KALAMAZOO COUNTY MEDICAL CONTROL AUTHORITY

CRASHING PATIENT/ PATIENT IN EXTREMIS – PEDIATRIC PROTOCOL

Date: January 21, 2021

Criteria:

A. Patients ≤ 14 years old in whom cardiac or respiratory arrest appears imminent.

B. Patients ≤14 years old with provider impression of extremis, including new onset altered mental status (excluding typical post-ictal state), airway issues, severe respiratory distress/failure (cyanosis, severe retractions, head bobbing, grunting, respiratory rate extremes per age normal MI-MEDIC), signs and symptoms of shock/poor perfusion (capillary refill >3 seconds, tachycardia or hypotension per age normal MI-MEDIC).

Exclusion Criteria:

A. Life-threatening trauma

Goals: EMS may encounter pediatric patients who are in extremis and may quickly deteriorate to cardiac arrest, often while packaging and loading these patients. It is important to promptly recognize the deteriorating patient and take immediate action where you encounter the patient to stabilize the condition before loading and transporting. The following timeline provides a prioritization of the goal directed treatments to stabilize the patient and prevent deterioration.

These patients are critically ill and require immediate on-scene stabilization and rapid transport to the Emergency Department. Given the infrequency of these encounters, providers should consider early medical control contact to help guide care.

MCA Name: Kalamazoo County Medical Control Authority
MCA Board Approval Date: 01-21-21
MDHHS Approval Date:
MCA Implementation Date:

Notes:

1. The specific lengths of time listed are approximate to provide a sense of urgency and to prioritize actions. Provider safety is of utmost importance. Care for these patients should be given as quickly as possible, but safety considerations and the scene environment may lead to times that are longer than these stated goals. When conditions make it impossible to meet these goals, the reasons should be documented.

2. Actions listed should be simultaneous and not in any specific order. As critical actions are performed, transport may be initiated. However, transport should not supercede initiation of life saving intervention.

A. Immediate Actions (within First 5 Minutes)

1. Airway

    a. Open airway manually. For child <2 years old, place towel roll under shoulders (align auditory meatus with sternal notch)

    b. Insert NP or OP as indicated/tolerated if GCS<9 or no response to verbal or light tactile stimuli

2. Breathing

    a. If respiratory failure or distress, keep patient calm. Allow patient to maintain position of comfort, if possible.

    b. Provide high-flow oxygen:

        1) If respirations adequate, by NRB at appropriate flow rate

            i) Consider PPV by BVM if breathing worsens or SpO2 remains <90%

        2) If respirations inadequate, give PPV with BVM + oxygen at appropriate flow rate. Two-Person, Two-Thumbs-Up technique is most effective.

3. Circulation- Reference MI-MEDIC cards for expected pediatric BP and HR ranges

    a. If bradycardia (HR <60), optimize ventilation/oxygenation (follow pediatric bradycardia protocol)

1) If bradycardia (HR <60) persists, start chest compressions and follow pediatric bradycardia protocol

b. Emergent IV/IO access

4. Monitoring – ECG, SpO2, EtCO2 (if nasal prong adapter available), NIBP

B. Actions within First 10 Minutes:

1. Circulation

a. If evidence of poor perfusion, administer Normal Saline 20 mL/kg bolus using syringe pull-push method infusion (unless cardiogenic shock suspected i.e., JVD, hepatomegaly, abdominal distension, crackles, etc.)

1) If suspected cardiogenic shock, administer 5-10 mL/kg normal saline bolus instead and contact Medical Control

b. If dysrhythmia is thought to be primary cause of shock, contact medical control to discuss further interventions (electrical therapy with cardioversion or pacing, etc.)

C. Actions within First 15 Minutes:

1. Re-assess response to treatments, including capillary refill with vital signs

a. Recheck vitals and listen to lungs following fluid bolus. If decreasing oxygen saturations, crackles, or worsening respiratory distress--STOP fluid bolus and contact medical control immediately. Consider starting pressors (0.1ml/kg ***of diluted epinephrine*** [1mcg/kg] IV/IO, max of 1mL [10mcg], refer to epinephrine protocol).

2. Circulation

a. Repeat NSS 20 mL/kg bolus if indicated

b. If bradycardia (HR <60), optimize ventilation/ oxygenation and follow pediatric bradycardia protocol

c. If no response to fluids, follow Shock Protocol

D. Actions within First 20 Minutes:

1. Re-assess response to treatments, including capillary refill with vital signs

2. Circulation – continue fluids/vasopressors (push dose or infusion) as indicated by appropriate protocol or medical control order

E. Once critical actions have been completed, move the patient to ambulance and secure with proper safety restraints for transport. Transport may be initiated earlier as critical actions are provided.

Performance Parameters:

1. Review all cases of cardiac arrest witnessed by (in presence of) EMS providers for compliance with this protocol to prevent patient deterioration.

2. Ensure that specific treatments also follow other appropriate protocols, e.g. Airway Management, Shock, Tachycardia, Bradycardia, etc.