painful, there is potential for injury to structures like the vertebrae, ligaments, or spinal cord. Spinal motion restriction (SMR) is needed to avoid exacerbating the injury.
Spinal tenderness to palpation along the spine indicates inflammation or injury to the spine's structures. In the case of spinal tenderness, SMR should be used to prevent further injury, especially to the spinal cord or nerve roots.
Sensory deficits, such as numbness or tingling, suggest that there may be nerve compression or injury at a specific level of the spine. SMR is important to prevent further nerve damage and protect the spinal cord.
Motor weakness indicates potential injury or compression of the spinal nerve roots. Since further movement could worsen this damage, SMR is required to stabilize the spine and avoid additional damage to the nervous system.
While headaches can be a symptom of a cervical spine injury (especially if there is a concussion or other neurological involvement), they are not specific enough to indicate the need for spinal motion restriction (SMR). A headache, by itself, does not suggest that the spinal cord or nerve roots are being directly threatened. Other symptoms, such as spinal pain, tenderness, motor or sensory deficits, and altered consciousness, are more directly related to spinal cord or nerve injury and would indicate the need for SMR. Therefore, a headache alone doesn't necessarily require SMR unless it is accompanied by other more specific neurological signs of spinal injury.
Tinnitus (ringing in the ears) is a symptom that is typically related to inner ear issues or vascular problems and is not commonly a direct indicator of a spinal injury. It could be associated with a head injury (like a concussion), but it does not specifically indicate a cervical spine injury that would require SMR. Tinnitus might be present in cases where there is a traumatic brain injury (TBI) or concussion, but it does not by itself suggest the need for spinal motion restriction. Like headache, tinnitus is not a key symptom that would warrant SMR without other more direct spinal injury symptoms.

Question: 8

Which of the following cardiac conditions puts athletes, especially those who are febrile, at an increased risk for sudden cardiac death?
Choose only one.

A. Myocarditis
B. Commotio cordis
C. Marfan's syndrome
D. Hypertrophic cardiomyopathy

Answer: A

Explanation:
Myocarditis is an inflammation of the heart muscle, often caused by a viral infection. When an athlete has a fever (typically associated with infection), it increases the risk of sudden cardiac death due to the strain placed on the heart during physical exertion. This condition can result in arrhythmias or heart failure, which can be fatal if not identified and managed properly.

While hypertrophic cardiomyopathy is a leading cause of sudden cardiac death in athletes, it is not directly associated with febrile illness. It is more related to structural abnormalities in the heart muscle.
Commotio cordis is a condition caused by a blunt impact to the chest, often seen in contact sports. It leads to a fatal arrhythmia but is not linked to febrile illness.
Marfan's syndrome is a genetic disorder that affects connective tissue and can lead to cardiovascular issues, such as aortic dissection, but it is not specifically tied to febrile illness and sudden cardiac death in athletes.

Question: 9

An athletic trainer is working with an athlete who sustained a moderate knee injury during a soccer match. The athlete complains of pain during running and difficulty with sports-specific movements, including cutting and pivoting. The athletic trainer is deciding which type of scale to implement to assess the athlete's knee function and determine the most appropriate therapeutic intervention.
Which of the following scales would be MOST appropriate to assess the athlete's knee function and guide therapeutic intervention?

A. Choose only one.
B. Foot and Ankle Disability Index (FADI)
C. Numeric Pain Rating Scale (NPRS)
D. Western Ontario and McMaster Universities Arthritis Index (WOMAC)
E. Knee Injury and Osteoarthritis Outcomes Score (KOOS)

Answer: D

Explanation:
The Knee Injury and Osteoarthritis Outcomes Score (KOOS) is a comprehensive scale designed to assess knee function, pain, and symptoms in athletes and individuals with knee injuries. Given the athlete's specific knee pain and difficulty with activities like running, cutting, and pivoting, the KOOS is ideal for evaluating the severity of knee dysfunction, guiding the athletic trainer's intervention plan, and tracking progress during rehabilitation. It assesses multiple domains relevant to knee health, making it suitable for this case.
While the Numeric Pain Rating Scale (NPRS) is useful for measuring pain intensity, it does not assess the full range of function, symptoms, and quality of life that are impacted by knee injuries.
The Western Ontario and McMaster Universities Arthritis Index (WOMAC) scale is primarily designed to assess pain, stiffness, and physical function in individuals with osteoarthritis, particularly in older adults. While it may be useful for chronic conditions, it is less specific to acute sports injuries like the one the athlete is experiencing.
The Foot and Ankle Disability Index (FADI) is specifically used for assessing foot and ankle disabilities, not knee-related issues. Since the athlete's injury is focused on the knee, the FADI is not relevant.

Question: 10

A 14-year-old skateboarder falls while attempting a trick, externally rotates their foot, and experiences significant pain. Upon examination, the anterior tibiofibular ligament remains intact, but you suspect a fracture.

Based on the mechanism of injury, which type of fracture is likely?
Choose only one.

A. Fibular avulsion fracture
B. Talar dome fracture
C. Salter-Harris V fracture of the distal tibia
D. Tillaux's fracture

Answer: D

Explanation:
A Tillaux's fracture is a type III Salter-Harris fracture, commonly seen in adolescents, and typically occurs due to external rotation or abduction of the foot. This fracture involves the distal tibia and is associated with the same mechanism of injury that can also disrupt the anterior tibiofibular ligament, although in this case, the ligament remains intact.
Salter-Harris V fracture of the distal tibia is less common and is typically associated with more severe compressive forces or crushing injuries, not external rotation.
Talar dome fractures occur due to direct trauma or a compressive mechanism, not from external rotation of the foot.
Fibular avulsion fractures involve the fibula, not the tibia, and tend to occur due to forces that cause pulling of the muscle or ligament attachments.

Thank You for Trying Our Product

Special 16 USD Discount Coupon: NSZUBG3X

Email: support@examsempire.com

Check our Customer Testimonials and ratings available on every product page.

Visit our website.

https://examsempire.com/