

# NOLS Wilderness Emergency Medical Technician (WEMT) Practice Exam (Sample)

## Study Guide



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**SAMPLE**

## **Questions**

- 1. If a patient has dry chemical fertilizer on their arms, what is the best management approach?**
  - A. Hand over the patient to a dermatologist for treatment**
  - B. Brush away the chemical powder and flush with running water**
  - C. Apply a wet dressing to the affected area**
  - D. Cover the area with a bandage until a hospital visit**
- 2. After administering nitroglycerin to a patient experiencing chest pain, what should be your next action if the patient feels faint?**
  - A. Administer oxygen immediately**
  - B. Lower the head of the stretcher and take the patient's blood pressure**
  - C. Start chest compressions**
  - D. Check for responsiveness**
- 3. Which abdominal organ is known for rapid blood loss due to blunt trauma?**
  - A. Spleen**
  - B. Kidney**
  - C. Liver**
  - D. Pancreas**
- 4. You are treating a 12-year-old female patient who was struck in the arm with a baseball bat during a tournament. How should you treat her arm, which has swelling and discoloration but intact skin?**
  - A. Apply a cold compress**
  - B. Immobilize the arm**
  - C. Administer pain relief**
  - D. Consult a physician immediately**

- 5. What should be your immediate action for a pulseless 17-year-old male after a chest impact from a baseball?**
- A. Begin breathing support.**
  - B. Begin chest compressions.**
  - C. Check for responsiveness.**
  - D. Call for additional help.**
- 6. Which patient would you be most concerned about in terms of cyanide exposure?**
- A. Construction worker**
  - B. Firefighter battling a smoky structure fire**
  - C. Office worker**
  - D. Patient with COPD**
- 7. What would be an appropriate treatment for a patient with suspected heat cramps based on standing orders?**
- A. Administer ice packs to the affected areas.**
  - B. Mix one teaspoon salt in one quart of water and administer half of a glass every 15 minutes.**
  - C. Encourage the patient to drink soda.**
  - D. Allow the patient to rest without fluid intake.**
- 8. During a mass casualty incident, what role does incident command serve?**
- A. Direct patient care**
  - B. Manage resource allocation**
  - C. Provide psychological support**
  - D. Perform extrication**
- 9. To test sensation in a patient who fell from a height and is unresponsive, which method is appropriate?**
- A. Compare temperature in both legs**
  - B. Pinch his foot and observe for movement in the leg**
  - C. Check the reflexes in his legs**
  - D. Ask the patient to wiggle his toes**

**10. Which statement about hip dislocation in the field is true?**

- A. It's always visible on an X-ray**
- B. The posterior hip dislocation is the most common**
- C. Anterior dislocations are more severe**
- D. A dislocated hip cannot be splinted**

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## **Answers**

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

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## **Explanations**

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**1. If a patient has dry chemical fertilizer on their arms, what is the best management approach?**

- A. Hand over the patient to a dermatologist for treatment**
- B. Brush away the chemical powder and flush with running water**
- C. Apply a wet dressing to the affected area**
- D. Cover the area with a bandage until a hospital visit**

For a patient with dry chemical fertilizer on their arms, the best management approach involves brushing away the chemical powder and then flushing the area with running water. This method is effective because it first removes the bulk of the chemical substance that could continue to cause irritation or injury. By brushing off as much of the chemical as possible, you reduce its contact with the skin. Flushing with running water is crucial as it helps to dilute and wash away any remaining chemical particles. This action minimizes the risk of further skin damage and alleviates the potential for chemical burns or irritation. It's essential to use water as soon as possible after exposure, and the treatment should be prolonged if there are ongoing signs of irritation. The other options do not effectively address the immediate need to remove the chemical and prevent harm. Handing the patient over to a dermatologist without initial decontamination would not provide urgent care. Applying a wet dressing could trap chemicals against the skin, causing more damage. Covering the area with a bandage is also inappropriate initially, as it does not address the immediate decontamination needed to protect the skin from the chemical's effects.

**2. After administering nitroglycerin to a patient experiencing chest pain, what should be your next action if the patient feels faint?**

- A. Administer oxygen immediately**
- B. Lower the head of the stretcher and take the patient's blood pressure**
- C. Start chest compressions**
- D. Check for responsiveness**

When a patient experiences faintness after receiving nitroglycerin, it indicates a potential drop in blood pressure, which is a common side effect of this medication. In this situation, taking the patient's blood pressure is crucial as it provides immediate insight into their hemodynamic status and helps to guide further interventions. Lowering the head of the stretcher can also alleviate some symptoms of faintness by promoting blood flow to the brain, thereby stabilizing the patient while assessing their vital signs. This action prioritizes patient safety and allows for informed decision-making regarding the next steps in management. Administering oxygen, while essential in certain contexts, is not the immediate priority without understanding the patient's blood pressure response first. Starting chest compressions is not warranted unless the patient is unresponsive and not breathing adequately, which is not suggested here. Checking for responsiveness alone does not provide the critical information needed about blood pressure changes that have likely caused the patient's faintness after nitroglycerin administration.

