NPTE Musculoskeletal (MSK) Practice Exam (Sample)

Study Guide

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Questions

1. **In which position is there typically no pain for discal pathology with nerve root compromise?**
   - A. Standing
   - B. Seated
   - C. Reclined or semi-reclined
   - D. Prone

2. **What is the primary goal of using Waddell's signs in assessment?**
   - A. To determine physical disability
   - B. To identify psychological factors affecting pain
   - C. To measure muscle strength
   - D. To assess joint instability

3. **The compression load used in the "jerk test" is applied to which part of the body?**
   - A. Elbow
   - B. Shoulder
   - C. Wrist
   - D. Finger

4. **What signifies a positive result in O'Brien's test?**
   - A. Pain in neutral rotation
   - B. Pain in internal rotation
   - C. Pain above 90 degrees of elevation
   - D. Pain relieved by resisted movement

5. **What differentiates posterior interosseous nerve entrapment from radial tunnel syndrome?**
   - A. Presence of sensory symptoms
   - B. Severe pain with resisted finger extension
   - C. Motor weakness is always associated with posterior interosseous nerve entrapment
   - D. Radial tunnel syndrome has no pain at all

6. For treatment of gout, which ion is used and what is its charge?

A. Sodium, (+)

B. Calcium, (-)

C. Lithium, (+)

D. Potassium, (-)

7. What does SLR stand for in a clinical context?

A. Single Limb Raise

B. Static Load Response

C. Straight Leg Raise

D. Sequential Limb Rotation

8. Which condition does the stork standing test help identify?

A. Herniated disc

B. Spondylolisthesis

C. Spinal stenosis

D. Facet joint syndrome

9. In the initial swing acceleration phase, the ankle is positioned at how many degrees of dorsiflexion?

A. 10 degrees

B. 15 degrees

C. 20 degrees

D. 25 degrees

10. Which cutaneous nerve supplies the medial aspect of the leg?

A. Tibial nerve

B. Sural nerve

C. Saphenous nerve

D. Peroneal nerve

Answers

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

Explanations

1. In which position is there typically no pain for discal pathology with nerve root compromise?

A. Standing

B. Seated

C. Reclined or semi-reclined

D. Prone

When evaluating positions for individuals with discal pathology and nerve root compromise, reclining or semi-reclined positions are often associated with reduced pain. This is primarily due to the anatomical changes that occur in the spine when the body is in a more horizontal alignment. In a reclined position, there is a decrease in intradiscal pressure, which can alleviate compression on the spinal nerves and nerve roots. This helps to reduce pain stemming from herniated discs or other discal issues, providing the discs with a chance to settle without the weight of the upper body creating further pressure or irritation on the nerves. In contrast, standing and seated positions can increase the loads on the lumbar spine and exacerbate symptoms due to gravity and posture, leading to heightened discomfort for many individuals dealing with disc problems. Prone positioning may also not provide adequate relief for those with nerve root involvement, as it does not alleviate pressure on the posterior elements or allow for spinal decompression in the same way that reclining does. Therefore, semi-reclined or fully reclined positions are often found to be the most comfortable for patients dealing with these types of issues, as they facilitate a reduction in pain and promote better spinal alignment.

2. What is the primary goal of using Waddell's signs in assessment?

A. To determine physical disability

B. To identify psychological factors affecting pain

C. To measure muscle strength

D. To assess joint instability

The primary goal of using Waddell's signs in assessment is to identify psychological factors affecting pain. Waddell's signs consist of a series of physical examination tests that are designed to assess non-organic components of pain, reflecting how psychological and social factors may contribute to a patient's pain experience. These signs help clinicians differentiate between pain that is likely to have a psychological basis—such as in cases of heightened anxiety, somatization, or malingering—and pain that is due to a physical or organic cause. Since Waddell's signs focus on the relationship between psychosocial variables and pain perception rather than purely physical disabilities, muscle strength, or joint instability, their correct application can lead to more nuanced management strategies that address both the physical and psychological aspects of pain. By identifying these factors, clinicians can tailor treatments more effectively, improving outcomes and helping patients achieve better quality of life.

