SAEM Emergency Department (ED) Practice Test (Sample)

Study Guide

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Questions

1. **What does the term "scoop and run" imply in emergency medical services?**
   - **A. Rapid transport of the patient to the hospital with minimal on-scene treatment**
   - **B. Thorough examination of the patient before transport**
   - **C. Documenting patient history on-site before departure**
   - **D. Administering advanced life support interventions at the scene**

2. **What is the most common site for foreign body impaction in children?**
   - **A. Proximal esophagus**
   - **B. Distal esophagus**
   - **C. Duodenum**
   - **D. Gastric fundus**

3. **What is the initial treatment for an asthma exacerbation in the ED?**
   - **A. Inhalation of a bronchodilator**
   - **B. Administration of corticosteroids**
   - **C. Oxygen therapy**
   - **D. Intravenous fluids**

4. **In pediatric patients, what is the primary assessment during resuscitation?**
   - **A. The pediatric assessment triangle (PAT)**
   - **B. Capillary refill time**
   - **C. Head-to-toe physical exam**
   - **D. Blood pressure monitoring**

5. **What is the best antidote for methanol poisoning?**
   - **A. Activated charcoal**
   - **B. Fomepizole**
   - **C. N-acetylcysteine**
   - **D. Flumazenil**

6. What is the most common cause of suicide by ingestion?

A. Alcohol overdose

B. Antidepressant overdose

C. Opioid overdose

D. Overdose of antipsychotic medication

7. In patients with hypothermia, which intervention is contraindicated?

A. The administration of warm fluids rapidly

B. Use of warm blankets

C. Encouraging active movement

D. Providing ambient heat

8. For a patient presenting with acute abdominal pain and guarding, which condition should be considered?

A. Cholecystitis

B. Appendicitis

C. Pancreatitis

D. Diverticulitis

9. What is the formula used to calculate fluid resuscitation in burn patients?

A. 4 * [weight kg] * %BSA

B. 2 * [weight kg] * %BSA

C. 8 * [weight kg] * %BSA

D. 6 * [weight kg] * %BSA

10. What is the primary risk of a patient with a history of transient ischemic attack (TIA)?

A. Hemorrhagic stroke

B. Thrombotic stroke

C. Embolic stroke

D. Subarachnoid hemorrhage

Answers

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

Explanations

1. What does the term "scoop and run" imply in emergency medical services?

A. Rapid transport of the patient to the hospital with minimal on-scene treatment

B. Thorough examination of the patient before transport

C. Documenting patient history on-site before departure

D. Administering advanced life support interventions at the scene

The term "scoop and run" refers to a strategy employed in emergency medical services that prioritizes getting the patient to the hospital as quickly as possible, minimizing the time spent on scene. This approach is particularly relevant in time-sensitive situations where rapid transport can significantly impact outcomes, such as in cases of severe trauma or critical medical emergencies. The rationale behind this method is that certain interventions, like advanced definitive care, can be more effectively provided in a hospital setting rather than delaying transport for extensive on-scene treatment. In the context of emergency care, this approach also acknowledges that there are cases where the benefits of immediate transport outweigh the advantages of complete assessment or treatment prior to departure. Essentially, it is a recognition of the urgency of the patient's condition and the necessity of quick action to facilitate that care as soon as possible.

2. What is the most common site for foreign body impaction in children?

A. Proximal esophagus

B. Distal esophagus

C. Duodenum

D. Gastric fundus

The most common site for foreign body impaction in children is the proximal esophagus. This area is notably where the esophagus transitions from the pharynx, making it a narrow point that often serves as a site for entrapment. The anatomical structure of the esophagus, particularly in younger children, contributes to the higher incidence of foreign body impaction in this region. Children are frequently prone to swallowing small objects due to their natural curiosity and tendency to put items in their mouths. When these swallowed objects encounter the narrow area of the proximal esophagus, they are more likely to become lodged. Furthermore, the presence of surrounding anatomical features, such as the cricoid cartilage and the aortic arch, can contribute to constriction in this area, increasing the likelihood of impaction. In contrast, locations such as the distal esophagus, duodenum, and gastric fundus are less common for foreign body impaction due to wider luminal diameters, less curvature, and the natural peristalsis of the gastrointestinal tract that helps in moving objects along.

