HELPFUL HINT

Review anatomy and physiology of the cardiac and respiratory systems.

MATCHING KEY TERMS

Match the term with the correct definition.

1. ______ ABCDE’s
2. ______ cardiopulmonary resuscitation
3. ______ dental emergency
4. ______ envenomation
5. ______ extracorporeal membrane oxygenation
6. ______ hypothermia
7. ______ ingestion
8. ______ shock
9. ______ submersion injury
10. ______ trauma
11. ______ trauma score
12. ______ traumatic brain injury
13. ______ triage

a. Injury from an external cause
b. Protocol performed when an individual’s respiratory and cardiovascular systems require support to maintain vital functions
c. Temporary method of providing cardiovascular, respiratory, and circulatory support for children for whom other methods of treatment are not effective
d. Cooling of body temperature to subnormal levels
e. Injury or infection of a tooth in which prompt medical attention is critical for the survival of the tooth or to alleviate pain
f. Swallowing of a potentially toxic substance
g. Sorting process used to decide the urgency of an individual’s illness or injury and to allocate appropriate resources effectively
h. Injuries resulting from a near-drowning incident
i. Injection of venom by an animal
j. Critical components of the primary assessment of a critically ill or injured child: airway, breathing, circulation, disability, and exposure
k. Numeric score assessed by health care providers to determine the extent of trauma
l. A leading cause of death or permanent disability
m. Inadequate tissue perfusion that results in cardiovascular or respiratory compromise
GENERAL GUIDELINES FOR EMERGENCY NURSING CARE

1. List five interventions that can facilitate a more positive and comfortable emergency experience for a child and family.
   a. __________________________
   b. __________________________
   c. __________________________
   d. __________________________
   e. __________________________

2. List three strategies that the nurse could use when dealing with a family experiencing great emotional distress because they have been told that their child’s injuries are life-threatening.
   a. __________________________
   b. __________________________
   c. __________________________

Match each medication with its use in pediatric emergency care.

3. ______ activated charcoal a. Reverses the effects of some narcotics
4. ______ atropine sulfate b. Treats symptomatic bradycardia
5. ______ bretylium tosylate c. Treats bradycardia or asystolic arrest
6. ______ dextrose d. Treats ventricular tachycardia
7. ______ epinephrine e. Treats severe acidosis
8. ______ naloxone hydrochloride f. Reduces drug absorption in toxic ingestions
9. ______ sodium bicarbonate g. Treats hypoglycemia

GROWTH AND DEVELOPMENT ISSUES IN EMERGENCY CARE

Match each age-group with the appropriate nursing interventions.

1. ______ Infant a. Ascertaining child’s level of understanding and allow time for questions.
2. ______ Toddler b. Allow the child to have familiar objects to help him or her feel safe.
3. ______ Preschooler c. Use a soothing voice and touch, rock, or cuddle the child.
4. ______ School-age d. Explain procedures carefully and allow choices.
5. ______ Adolescent e. Talk to the child throughout the procedure explaining how he or she can help.
The Family of a Child in Emergency Care

Fill in the blanks.
1. __________ and ________________ are the two most common emotions experienced by parents of children cared for in emergencies.
2. The underlying cause of the anger that some parents express toward health care providers in the emergency setting is often ________________.

Emergency Assessment of Infants and Children

1. Describe the role of the triage nurse.
2. Name three essential factors in an initial pediatric triage assessment.
   a. ________________
   b. ________________
   c. ________________
3. List the components of the primary assessment.
   A: ________________
   B: ________________
   C: ________________
   D: ________________
   E: ________________

Answer as either true (T) or false (F).
4. ______ A respiratory rate of more than 60 breaths/min is considered abnormal for a child of any age.
5. ______ Tachycardia and decreased peripheral perfusion are early signs of cardiovascular compromise in a child.
6. ______ Infants and young children have a higher percentage of fluid located in the intracellular compartment.
7. ______ For the first several months of life, the presence of nasal secretions can cause respiratory compromise in infants.
8. ______ Abdominal breathing is an abnormal finding in infants and young children.
9. What are the four components of the secondary assessment?
   F: ________________
   G: ________________
10. Give the suggested order for measuring vital signs in children.

11. Identify the elements of a SAMPLE history.
   - **S**: __________________
   - **A**: __________________
   - **M**: __________________
   - **P**: __________________
   - **L**: __________________
   - **E**: __________________

12. Which laboratory tests are considered standard protocol in an emergency setting?

13. Why is determining the child’s weight essential in emergency care?

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**Cardiopulmonary Resuscitation of the Child**

1. What are the two most common causes of cardiopulmonary arrest in children?

2. Ventilations should be given at a rate of __________________, or approximately one breath every __________________ seconds.

