State of Michigan
ADULT TREATMENT
CRASHING ADULT/IMPENDING ARREST

Initial Date: April 21, 2021
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Section 3-7

Purpose: EMS frequently encounters patients that are critically ill and quickly deteriorating to the point of cardiac or respiratory arrest. Deterioration can often occur while packaging and loading these patients. It is important to rapidly recognize the deteriorating patient taking immediate action to stabilize the condition prior to loading and transporting. The following timeline provides a prioritization of the goal-directed treatments to stabilize the patient and prevent deterioration. For patients ≤ 14 years of age refer to **Pediatric Crashing Patient/Impending Arrest-Treatment Protocol**.

1. Criteria
   a. Inclusion:
      i. Patient in whom cardiac or respiratory arrest appears imminent
      ii. Patient with provider impression of critical illness, including new onset altered mental status, airway compromise or severe respiratory distress/failure, and/or signs and symptoms of shock/poor perfusion.

   b. Exclusion:
      i. Life-threatening trauma that has not been corrected (i.e., exsanguination, pneumothorax, etc.)

2. Critical Actions (Initiate within first 5 minutes)
   a. Airway
      i. Insert Nasopharyngeal or Oropharyngeal Airway as indicated/tolerated if not following commands (GCS motor <6) or no response to verbal stimuli per the **Airway Management-Procedure Protocol**.
   b. Breathing
      i. If respiratory failure or distress, sit patient up if tolerated and not contraindicated by suspected spine injury.
      ii. Provide high-flow oxygen per the **Oxygen Administration-Procedure Protocol**.
      iii. If respirations are <10 per minute, ventilate by BVM at 15LPM. Two-person, two-handed technique is most effective and is highly recommended if the number of providers allows.
      iv. If respirations are >10 but inadequate, apply CPAP for respiratory distress/hypoxia per the **CPAP-Procedure Protocol.**
      v. Respirations may be assisted with BVM in sitting position if patient tolerates.
      vi. Consider PPV by BVM if not following commands or SpO2 <90%
   c. Monitoring
      i. NIBP(cycle every 3 minutes)
      ii. SpO2

iii. Continuous/waveform EtCO2
iv. EKG

3. Immediate Actions (Initiate within first 10 minutes

a. Circulation

i. Electrical Therapy (cardioversion or pacing) if dysrhythmia is primary cause of shock per the **Electrical Therapy-Procedure Protocol**

ii. Emergent IV/IO access, per **Vascular Access & IV Therapy-Procedure Protocol**.

iii. Administer **NS** or **LR** up to 1 liter bolus, infused under pressure

1. Monitor for pulmonary edema.
2. If pulmonary edema presents, stop fluids and contact Medical Control for direction.

iv. Consider push-dose **epinephrine** per the **Shock-Treatment Protocol.** Prepare **epinephrine** 10 mcg/mL by adding 1mL of 1mg/10mL **epinephrine** in 9mL **NS**, then

1. Administer 10-20 mcg (1-2 mL **epinephrine** 10 mcg/mL) IV/IO
2. Repeat every 3 to 5 minutes.
3. Titrate SBP greater than 90 mmHg.

4. Actions within First 15 Minutes

a. Re-assess response to treatments.

b. Circulation

i. Repeat fluid bolus up to 2-liter total, if indicated

ii. If bradycardia, consider **atropine** 1 mg IV/IO, if indicated

iii. Consider push-dose **epinephrine** per the **Shock-Treatment Protocol** while administering second fluid bolus.

5. Actions within First 20 Minutes

a. Re-assess response to treatments.

b. Circulation

i. Continue fluids as indicated

ii. Continue vasopressors (push-dose epinephrine) as indicated

iii. Contact Medical Control for additional fluids/vasopressors.

c. Airway

i. Insert advanced airway, if indicated, per **Airway Management Procedure Protocol.**

6. Once critical and immediate actions have been completed; move the patient to ambulance for transport. Transport may be initiated earlier per provider discretion.

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 supersede initiation of life saving intervention.

3. The concepts/actions listed can also be used in conjunction with the **Return of Spontaneous Circulation (ROSC)-Treatment Protocol** to prioritize key interventions prior to transport of cardiac arrest patients with ROSC.

MCA Quality Improvement Performance Parameters:

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

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

Medication Protocols
Atropine
Epinephrine