LUCAS COUNTY

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January 10, 2012

To: ALL LUCAS COUNTY PARAMEDICS

From: Jonathon Ziehr, NREMT-P
Lucas County EMS Continuing Education Program Administrator

RE: Continuing Education February, 2012 – Pediatric Emergencies

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"The Pediatric Assessment"….. The Pediatric patient makes up a very small percentage of EMS calls today. Given the general nature of a pediatric emergency call, and the infrequency of response and treatment by the Paramedic, these situations require immediate critical decision making. Continuing Education for the month of February will be dedicated to a review of Pediatric Emergencies with emphasis on the "Pediatric Approach and Assessment"

Attached please find the pre-test for you to review prior to class attendance. If you have any questions please call me at 419-213-6570.

Lucas County EMS Continuing Education
February 2012

Pediatric Emergencies Pre-Test

1. You are attempting resuscitation of an infant or child with severe symptomatic bradycardia and no evidence of vagal etiology. The bradycardia persists despite establishment of an effective airway, oxygenation, and ventilation. Which of the following is the ***first drug*** you should administer?

    a. Atropine
    b. Dopamine
    c. Adenosine
    d. Epinephrine

2. A 6-year-old (22Kg) female patient presents with a probable allergic reaction to a newly prescribed medication. She is awake and responsive with a rash (urticaria) covering her whole body. She denies any respiratory distress. You should treat this patient with:

    a. Solu Medrol 22mg IM
    b. Benadryl 44mg IV
    c. Solu Medrol 44mg IV
    d. Benadryl 22mg IM

3. A 1-year-old (10Kg) male is found lying on the bed, hard to arouse from sleep. There is no reported history of previous medical problems or recent trauma. Vital signs: P-98 reg; BP – 96/60; RR – 18; Sp02 – 95% RA; BS – 58mg/dl; Skin – pale, moist. Based upon LCEMS protocol you would administer:

    a. Narcan 0.01mg/Kg IV
    b. 30mL Dextrose 50% IV
    c. Narcan 4mg IV
    d. 15mL Dextrose 50%
    e. None of the above

4. The following condition(s) may cause bradycardia in the pediatric patient:

    a. Hypoxia
    b. Low blood sugar
    c. Narcotic OD
    d. Volume Depletion
    e. All of the above

5. A 3-year-old (15Kg) female patient with a pre-existing cardiac history presents with profound symptomatic bradycardia refractory to Epinephrine infusion. According to LCEMS protocol, the next intervention should be:

    a. Administer Atropine 0.3mg IV/IO
    b. Initiate Dopamine drip at 20mcg/Kg/min
    c. Administer Atropine 0.2mg/Kg
    d. Initiate Epinephrine drip at 2mcg/min

6. A 7-year-old (25Kg) male rescued from a structure fire has 20% second-degree burns. There is no respiratory involvement or compromise. The patient is in severe pain with caregivers reporting a patient allergy to Fentanyl. After IV access is accomplished, you would administer:

    a. Morphine 10mg IV
    b. Morphine 2.5mg IV
    c. Valium 0.02mg/Kg
    d. Valium 0.2mg/Kg

7. The patient from question #6 above continues to complain of severe pain after the initial dosage of pain medication. Which of the following statements best describes the LCEMS protocol for repeating medications for pain control?

    a. Any repeat medication for pain control must be authorized by ***On-Line Medical Control***.
    b. Medications for pain control can be repeated <u>twice</u> by protocol until maximum dose achieved. Any additional amount must be authorized by ***On-Line Medical Control***.
    c. Medications for pain control can be repeated <u>once</u> by protocol until maximum dose achieved. Any additional amount must be authorized by ***On-Line Medical Control***.
    d. Medications for pain control should be repeated q 3-5 minutes by protocol until patient is pain-free.

8. You suspect your 9-year-old male patient has suffered traumatic brain injury (TBI) as a result of a MVC. He is unresponsive and apneic. Vital signs are as follows: P – 40, regular and strong; BP – 150/110; RR – 0. The patient's airway has been secured with an endotracheal tube (confirmed with positive waveform capnogram). Which of the following statements best describes your approach to continued care for this patient?

    a. Administer Atropine 0.02mg/Kg IV for presenting bradycardia and to improve brain perfusion.
    b. Administer Epinephrine 0.01mg/Kg IV for presenting bradycardia and to improve brain perfusion.
    c. Mildly hyperventilate to combat further brain ischemia and the presentation of ICP.
    d. Ventilate patient at normal rate. Hyperventilation will cause vascular constriction in the brain thus extending brain ischemia.

9. You are supervising another healthcare provider in the insertion of an intraosseous needle into an infant's tibia. Which of the following signs should you tell the provider will ***best*** indicate successful insertion of a needle into the bone marrow cavity?

    a. Absence of tissue swelling around site of insertion
    b. Presence of marrow upon aspiration with a syringe
    c. Needle secure in place, without movement
    d. All of the above

10. Your 8-year-old (30Kg) male patient is suspected of ingesting Amitriptyline (TCA). You find him lying on the floor barely responsive with warm, flushed skin. He has spontaneous, deep-blowing respiratory effort. According to LCEMS protocol, the following medication and dose can be administered for TCA overdose:

    a. Glucagon 1.0mg IM/IV
    b. Calcium Chloride 20mg/Kg IV/IO
    c. Atropine 0.02mg/Kg
    d. Narcan 0.4mg/Kg IV/IO/IM
    e. Sodium Bicarbonate 1mEq/Kg IV/IO