3. What is the emergency intervention for an obstructed airway in a conscious child?

4. What is the emergency intervention for an obstructed airway in an unconscious child?

5. What is the rationale for not performing blind finger sweeps for infants and children?

6. What is the emergency intervention for removal of a foreign object from an infant?

7. Before and during cardiac compressions, the nurse feels for a pulse in the infant at the __________________; for a child older than 1 year of age, at the __________________.
8. According to the American Heart Association, chest compressions are performed at a rate of ________________.

9. In the community setting, an automatic external defibrillator (AED) should be used on a child who has had a cardiac arrest after ________________ cycles of CPR have been performed.

### THE CHILD IN SHOCK

Indicate whether each statement refers to hypovolemic (H), cardiogenic (C), or distributive (D) shock.

1. ______ This is the most common type of shock seen in children.

2. ______ This occurs when myocardial function is unable to produce cardiac output that meets the metabolic demands of the body.

3. ______ This occurs when microbial toxins are in the bloodstream.

4. ______ Early signs include warm extremities and purpuric skin lesions.

5. ______ Diuretics are often prescribed when there is an excess of increased intravascular volume.

6. ______ Periorbital edema, crackles, and diaphoresis are clinical manifestations.

7. ______ Initial treatment involves administration of normal saline or lactated Ringer’s solution.

Answer as either true (T) or false (F).

8. ______ Hypotension is an early sign of shock in children.

9. ______ Septic shock is the most common cause of hypovolemic shock.

10. ______ Early signs of cardiogenic shock include hypothermia or hyperthermia.

11. ______ Enalaprilat, dopamine, and milrinone are the initial drugs of choice for treating distributive shock.

### PEDIATRIC TRAUMA

Answer as either true (T) or false (F).

1. ______ Injury is the leading cause of death for children older than 1 year.

2. ______ Injuries from blunt trauma are seen after falls and motor vehicle collisions.

3. ______ Children weighing more than 40 pounds can safely sit in the front passenger seat of a car if they are restrained with lap belts and shoulder harnesses.

4. ______ Acceleration-deceleration force is known as Waddell’s triad.

5. ______ An example of a penetrating injury is a gunshot wound.

6. State the goals of the primary survey in pediatric trauma.

7. Identify the four elements of the primary survey used in the management of pediatric trauma.

   A:

   B:
8. What is included in the *secondary survey*?

9. For each of the following types of injury, write two questions that the nurse should ask when obtaining a history of the injury.

   Motor vehicle accident:

   Fall:

   Penetrating injury:

10. List five indicators or physical findings that should raise suspicion of child maltreatment.

11. What is the most critical aspect of nursing care of the pediatric trauma patient?

**INGESTIONS AND POISONINGS**

1. Most poisonings occur as a result of ____________________.

2. List the five methods used to treat toxic exposure or ingestion.

   a. ____________________

   b. ____________________

   c. ____________________

   d. ____________________

   e. ____________________
3. Why does the American Academy of Pediatrics no longer recommend the use of syrup of ipecac in the home setting?

Answer as either true (T) or false (F).

4. ______ Respiratory acidosis is an early manifestation of aspirin toxicity.
5. ______ Hydrocarbon ingestion is associated with chemical pneumonitis.
6. ______ Milk or water is recommended to dilute ingested acids.
7. ______ Activated charcoal has become the recommended treatment for acute poisoning in the pediatric population.
8. ______ Gastric lavage is used to empty the stomach of the toxic substance in the first 1 to 2 hours after an ingestion.
9. ______ The dosage of activated charcoal is usually administered 3 to 4 g/kg.
10. ______ The antidote for acetaminophen ingestion is naloxone.
11. ______ Emesis should be induced following ingestion of corrosive substances.
12. ______ A serum lead level that is greater than 10 mcg/dl is considered harmful.
13. List three questions that should be asked when a child has ingested a poisonous substance.
   a. ____________________
   b. ____________________
   c. ____________________

ENVIRONMENTAL EMERGENCIES

1. List four local signs and symptoms of a snake bite.

2. Describe the nursing care of an injury from a dog bite.
SUBMERSION INJURIES
1. The injury to organ systems that occurs in drowning is the result of _________________.
2. Briefly explain the diving reflex _________________.
3. Most long-term sequelae of near-drowning incidents affect the ________________ system.

HEAT-RELATED EMERGENCIES
1. What is the first priority in the management of all pediatric heat-related illnesses?
2. Describe the treatment for heat exhaustion.
3. What are the clinical manifestations of heat stroke?

DENTAL EMERGENCIES
Answer as either true (T) or false (F).
1. ______ In subluxation, the socket of the injured tooth is damaged.
2. ______ An avulsed tooth can be placed in saline or milk for transport to emergency care.