3. The compression load used in the "jerk test" is applied to which part of the body?

A. Elbow

B. Shoulder

C. Wrist

D. Finger

The jerk test is primarily used to assess the integrity and function of the shoulder, particularly evaluating the presence of a labral tear or issues with the shoulder joint stability. During this test, a compression load is applied to the shoulder to elicit any symptoms or signs related to labral injuries. Applying the load to the elbow does not serve the purpose of the jerk test; therefore, the focus remains on the mechanics of the shoulder joint. The test involves specific maneuvers where the shoulder is put through various ranges of motion under compression, meant to replicate the conditions that a labral tear would create during functional activities. This targeted approach effectively assists in diagnosing shoulder pathologies rather than issues with the elbow, wrist, or fingers.

4. What signifies a positive result in O'Brien's test?

A. Pain in neutral rotation

B. Pain in internal rotation

C. Pain above 90 degrees of elevation

D. Pain relieved by resisted movement

O'Brien's test is a clinical assessment used to identify a labral tear, particularly in the shoulder. A positive result in this test is characterized by the presence of pain when the shoulder is in an internally rotated position with the arm elevated in front, typically at around 90 degrees of flexion. The rationality behind this test is based on the mechanics of shoulder motion and the common injuries associated with the shoulder joint, particularly the labrum. In a positive O'Brien's test, the internal rotation causes a mechanical impingement or stress in the area of the labrum, eliciting pain. When the shoulder is positioned in this way and pain is reproduced, it strongly suggests the presence of a labral injury. Additionally, if the pain is alleviated when moving the arm into an externall rotated position, that further substantiates the test's effectiveness, as it reduces the impinging forces on the labrum. In summary, pain during the internally rotated position while the arm is elevated is indicative of a labral lesion, making it a key sign in the context of O'Brien's test.

5. What differentiates posterior interosseous nerve entrapment from radial tunnel syndrome?

A. Presence of sensory symptoms

B. Severe pain with resisted finger extension

C. Motor weakness is always associated with posterior interosseous nerve entrapment

D. Radial tunnel syndrome has no pain at all

The key differentiator between posterior interosseous nerve entrapment and radial tunnel syndrome lies in the presence of motor weakness associated with the posterior interosseous nerve entrapment. The posterior interosseous nerve primarily innervates the extensor muscles of the forearm, and entrapment of this nerve typically leads to weakness in wrist and finger extension, without sensory loss since it is a purely motor branch. In contrast, radial tunnel syndrome is characterized by pain, primarily in the forearm, that occurs with activities that involve repetitive wrist motions, yet it usually does not cause significant motor weakness. Therefore, while both conditions may present with pain, the definitive presence of motor weakness with posterior interosseous nerve entrapment is a hallmark feature that distinguishes it from radial tunnel syndrome. This understanding is crucial for clinicians when diagnosing and managing upper extremity nerve entrapments, ensuring that appropriate interventions are provided based on the underlying cause of the symptoms.

6. For treatment of gout, which ion is used and what is its charge?

A. Sodium, (+)

B. Calcium, (-)

C. Lithium, (+)

D. Potassium, (-)

In the treatment of gout, lithium is sometimes utilized due to its ability to stabilize mood and may have some benefits related to uric acid levels in the body. Lithium carries a positive charge, specifically a +1 charge, which allows it to play a role in neuron signaling and may also affect renal handling of uric acid indirectly. Gout, characterized by elevated uric acid levels leading to painful arthritis, is primarily treated with medications that lower uric acid levels or manage inflammation. While lithium is not the mainstay treatment for gout, understanding its charge and application is useful within the broader context of ion interactions in pharmacology. In contrast, sodium, calcium, and potassium ions have different roles in the body's physiology, including functions in muscle contraction and fluid balance but do not specifically target treatment for gout in the same manner. Sodium and potassium also carry positive charges, but their applications in gout treatment are not as relevant as lithium's. Therefore, the choice of lithium, combined with its positive charge, contextualizes its role within the treatment options available for managing conditions that may coincide with gout.

