Maryland EMT Protocols Practice Test (Sample)

Study Guide

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Questions

1. What should be prioritized when performing CPR on an adult?

A. Providing comfort

B. Rapid defibrillation

C. Call for police

D. Check pulse every minute

2. What is the recommended action if a rescuer arrives at a scene and finds a child unresponsive?

A. Immediate ventilation

B. Perform CPR before any other action

C. Call for help and wait

D. Check for responsiveness for 2 minutes

3. If an unresponsive patient has a pulse but is not breathing, what is the appropriate algorithm to follow?

A. Begin CPR and check for a pulse

B. Support ventilation and request ALS

C. Administer Narcan and monitor for response

D. Perform a detailed assessment immediately

4. In the event of a traumatic injury, what is the first priority of an EMT?

A. Stabilize the injury

B. Ensure airway, breathing, and circulation

C. Inform medical personnel

D. Provide emotional support

5. What is a potential consequence of hyperventilation in head injury patients?

A. Increased cerebral perfusion

B. Decreased carbon dioxide levels

C. Stabilized blood pressure

D. Enhanced oxygen delivery to tissues

6. What is the recommended compression rate during CPR?

A. 60-80 per minute

B. 80-100 per minute

C. 100-120 per minute

D. 120-140 per minute

7. Which of the following hospitals is designated for pediatric trauma?

A. Adult Burn Center at Washington Hospital Center

B. Johns Hopkins Children's Center

C. Pediatric Burn Center at Johns Hopkins Bayview

D. Wilmer Institute

8. What percentage does the back cover of an adult's body surface area?

A. 15%

B. 18%

C. 20%

D. 22%

9. How many breaths per minute should a pediatric patient receive during CPR?

A. 10-12

B. 15-20

C. 20-30

D. 25-35

10. If a patient presents with positive signs of stroke on the Cincinnati scale, what should be done next?

A. Perform a detailed neurological assessment

B. Use the LAMS scale to assign a value

C. Administer oxygen immediately

D. Monitor vital signs continuously

Answers

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

Explanations

1. What should be prioritized when performing CPR on an adult?

A. Providing comfort

B. Rapid defibrillation

C. Call for police

D. Check pulse every minute

In performing CPR on an adult, rapid defibrillation is crucial as it significantly increases the chances of survival for a patient experiencing a cardiac arrest. When the heart stops beating effectively, the primary goal is to restore normal heart rhythm as quickly as possible. Defibrillation provides an electric shock to the heart, which can potentially reset the cardiac electrical activity, allowing the heart to regain a functional rhythm. Initiating CPR immediately is also an essential component, but the emphasis on rapid defibrillation underscores the critical window where timely intervention can lead to a higher likelihood of successful resuscitation. Each minute that passes without defibrillation decreases the chances of survival by approximately 7-10%, making speed essential in this context. In contrast, while aspects like providing comfort, calling for police, or checking the pulse may have their place in emergency response, they do not contribute directly to the immediate life-saving measures necessary in cases of cardiac arrest, where every second counts. Prioritizing actions that directly address the underlying problem—like defibrillation—ensures that the most effective treatment is delivered as swiftly as possible.

2. What is the recommended action if a rescuer arrives at a scene and finds a child unresponsive?

A. Immediate ventilation

B. Perform CPR before any other action

C. Call for help and wait

D. Check for responsiveness for 2 minutes

When a rescuer arrives at a scene and finds a child unresponsive, performing CPR before any other action is the recommended course of action. This is based on the urgency of the situation; an unresponsive child is at immediate risk for cardiac arrest or respiratory failure, which can lead to death if not addressed promptly. In such emergencies, the key is to initiate life-saving measures as quickly as possible. Starting CPR increases the chances of survival by maintaining blood flow to vital organs until more advanced care can be provided. This is particularly important in pediatric cases, where every second counts. While calling for help is critical in emergency situations, it should be done while beginning CPR, not after. Checking for responsiveness for a prolonged time is not advisable, as any lapse can lead to further deterioration of the child's condition. Thus, the best action is to commence CPR immediately to maximize the likelihood of a positive outcome.