SUGGESTED LEARNING ACTIVITY
1. Arrange to observe in an emergency department that handles pediatric clients. Ask the nurses about the kinds of pediatric problems that are seen most often.

STUDENT LEARNING APPLICATION
Enhance your learning by discussing your answers with other students.

You are observing in the emergency department when the paramedics bring in a 6-year-old girl, who ingested many aspirins while visiting with her grandmother while her father was at work. The nurse is performing a primary survey on the child when she goes into cardiac arrest. Her father arrives at the emergency department while the trauma team is performing cardiopulmonary resuscitation on his child. When the father is told about his daughter’s condition, he begins sobbing and keeps repeating, “Please don’t let her die.” The nurse says, “Don’t worry now. We won’t. Everything will be fine.”

1. While the child is being stabilized, what questions should be directed at the child’s grandmother?

2. How would the nurse explain the rationale behind gastric lavage and the administration of activated charcoal after the child has been stabilized?

3. What do you think about the nurse’s response to the child’s father? Offer an alternative response.
4. How can the nurse be supportive of the father and grandmother during this emergency situation?

REVIEW QUESTIONS

Choose the correct answer.

1. A 2-year-old boy is brought to the emergency department after swallowing over-the-counter antihistamine tablets approximately 30 minutes earlier. He is now irritable and lethargic. What is the best approach for gastric emptying in this situation?
   a. Dilute the toxic substance with water or milk.
   b. Administer an antidote such as naloxone.
   c. Perform gastric lavage.
   d. Administer syrup of ipecac.

2. Which medication is used to treat severe acidosis associated with cardiac arrest?
   a. Epinephrine
   b. Calcium chloride
   c. Sodium bicarbonate
   d. Atropine sulfate

3. Which nursing action might help the toddler to feel more secure in the emergency department?
   a. Perform the most distressing procedures first.
   b. Distract the child by counting numbers.
   c. Give the child a reward for cooperative behavior.
   d. Allow the child to hold his favorite toy.

4. Which of the following is assessed first in an initial triage assessment?
   a. Respiratory rate and effort
   b. Skin color and temperature
   c. Response to environment
   d. Heart rate and rhythm

5. When a child’s breathing makes a high-pitched sound on inspiration, what term should the nurse use to identify this breath sound?
   a. Snoring
   b. Stridor
   c. Wheezing
   d. Crackles

6. What is one reason that a small child is at a greater risk for airway problems than an adult?
   a. The child’s thicker, inflexible trachea can more easily obstruct the airway.
   b. Children younger than 3 years of age are obligate nose breathers.
   c. The child’s airway is narrower and more easily obstructed by small amounts of mucus.
   d. The child’s smaller tongue creates more space for foreign body obstruction.

7. Which of the following vitals signs indicates that a 5-year-old child requires immediate attention?
   a. Systolic blood pressure of 80 mm Hg
   b. Bulging, pulsatile posterior fontanel
   c. Heart rate of 94 bpm
   d. Respiratory rate of 68 breaths/min

8. Which finding in a 1-year-old child with hypovolemic shock should be reported immediately?
   a. Flat anterior fontanel
   b. Palpable peripheral pulses
   c. Moist mucous membranes
   d. Less responsive to painful stimuli

9. What is the most common form of distributive shock?
   a. Septic
   b. Hypovolemic
   c. Cardiogenic
   d. Anaphylactic

10. The primary focus of assessment of cardiovascular status in a child with multiple traumas is to identify
   a. hypovolemia.
   b. septic shock.
   c. cardiac arrest.
   d. electrolyte imbalance.
11. Which of the following is an indicator of hypovolemic shock in a 2-month-old infant?
   a. Bulging anterior fontanel
   b. Capillary refill of less than 2 seconds
   c. Parental report of two wet diapers in past 24 hours
   d. Extremities warm to the touch

12. When near-drowning occurs, injury to organ systems is the result of
   a. hypoxia.
   b. respiratory acidosis.
   c. hypokalemia.
   d. hypoglycemia.

13. After a 10-year-old child falls on his face, his mother notices that the upper central incisors are loose. What should she do?
   a. Remove the loose teeth and put them in a container of milk.
   b. Call the dentist and schedule an appointment within the week.
   c. Leave the teeth alone and call the dentist for an immediate appointment.
   d. Ask the child to wiggle the teeth loose while driving to the nearest emergency department.

14. Which vital sign is measured first in children?
   a. Temperature
   b. Pulse
   c. Respiratory rate
   d. Blood pressure

15. Which of the following is the first compensatory mechanism for decreased cardiac output in children?
   a. Tachycardia
   b. Hypotension
   c. Cyanosis
   d. Diminished breath sounds