7. What does SLR stand for in a clinical context?

A. Single Limb Raise

B. Static Load Response

C. Straight Leg Raise

D. Sequential Limb Rotation

In a clinical context, SLR stands for Straight Leg Raise. This is a common assessment technique used primarily to evaluate the flexibility and strength of the hip extensors, as well as to assess possible lumbar spine conditions. During the test, a patient lies flat on their back and raises one leg while keeping the other leg straight on the ground. This movement engages the hip flexors and hamstrings, allowing therapists to observe any pain or limitations in range of motion that may indicate underlying issues such as sciatic nerve compression or herniated discs. The Straight Leg Raise test is particularly useful in diagnosing conditions like lumbar disc herniation, where the resulting radicular pain is often reproduced when the leg is raised. In contrast, the other terms presented in the options do not correspond to a recognized method used in clinical assessments as commonly as the Straight Leg Raise. This specificity makes it a valuable tool for physical therapists and healthcare professionals in both examination and treatment planning.

8. Which condition does the stork standing test help identify?

A. Herniated disc

B. Spondylolisthesis

C. Spinal stenosis

D. Facet joint syndrome

The stork standing test is particularly useful for identifying spondylolisthesis, which is a condition characterized by the anterior displacement of one vertebra over another. During the test, the patient stands on one leg while flexing the opposite knee. This position places additional stress on the lumbar spine, particularly at the L5-S1 level. If spondylolisthesis is present, it may exacerbate symptoms such as lower back pain or instability due to the increased load and movement in the lumbar region. The mechanics of the test draw out the functional implications of the vertebral alignment. In cases of spondylolisthesis, patients may experience pain or a sense of instability when maintaining balance on one leg, which reflects the spine's compromised integrity. Different conditions, like herniated discs, spinal stenosis, and facet joint syndrome, may present with back pain, but they are not specifically assessed with the stork standing test, which is uniquely tailored to the biomechanical strains of spondylolisthesis. Understanding this relationship is key for physical therapists when determining a patient's diagnosis based on functional tests.

9. In the initial swing acceleration phase, the ankle is positioned at how many degrees of dorsiflexion?

A. 10 degrees

B. 15 degrees

C. 20 degrees

D. 25 degrees

During the initial swing acceleration phase of gait, the ankle is typically positioned at around 20 degrees of dorsiflexion. This degree of dorsiflexion is essential for adequate clearance of the foot off the ground. It allows for a smooth transition into swing without dragging the toes, which is crucial for maintaining an efficient and fluid gait pattern. Dorsiflexion in this range helps the lower limb prepare for the advancement of the leg, making it easier to achieve an appropriate toe-off height as the swing progresses. This degree of ankle positioning facilitates optimal biomechanical function, contributing to effective propulsion and improving overall gait efficiency. Understanding the normal range of motion during different phases of the gait cycle is vital for accurately assessing movement mechanics in clinical settings.

10. Which cutaneous nerve supplies the medial aspect of the leg?

A. Tibial nerve

B. Sural nerve

C. Saphenous nerve

D. Peroneal nerve

The saphenous nerve is the cutaneous nerve that supplies sensation to the medial aspect of the leg. It is a branch of the femoral nerve and runs down the medial portion of the leg, providing sensory innervation to the skin in this area. The saphenous nerve travels alongside the great saphenous vein and is important for conveying sensory information from the skin covering the medial side of the leg and foot. In contrast, other nerves listed have different sensory distributions. The tibial nerve mainly innervates the posterior compartment of the leg and contributes to sensation in the plantar aspect of the foot. The sural nerve primarily supplies sensation to the lateral aspect of the leg and the lateral side of the ankle and foot. The peroneal nerve (also known as the common fibular nerve) mainly innervates the lateral compartment and provides sensation to the dorsum of the foot. Therefore, the correct answer is the saphenous nerve, which is specifically responsible for the sensory innervation of the medial aspect of the leg.