3. If an unresponsive patient has a pulse but is not breathing, what is the appropriate algorithm to follow?

A. Begin CPR and check for a pulse

B. Support ventilation and request ALS

C. Administer Narcan and monitor for response

D. Perform a detailed assessment immediately

When an unresponsive patient has a pulse but is not breathing, the priority is to ensure that the patient is receiving adequate ventilation. Supporting ventilation means providing breaths to the patient using a bag-valve-mask (BVM) or another appropriate method. This is crucial because even though the patient has a pulse, the absence of breathing can lead to hypoxia and ultimately result in cardiac arrest if not addressed promptly. Requesting advanced life support (ALS) is also important in this scenario, as ALS providers can intervene more effectively, potentially intubating the patient or providing additional advanced interventions that may be necessary as the situation develops. The other choices do not adequately address the immediate need for ventilation. Starting CPR would be inappropriate since the patient has a pulse. Administering Narcan is suitable only in cases of suspected opioid overdose and requires respiratory compromise as a specific condition for its use, which is not guaranteed in this context. Performing a detailed assessment could delay necessary interventions, as immediate ventilation support takes precedence to prevent further deterioration of the patient's condition.

4. In the event of a traumatic injury, what is the first priority of an EMT?

A. Stabilize the injury

B. Ensure airway, breathing, and circulation

C. Inform medical personnel

D. Provide emotional support

In the context of responding to a traumatic injury, the first priority of an EMT is to ensure airway, breathing, and circulation. This principle is foundational in emergency medical care because a patient's survival heavily depends on the proper functioning of these three essential physiological functions. In trauma situations, there can be immediate threats to the airway due to bleeding, swelling, or obstruction. Ensuring that the airway is clear, that the patient can breathe adequately, and that circulation is stable are critical steps in preventing further deterioration of the patient's condition. The failure to secure these vital functions can lead to catastrophic outcomes, making it imperative that EMTs assess and manage them first. While stabilizing the injury and providing emotional support are important elements of patient care, they must come after addressing the immediate life threats related to airway, breathing, and circulation. Informing medical personnel is also crucial but typically follows the initial assessment and management of the patient. In emergencies, addressing the most life-threatening issues takes precedence, which is why ensuring airway, breathing, and circulation is classified as the first priority.

5. What is a potential consequence of hyperventilation in head injury patients?

A. Increased cerebral perfusion

B. Decreased carbon dioxide levels

C. Stabilized blood pressure

D. Enhanced oxygen delivery to tissues

In the context of head injury patients, hyperventilation can lead to decreased carbon dioxide levels in the blood, a condition known as hypocapnia. When a patient hyperventilates, they exhale more CO_2 than the body can produce, resulting in lower levels of carbon dioxide (CO_2) in the bloodstream. This reduction in CO_2 can cause a series of physiological changes, including vasoconstriction of cerebral blood vessels. The brain relies on a delicate balance of CO_2 levels to regulate blood flow; thus, decreased levels can negatively affect cerebral perfusion, potentially leading to reduced oxygen delivery to brain tissue. This is particularly important in the management of head injuries, where maintaining adequate perfusion and oxygenation to the brain is critical to prevent further injury. Therefore, recognizing how hyperventilation results in decreased CO_2 levels is essential for EMTs and other healthcare providers when managing patients with head trauma.

6. What is the recommended compression rate during CPR?

A. 60-80 per minute

B. 80-100 per minute

C. 100-120 per minute

D. 120-140 per minute

The recommended compression rate during CPR is between 100 and 120 compressions per minute. This rate has been established through research to optimize blood flow and increase the chances of survival for individuals in cardiac arrest. The recommended range ensures that compressions are delivered at a rhythm that mimics the natural heart rate, allowing for adequate circulation of oxygenated blood to vital organs like the brain and heart. Maintaining this compression rate is crucial because if the rate is too slow, insufficient circulation may occur, which can reduce the likelihood of survival and critical organ function. Conversely, overly rapid compressions can lead to decreased effectiveness, as they may not allow enough time for the heart to refill with blood between compressions. Thus, adhering to the 100-120 compressions per minute range optimizes the effectiveness of CPR.

