



ENC(C) Questions Summer 2022

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1. You are receiving care of a 7-year-old patient who had fallen off of the dock into a local lake. Critical first look indicates that the child is moving spontaneously, has increased work of breathing and is pale. They are coughing and tells you that breath sounds are coarse throughout with expiratory wheezing. They suspect the child has aspirated water from the lake. Which of the following complications are you concerned about for this child based on this brief assessment?
 - A. Noncardiogenic pulmonary edema resulting from surfactant wash out
 - B. Pulmonary hypertension resulting from laryngospasm with submersion
 - C. Hyperthermia related to a generalized inflammatory response to dirty lake water
 - D. Pulmonary emboli related to stasis in the pulmonary circulation
2. You are caring for a patient with an active upper gastrointestinal (GI) bleed. Vital signs are BP 100/58, HR 100, RR 20 SpO₂ 93% on room air. The cardiac monitor shows a second-degree heart block. The physician suspects the bleed is variceal and asks you to give octreotide. Which of the following is true regarding precautions for administration of octreotide?
 - A. It increases thyroid stimulating hormone (TSH) production and can exacerbate hyperthyroidism
 - B. Caution should be exercised because the patient also has second-degree heart block
 - C. Kidney function tests must be obtained prior to administration
 - D. Confusion and/or delirium may result following administration
3. A 66-year-old patient arrives to the emergency department (ED) with right-sided weakness and slurred speech for 1.5 hours prior to arrival. Vital signs are BP 202/112 mmHg, HR 67 RR 18, SpO₂ 96%, temperature 37.2°C. The physician reports the CT scan of the head is normal. The patient is having an acute ischemic stroke meeting criteria for thrombolytic therapy. Which order is the correct sequence for medication administration?
 - A. Heparin, thrombolytic agent, antihypertensive agent
 - B. Thrombolytic agent, antihypertensive agent, acetylsalicylic acid, heparin
 - C. Antihypertensive agent, thrombolytic agent, acetylsalicylic acid
 - D. Antihypertensive agent, acetylsalicylic acid, thrombolytic agent, heparin
4. An active shooter has been declared in the emergency department. Which of the following is the most appropriate response for the emergency nurse?
 - A. Hide
 - B. Run.
 - C. Fight.
 - D. Call 911.
5. You are caring for a 15-year-old female patient presenting with fatigue and extreme weight loss. Further assessment reveals orthostatic hypotension, tachycardia, electrolyte abnormalities (hyponatremia, hypokalemia, hypocalcemia), hypoglycemia, metabolic acidosis, peripheral edema, and cool extremities. She informs you that her last menstrual period (LMP) was 6 weeks ago. The patient also presents with a flat affect. Which of the following nursing interventions should you perform first?
 - A. Obtain a urinalysis for human chorionic gonadotropin (HCG) test
 - B. Administer Dextrose 50% 25 grams IV for hypoglycemia
 - C. Initiate continuous cardiorespiratory monitoring to assess for dysrhythmias
 - D. Contact pediatric mental health provider for eating disorder referral

6. A 6-year-old male patient arrives in the ED via ambulance, with paramedics actively engaged in trauma resuscitation. He was struck by a motor vehicle at high speed while riding his bicycle; he was wearing a helmet. The child's parents arrive shortly after the ambulance. Which of the following statements regarding family presence during resuscitation is false?
- A. A trained family support person (e.g., social worker, nurse) should be in place during the resuscitation to ensure the family is aware of what they will see, hear, and smell.
 - B. Family presence during resuscitation has been shown to assist with coping and adjustment to loss of a child, recognizing that everything was done.
 - C. Family presence during resuscitation should only occur after invasive procedures (e.g., endotracheal intubation, central venous catheter insertion) have been completed.
 - D. Current evidence suggests that most health care providers are opposed to family presence during resuscitation due to delayed or prolonged resuscitation events, negative patient outcomes, and litigation.

Answers Key with rationale

1. Correct answer: A

Pulmonary complications are the most common result in pediatric submersion events and require the emergency care team to be vigilant with respiratory assessment and intervention. Aspiration of water is usually minimal, often less than 4 ml/kg (Chandy & Weinhouse, 2021; Midliaccio, 2021) but this aspiration, fresh or salt, causes a “wash out” effect reducing surfactant which can increase alveolar capillary membrane permeability and result in non-cardiogenic pulmonary edema. This can lead to acute respiratory distress syndrome (Migliaccio, 2021; Mittaweh et al, 2015). Victims of submersion injury will more likely be hypothermic from submersion and subsequent exposure. Although pulmonary hypertension may be exacerbated by a submersion incident related to inflammatory mediator release, it is not a primary cause of pulmonary hypertension.