3. What is the initial treatment for an asthma exacerbation in the ED?

A. Inhalation of a bronchodilator

B. Administration of corticosteroids

C. Oxygen therapy

D. Intravenous fluids

The initial treatment for an asthma exacerbation in the emergency department focuses on rapid relief of airway obstruction and improving airflow. Inhalation of a bronchodilator, particularly a short-acting beta-2 agonist (such as albuterol), is the cornerstone of immediate management. These medications work quickly to relax the smooth muscles of the airways, leading to bronchodilation, which helps alleviate wheezing, shortness of breath, and chest tightness that are common during an asthma attack. While corticosteroids are important for reducing inflammation and preventing recurrence after the initial treatment, they do not provide immediate relief of symptoms and are therefore administered later in the treatment protocol. Similarly, oxygen therapy may be necessary if the patient presents with hypoxemia, but it does not directly address the acute bronchospasm. Intravenous fluids may be indicated in certain scenarios, such as severe dehydration or if the patient is unable to take medications orally, but they do not treat the underlying airway obstruction. Thus, inhalation of a bronchodilator is the correct initial approach in managing an asthma exacerbation due to its rapid action in alleviating acute symptoms and restoring normal breathing.

4. In pediatric patients, what is the primary assessment during resuscitation?

A. The pediatric assessment triangle (PAT)

B. Capillary refill time

C. Head-to-toe physical exam

D. Blood pressure monitoring

The primary assessment during resuscitation in pediatric patients is the pediatric assessment triangle (PAT). This tool is essential because it allows for a rapid and systematic evaluation of a child's clinical status based on three key components: appearance, work of breathing, and circulation to the skin. These components help healthcare providers quickly identify life-threatening conditions and prioritize interventions. The appearance assesses the child's mental status and overall responsiveness, which is critical to understanding their physiological stability. The work of breathing evaluates whether the child is in respiratory distress, which can provide immediate insights into their need for respiratory support. Lastly, the evaluation of circulation to the skin helps in assessing perfusion and identifying signs of shock. Using the pediatric assessment triangle as an initial assessment method allows for a quick determination of the severity of the child's condition, enabling healthcare providers to initiate appropriate resuscitative measures without delay. This is particularly crucial in emergency situations where time is of the essence, and immediate interventions can be lifesaving. The other methods listed, while important, serve different purposes and may not provide the rapid assessment needed during resuscitation. Capillary refill time is useful for assessing perfusion but does not encompass a holistic view of the child's condition. A head-to-toe physical exam, although comprehensive

5. What is the best antidote for methanol poisoning?

A. Activated charcoal

B. Fomepizole

C. N-acetylcysteine

D. Flumazenil

Fomepizole is the best antidote for methanol poisoning because it acts as an alcohol dehydrogenase inhibitor. This enzyme is responsible for converting methanol into its toxic metabolites, namely formaldehyde and formic acid, which are primarily responsible for the harmful effects associated with methanol poisoning. By inhibiting this enzyme, fomepizole effectively reduces the formation of these harmful metabolites, thereby mitigating the toxicity of methanol. In cases of methanol poisoning, prompt administration of fomepizole can prevent severe metabolic acidosis, central nervous system depression, and potential organ damage, leading to better clinical outcomes for the patient. Other treatment approaches may still be relevant, such as supportive care and, in some situations, hemodialysis, but fomepizole remains the primary pharmacological intervention specifically designed to counteract the effects of methanol.

6. What is the most common cause of suicide by ingestion?

A. Alcohol overdose

B. Antidepressant overdose

C. Opioid overdose

D. Overdose of antipsychotic medication

The most common cause of suicide by ingestion is typically associated with antidepressant overdose. This is largely due to several factors. Antidepressants, particularly those in the classes of tricyclics and selective serotonin reuptake inhibitors (SSRIs), are readily available, which may lead individuals in crisis to choose them as a means of self-harm. Moreover, antidepressants have a significant therapeutic effect in the management of depression and mood disorders, which can paradoxically lead individuals, especially those with severe depression, to take an overdose not only for self-harm but in an effort to exacerbate their struggles with mental health. Additionally, the use of these medications can sometimes be coupled with a lack of awareness about their potential lethality when taken in large quantities, making them a more common method of ingestion-related suicide than other substances. This understanding highlights the necessity for both medical professionals and mental health advocates to monitor prescriptions closely and address the risks associated with antidepressant medications in vulnerable populations.