7. Which of the following hospitals is designated for pediatric trauma?

A. Adult Burn Center at Washington Hospital Center

B. Johns Hopkins Children's Center

C. Pediatric Burn Center at Johns Hopkins Bayview

D. Wilmer Institute

Johns Hopkins Children's Center is designated for pediatric trauma as it specializes in providing comprehensive care specifically for children, including those with traumatic injuries. This facility is equipped with pediatric-specific emergency and trauma services, along with specialized pediatric staff trained to manage the unique medical needs of children. The other facilities listed do not specifically focus on pediatric trauma. The Adult Burn Center at Washington Hospital Center primarily deals with burn injuries in adults and does not cater to pediatric patients. The Pediatric Burn Center at Johns Hopkins Bayview focuses on burn care, which, while it may serve children, does not encompass the broad category of pediatric trauma. Wilmer Institute is a center specializing in eye care and does not pertain to trauma services at all. Therefore, Johns Hopkins Children's Center stands out as the appropriate choice for pediatric trauma care.

8. What percentage does the back cover of an adult's body surface area?

A. 15%

B. 18%

C. 20%

D. 22%

The back cover of an adult's body surface area accounts for 18%. This measurement comes from the "Rule of Nines," which is a system used in estimating body surface area involved in burns or other injuries. According to this rule, the body is divided into sections that represent approximately 9% (or multiples of 9%) of total body surface area. For adults, the back (including the posterior aspect of the body from the neck to the lower back) is allocated a value of 18%. This is significant for assessing fluid resuscitation needs and the severity of burns. Understanding this measurement helps EMTs and other healthcare providers make informed decisions in the field regarding treatment and prioritization of care for injured patients. The other percentages do not correspond with established guidelines for adult body surface area assessment. The accurate percentage of 18% is key in ensuring consistent and effective care.

9. How many breaths per minute should a pediatric patient receive during CPR?

A. 10-12

B. 15-20

C. 20-30

D. 25-35

During CPR for a pediatric patient, the appropriate rate of breaths per minute is 20 to 30. This rate aligns with the physiological needs of children, who have a faster metabolism and higher oxygen requirements compared to adults. In pediatric care, it's critical to ensure adequate ventilation, especially since children are more susceptible to respiratory and circulatory complications. The 20 to 30 breaths per minute range allows for sufficient oxygen delivery while minimizing the risk of complications such as hyperventilation, which can lead to decreased cardiac output and increased intrathoracic pressure. It is essential for EMTs to recognize this specific guideline to provide effective CPR and optimize the chances of survival for pediatric patients.

10. If a patient presents with positive signs of stroke on the Cincinnati scale, what should be done next?

A. Perform a detailed neurological assessment

B. Use the LAMS scale to assign a value

C. Administer oxygen immediately

D. Monitor vital signs continuously

In a situation where a patient demonstrates positive signs of stroke according to the Cincinnati Prehospital Stroke Scale (CPSS), the next appropriate step is to use a more detailed assessment tool, such as the Los Angeles Motor Scale (LAMS), to assign a value. The LAMS scale is often used in prehospital settings as it provides a more comprehensive evaluation of the patient's motor function and helps in assessing the severity of the stroke. By utilizing LAMS, EMTs can better stratify the patient's condition, aiding in the decision-making process for further treatment and transport to an appropriate facility. It's important to recognize that while performing a detailed neurological assessment, administering oxygen, and monitoring vital signs are all critical components of patient care, they would typically follow the use of more specific assessment tools to gauge the immediate severity of the stroke. Prioritizing the LAMS scale allows for a focused approach to stroke management and initiates the protocol for rapid transport and intervention, crucial for improving patient outcomes in stroke cases.