11. A 5-year-old (20Kg) male is found in profound bradycardia. During the initial exam, the patient's rhythm changes to ventricular fibrillation with a corresponding loss of consciousness and palpable pulses. Of the following choices, your ***next*** intervention should be:

    a. Immediately defibrillate at 40Joules
    b. Immediately defibrillate at 80Joules
    c. Immediately begin CPR and continue for 1-2 minutes and defibrillate at 2J/Kg
    d. Immediately begin CPR and continue for 1-2 minutes and defibrillate at 4J/Kg

12. The patient in question #11 responds to the initial defibrillation with a resulting sinus bradycardia at 45bpm. He remains unresponsive, apneic with weak peripheral pulses. Your first ***pharmacologic*** action should be:

    a. 0.2mg Epinephrine 1:10,000 IV
    b. 2mL Epinephrine 1:1,000 IV
    c. 0.2mg Epinephrine 1:1,000 IV
    d. 0.4mL Epinephrine 1:10,000 IV

13. In which of the following scenarios should the ResQPOD be used:

    a. A 6-year-old in pulse producing, profound bradycardia with hypotension.
    b. A 6-year-old in Pulseless arrest.
    c. An 11-month-old in Pulseless arrest.
    d. An 8-year-old with tachycardia and weak carotid pulses

14. A 1-year-old (12Kg) female presents with upper respiratory stridor related to "croup." Signs of respiratory decompensation are present. Initial treatment with 3cc-nebulized saline resulted in no patient improvement. Your next action would be:

    a. Repeat 3cc-nebulized saline
    b. Nebulize 3mL Epinephrine 1:1,000 mixed with 2-mL saline
    c. Nebulize 3mL Epinephrine 1:10,000 mixed with 2-mL saline
    d. Nebulize 1-unit dose Albuterol

15. An afebrile, 10Kg male patient is found actively seizing on the bedroom floor. Intravenous attempts have been unsuccessful. Which of the following is the correct dosage for Versed:

    a. 2 mg IV
    b. 2 mg IN
    c. 4 mg IV
    d. 4 mg IN

16. A 3-year old boy has a tracheostomy has had difficulty breathing and coughing for 2 days because of increased secretions. He is on continuous oxygen. His mother states that his breathing is getting much worse. Assessment reveals that he is lethargic, has cool, mottled skin, and has copious secretions in the tracheostomy tube. Which of the following signs suggests significant obstruction of the tracheostomy tube?

    a. A slow heart rate and poor air exchange
    b. Irregular respirations and wheezing
    c. Crackles and decreased breath sounds
    d. Unequal chest rise and wheezing

17. Lucas County EMS Currently carries 3 sizes of Intraosseous needles for the EZ-IO driver.

    a. True
    b. False

18. In a Pediatric Cardiac arrest, LCEMS Paramedics must attempt at least 1 peripheral IV.

    a. True
    b. False

19. The Pediatric Assessment Triangle contains what 3 physiologic parameters for assessment?

    a. Airway, IV, Monitor
    b. Circulation, Airway, Breathing
    c. Capillary Refill, Airway, Breathing
    d. Airway and Appearance, Work of Breathing, Circulation

20. In a Pediatric patient, anytime a poison is ingested, you should induce vomiting to eliminate the substance:

    a. True
    b. False

21. When feeling for a pulse on an unresponsive pediatric patient, it should take no longer than:

    a. 5 seconds
    b. 10 seconds
    c. 15 seconds
    d. None of the above

22. Per the AHA 2010 guidelines, an AED may never be used on an infant.

    a. True
    b. False

23. Per the AHA 2010 guidelines, 1-Rescuer CPR for infants and children should begin with:

    a. 2 rescue breaths
    b. 15 compressions
    c. 30 compressions
    d. None of the above

24. Per the AHA 2010 guidelines, "Look, Listen and Feel" was removed from the sequence for assessment of breathing after opening the airway.

    a. True
    b. False

25. End-Tidal CO2 monitoring is appropriate for adult and pediatric patients. The Pediatric patient with normal cardiac and pulmonary function will have and ETCO2 level of:

    a. 25-35 mm Hg
    b. 40-50 mm Hg
    c. 35-45 mm Hg
    d. 3.5-4.5 mm Hg

26. CO2 alarms are preset on the LP15. The alarm will trigger at 70 mm Hg for the high reading and 5 mm Hg for the low reading.

    a. True
    b. False

27. Per LCEMS Protocols, the Narcan dose for a pediatric patient is:

    a. 2mg/Kg IV /ET / IM / IN
    b. 4mg/Kg IV /ET / IM / IN
    c. Not recommended for Pediatrics
    d. 0.1mg/Kg IV /ET / IM / IN

28. Per the AHA 2010 Guidelines, Cuffed ET Tubes are acceptable for intubating Infants and children:

    a. True
    b. False

29. A spontaneously breathing 15Kg pediatric patient is experiencing symptomatic hypotension. The ResQGARD should be considered for use:

    a. True
    b. False

30. The DOPE mnemonic stands for:

    a. Displacement, Oversized, Pneumothorax, Equipment failure
    b. Discontinue, Obstruction, Pneumothorax, Equipment failure
    c. Displacement, Obstruction, Pneumothorax, Equipment failure
    d. None of the above

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Answer Key

1. D
2. D
3. E
4. E
5. A
6. B
7. A
8. C
9. D
10. E
11. A
12. A
13. B
14. B
15. B
16. A
17. A
18. B
19. D
20. B
21. B
22. B
23. C
24. A
25. C
26. A
27. D
28. A
29. B
30. C