7. In patients with hypothermia, which intervention is contraindicated?

A. The administration of warm fluids rapidly

B. Use of warm blankets

C. Encouraging active movement

D. Providing ambient heat

In cases of hypothermia, the rapid administration of warm fluids is contraindicated primarily due to the risk of causing a sudden shift in temperature that can lead to complications such as cardiac arrhythmias. Rapid rewarming of the core can lead to a situation known as "rewarming shock," where the heart is affected by a sudden influx of warm blood from the periphery to the core. This can destabilize the cardiovascular system in patients who are already at risk due to their hypothermic state. In contrast, using warm blankets, provided ambient heat, and encouraging active movement (if not contraindicated by the extent of hypothermia or other neurological issues) are all supportive measures aimed at gently rewarming the patient. These methods allow for a more controlled rewarming process, reducing the likelihood of adverse events associated with rapid temperature changes. It is important to approach rewarming in a graduated manner to safely restore the patient's normal body temperature without causing further harm.

8. For a patient presenting with acute abdominal pain and guarding, which condition should be considered?

A. Cholecystitis

B. Appendicitis

C. Pancreatitis

D. Diverticulitis

When evaluating a patient with acute abdominal pain and guarding, it's crucial to consider the potential causes of these symptoms. Guarding typically indicates irritation of the peritoneum, often associated with inflammation or perforation in the abdominal cavity. In this context, appendicitis is a prominent consideration. It often presents with right lower quadrant pain, nausea, and fever. The pain usually starts around the umbilicus before migrating to the right lower quadrant, and guarding can be a key sign indicating the presence of peritoneal irritation due to an inflamed appendix. Cholecystitis, pancreatitis, and diverticulitis can also cause similar symptoms, but they may present with additional signs and symptom patterns that differentiate them. For instance, cholecystitis often presents with pain in the right upper quadrant and may be associated with biliary colicky pain and jaundice. Pancreatitis typically yields severe upper abdominal pain that may radiate to the back, alongside nausea and vomiting. Diverticulitis usually occurs with left lower quadrant pain and can be associated with changes in bowel habits. Thus, when faced with a patient who has acute abdominal pain accompanied by guarding, appendicitis emerges as a condition that warrants strong consideration.

9. What is the formula used to calculate fluid resuscitation in burn patients?

A. 4 * [weight kg] * %BSA

B. 2 * [weight kg] * %BSA

C. 8 * [weight kg] * %BSA

D. 6 * [weight kg] * %BSA

The formula recognized for calculating fluid resuscitation in burn patients is based on the principle of providing adequate fluid volume to compensate for the significant fluid loss that occurs following a burn injury. Specifically, the widely accepted formula is 4 mL of lactated ringers solution per kilogram of body weight for each percent of total body surface area (BSA) burned. Using this formula helps to estimate the total fluid requirement accurately during the initial 24 hours after the burn injury, where the critical factor is the severity of the burns as indicated by the percentage of BSA affected. This means that if a patient weighs 70 kg and has burns covering 50% of their BSA, the calculation would be 4 mL * 70 kg * 50. This approach is crucial because inadequate fluid resuscitation can lead to shock and organ failure, while excessive fluid can lead to compartment syndrome and other fluid overload complications. Therefore, the formula of 4 * [weight kg] * %BSA accurately addresses the physiological needs of a burn patient in the critical first hours following the injury.

10. What is the primary risk of a patient with a history of transient ischemic attack (TIA)?

A. Hemorrhagic stroke

B. Thrombotic stroke

C. Embolic stroke

D. Subarachnoid hemorrhage

A patient with a history of transient ischemic attack (TIA) is at an increased risk for a thrombotic stroke, which is characterized by the formation of a blood clot within a blood vessel in the brain leading to an obstruction of blood flow. TIAs are often seen as precursors to more severe strokes, with a significant percentage of individuals who experience a TIA going on to have a full-blown stroke, particularly thrombotic in nature. The underlying mechanism common to both TIAs and thrombotic strokes often involves atherosclerosis and plaque formation in the cerebral arteries, which contributes to the formation of blood clots. When a TIA occurs, it indicates that there was a temporary reduction of blood flow to part of the brain, and this situation can subsequently lead to a more permanent blockage, resulting in a thrombotic stroke. In contrast, other types of strokes, such as hemorrhagic strokes or embolic strokes, have different risk profiles and mechanisms. Hemorrhagic strokes involve bleeding into the brain and are typically associated with conditions like hypertension or vascular malformations, while embolic strokes are caused by clots that form elsewhere in the body (such as the heart) and travel to the brain, which is a different