**3. Which abdominal organ is known for rapid blood loss due to blunt trauma?**

- A. Spleen**
- B. Kidney**
- C. Liver**
- D. Pancreas**

The spleen is recognized for its susceptibility to rapid blood loss in cases of blunt trauma. It is located in the left upper quadrant of the abdomen and is highly vascular, meaning it contains a large amount of blood. When injured, particularly from blunt force, it can bleed profusely, leading to significant hemorrhage. This makes splenic injuries potentially life-threatening if not addressed promptly. Although the liver is also a highly vascular organ and can lead to substantial blood loss if injured, the spleen is typically noted specifically for its tendency to bleed rapidly in the context of blunt trauma. The liver, while important, is generally more resilient, and injuries may not always result in immediate or rapid hemorrhage like those from splenic trauma. The kidneys, while they can also be injured and bleed, do not usually result in the same level of immediate and rapid blood loss when subjected to blunt trauma. The pancreas, being a retroperitoneal organ, is less commonly injured by blunt trauma and does not contribute to the same risk of hemorrhage as the spleen. Understanding the anatomy and vascularization of these organs and their respective injury mechanisms is critical for timely and effective emergency medical response.

**4. You are treating a 12-year-old female patient who was struck in the arm with a baseball bat during a tournament. How should you treat her arm, which has swelling and discoloration but intact skin?**

- A. Apply a cold compress**
- B. Immobilize the arm**
- C. Administer pain relief**
- D. Consult a physician immediately**

In the scenario described, the primary focus should be on ensuring the stability and proper positioning of the injured arm to prevent further injury and aid in healing. Immobilizing the arm is crucial in cases of suspected soft tissue injury or potential fractures following blunt trauma, like being struck by a baseball bat. This action helps reduce pain by limiting movement at the injury site and helps prevent further swelling. While applying a cold compress can reduce swelling and pain, and administering pain relief is important for comfort, immobilization is a key step in the initial management of an injury, particularly because the mechanism of injury suggests a possibility of significant trauma. Consulting a physician is also necessary, but it would likely be a subsequent step after providing immediate care, especially given that the patient has intact skin, which indicates that the injury may be manageable in the field. Overall, immobilizing the arm in a suitable position is the most effective immediate intervention to ensure the patient's safety and comfort while facilitating a better environment for recovery.

**5. What should be your immediate action for a pulseless 17-year-old male after a chest impact from a baseball?**

- A. Begin breathing support.**
- B. Begin chest compressions.**
- C. Check for responsiveness.**
- D. Call for additional help.**

In the scenario described, the immediate action for a pulseless individual—especially one who has experienced a significant chest impact—is to begin chest compressions. When a person is found to be pulseless, this indicates that their heart is not effectively pumping blood. In the context of a traumatic event like a chest impact from a baseball, there could be corresponding injuries such as cardiac contusion or other thoracic injuries that might have compromised heart function. Starting chest compressions right away is vital because it helps to maintain some blood flow to vital organs, particularly the brain and heart, until advanced medical care can take over. The goal is to provide mechanical circulation through compressions, which can help preserve life during a critical emergency. Checking for responsiveness or calling for additional help is certainly important as part of your overall assessment and treatment. However, the most critical and immediate action upon noting pulselessness is to initiate chest compressions, as they are essential in managing cardiac arrest and improving the chances of survival. Similarly, while breathing support may be necessary, the absence of a pulse is a more immediate concern than ventilation, making compressions the priority in this life-threatening situation.

**6. Which patient would you be most concerned about in terms of cyanide exposure?**

- A. Construction worker**
- B. Firefighter battling a smoky structure fire**
- C. Office worker**
- D. Patient with COPD**

In the context of cyanide exposure, the concern for a firefighter battling a smoky structure fire is particularly elevated due to the nature of their work environment. Fires that involve materials such as plastics, synthetic fabrics, and certain types of wood can produce toxic byproducts, including hydrogen cyanide. Firefighters are exposed to these hazardous conditions, where the risk of inhaling smoke and gases is significantly heightened, leading to potential cyanide poisoning. Individuals in a smoky environment, such as firefighters, are at greater risk because cyanide can be rapidly absorbed through the lungs. Symptoms of cyanide poisoning may include headache, dizziness, shortness of breath, and confusion, all of which can develop quickly in fire situations. The urgency to identify and treat potential cyanide exposure in firefighters is crucial because their role often places them where the risk is not only present but potentially life-threatening. Other professions listed, such as construction workers, office workers, and patients with chronic obstructive pulmonary disease (COPD), do not have an equivalent risk of direct cyanide exposure in their typical environments. While construction workers may encounter some hazardous materials, the specific context of battling a fire greatly increases the likelihood of cyanide exposure, making the firefighter the most concerning patient in this scenario.