2. Correct answer B

Octreotide is a drug which inhibits serotonin release. It functions in a manner similar to somatostatin and decreases gastric mucosal blood flow, as well as decreasing portal and variceal pressures (Lexicomp, 2022; Alberta Health Services (AHS), 2020). Caution is indicated because complete atrioventricular heart block and other conduction abnormalities have been reported. Caution should also be used with any medication that prolongs QTc interval as octreotide can exacerbate those effects. While half-life and clearance of the medication may be prolonged with renal dysfunction, there are no manufacturers' recommendations for testing or dosage adjustment (AHS, 2020; Lexicomp, 2022).

3. Correct answer C

Blood pressure management is the priority before thrombolytic therapy to lessen the chance of related complications, including intracerebral hemorrhage (Bath et al, 2022). Antiplatelet or anticoagulation therapy is not initiated initially in the treatment of acute ischemic stroke patients receiving thrombolytic therapy. Antiplatelet and anticoagulation medications are usually deferred for the first 24 hours following thrombolytic therapy in acute ischemic stroke patients (Bath et al, 2022; Gasecki et al., 2020).

4. Correct answer B

In active shooter situations, the emergency nurse has three options: run, hide, or fight (Jacobson, 2020, p. 356). The nurse's natural instinct may be to help others first; however, they should first ensure their own safety before assisting others. The emergency nurse cannot help others if they become a victim (Schueler, 2020). The nurse must try to remain calm while removing oneself from the path of the shooter (run). If this is not feasible, the nurse's next action is to hide (e.g., turn off lights, barricade doors/windows with large objects) and try to contact 911, followed by fight if in imminent danger (Jacobson, 2020, p. 356).

5. Correct Answer: C

Eating disorders (i.e., anorexia nervosa) can lead to severe physiological consequences, particularly cardiac rhythm disturbances if electrolyte imbalances are present. Electrocardiographic changes may include: “non-specific ST- and T-wave abnormalities, atrial or ventricular tachydysrhythmias, idioventricular conduction delay, heart block, nodal rhythms, ventricular escape, premature ventricular contractions, and prolonged QTc interval” (Pritts, 2020, p. 584). Therefore, the nurse's first priority is to initiate continuous cardiorespiratory monitoring and assess for dysrhythmias. Subsequently, the patient may also require Dextrose 50% administered intravenously due to starvation and malnutrition, but the principles of primary assessment apply here. As with any female patient of child-bearing age, an HCG test should be performed once the patient is stabilized. An HCG test would also confirm if electrolyte abnormalities could be due to pregnancy, given the patient's LMP was 6 weeks ago. It should be noted that eating disorders may also lead to endocrine dysfunction, such as amenorrhea (Gordon et al., 2017). Eating disorders are rooted in mental illness, with a variety of factors increasing one's risk for onset (e.g., biological, social, genetic, psychological) (National Eating Disorder Information Centre, n.d.). Referral to an appropriate mental health provider should be initiated prior to discharge.

6. Correct Answer: D

The practice of family presence during resuscitation and invasive procedures has evolved over the last four decades. Current research shows that most health care providers support the presence of family during resuscitation (Howard, 2020, p. 112). Historically, concerns such as “...interference with care events, disruptive family members, delayed or prolonged resuscitation events, litigation, and distress of health care professionals” (Howard, 2020, p. 113) largely stemmed from providers' perceptions rather than evidence or experiences with family presence during resuscitation (Porter et al., 2014, p. 73). Institutional policy implementation and education regarding family presence have served to further increase providers' support (Howard, 2020; Oczkowski et al., 2015; Porter et al., 2014). Institutional policies should include the role of the *trained* family support person, specifically the provision of emotional support and ongoing explanations, before, during, and after resuscitation (e.g., what they will see, hear, smell) (National Emergency Nurses Association [NENA], 2004, p. 1). Studies suggest that family members present during resuscitation and invasive procedures describe better coping and adjustment to the loss of their

child (Howard, 2020, p. 113); they describe a level of comfort in knowing that everything was done to help their child (Dietrich, 2014, para. 13). Parents stated that they would choose "...to be present again in similar circumstances, would not change their experience, and would recommend being present to other parents" (Howard, 2020, p. 112). The importance of screening of family members appropriate for the bedside is also discussed

in the literature. Dietrich (2014) and Oczkowski et al. (2015) suggest that screening of family members should be performed prior to allowing them at the bedside or in the resuscitation room. Family members who are or may become extremely emotionally volatile or aggressive, for example, should be supported via other means.

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