**7. What would be an appropriate treatment for a patient with suspected heat cramps based on standing orders?**

**A. Administer ice packs to the affected areas.**

**B. Mix one teaspoon salt in one quart of water and administer half of a glass every 15 minutes.**

**C. Encourage the patient to drink soda.**

**D. Allow the patient to rest without fluid intake.**

The recommended treatment for suspected heat cramps focuses on electrolyte replacement and hydration, making the choice of mixing one teaspoon of salt in one quart of water and administering half a glass every 15 minutes appropriate. Heat cramps are often caused by an imbalance in electrolytes, particularly sodium, which can occur during prolonged periods of physical exertion in hot environments. The salt solution helps to replenish lost electrolytes while providing necessary hydration. By administering the diluted salt solution, you ensure that the patient receives both sodium to address the cramping and the fluids necessary to combat dehydration. This method is practical, as it directly addresses the physiological needs of someone experiencing heat-related conditions. In contrast, applying ice packs may not provide relief specific to the cramps and could potentially cause muscle stiffness if applied for extended periods. Encouraging a patient to drink soda does not effectively replace the necessary electrolytes and may also lead to further dehydration due to its diuretic effects. Allowing rest without fluid intake does not address the underlying issue of dehydration and electrolyte loss associated with heat cramps and could worsen the patient's condition.

**8. During a mass casualty incident, what role does incident command serve?**

**A. Direct patient care**

**B. Manage resource allocation**

**C. Provide psychological support**

**D. Perform extrication**

In a mass casualty incident, incident command serves primarily to manage resource allocation. This role is critical as it allows the coordination of various emergency services and personnel, ensuring that resources are used efficiently and effectively to address the needs of the situation. The incident commander is responsible for overseeing the entire operation, prioritizing tasks, determining the allocation of medical supplies, personnel, and equipment, and communicating with different teams to maintain an organized response. By managing resource allocation, incident command helps to ensure that all patients receive the necessary care while also maintaining order among responders. This role encompasses strategic planning and oversight, which is essential during a chaotic and resource-intensive event like a mass casualty situation. Other roles, such as direct patient care, psychological support, or extrication, are important but are typically handled by different team members or specialists within the incident response framework. The focus of incident command is on the overarching management and coordination of the incident, facilitating a cohesive and organized response.

**9. To test sensation in a patient who fell from a height and is unresponsive, which method is appropriate?**

**A. Compare temperature in both legs**

**B. Pinch his foot and observe for movement in the leg**

**C. Check the reflexes in his legs**

**D. Ask the patient to wiggle his toes**

To assess sensation in an unresponsive patient who has fallen, pinching the foot and observing for movement in the leg serves as a valuable method for evaluating neurological function. This technique engages the pain perception pathways and allows you to determine if there is any nerve function present. Even if the patient is unresponsive, a reflexive movement in response to a painful stimulus can indicate spinal cord and nerve integrity in the affected areas, suggesting that some level of neurological function is still present. This method is particularly useful as it does not rely on the patient's ability to respond verbally or voluntarily, making it suitable for individuals who are unconscious or unresponsive due to an injury. Observing for movement can provide critical information regarding the potential for spinal cord damage and the overall neurological status of the patient.

**10. Which statement about hip dislocation in the field is true?**

**A. It's always visible on an X-ray**

**B. The posterior hip dislocation is the most common**

**C. Anterior dislocations are more severe**

**D. A dislocated hip cannot be splinted**

The statement regarding posterior hip dislocation being the most common is accurate. In traumatic hip injuries, especially those resulting from significant force such as motor vehicle collisions or falls from a height, the posterior dislocation occurs more frequently than anterior dislocation. This is primarily because of the anatomy of the hip joint, where a force applied from the front can easily push the femoral head backward out of its socket. Understanding the prevalence of posterior dislocations is crucial for wilderness medicine practitioners, as it informs initial assessment and management strategies in the field. Correctly identifying the most common type of dislocation allows for appropriate care decisions, such as the need for urgent transport and stabilization techniques. The other statements may not hold true in this context, as not all dislocations are visible on X-rays, the severity of each type of dislocation can vary based on several factors, and splinting techniques can, in fact, be applied to dislocated hips under certain circumstances. This knowledge is essential in wilderness emergency settings where resources and facilities are limited.