



PEDIATRIC ENVIRONMENTAL EMERGENCIES

Effective: January 1, 2025
Replaces: January 1, 2021

1. Patient Care Goals

- 1.1. Maintain hemodynamic stability
- 1.2. Hyperthermia
 - 1.2.1. Cooling and rehydration
 - 1.2.2. Mitigate high-risk for decompensation
 - 1.2.3. Mitigate high-risk for agitation and uncooperative behavior
 - 1.2.4. Identification of non-environmental causes of hyperthermia:
 - 1.2.4.1. Fever and delirium
 - 1.2.4.2. Hyperthyroid Storm
 - 1.2.4.3. Delirium tremens
 - 1.2.4.4. CNS lesion or tumor
 - 1.2.4.5. Drug induced
- 1.3. Hypothermia
 - 1.3.1. Rewarming and further prevention of heat loss
 - 1.3.2. Prevent further loss or damage to extremities

2. BLS Treatment

- 2.1. Routine Medical Care – Pediatric **(700-S05)**
 - 2.1.1. **Oxygen** – titrate as appropriate
- 2.2. Assess and document body temperature with digital thermometer
- 2.3. Treat for signs and symptoms of shock as necessary **(700-P10)**

3. ALS Treatment

- 3.1. **Vascular Access (IV) or Vascular Access (IO)**, per procedure **(700-M13)**

4. Hyperthermia

- 4.1. Remove patient from hot environment
- 4.2. Remove clothing and sponge patient with cool sterile water or normal saline to promote evaporation cooling, avoid shivering
- 4.3. Place cold packs to neck, groin and axilla
- 4.4. If actively seizing treat for seizures as appropriate **(700-P02)**
- 4.5. Consider **20ml/kg Fluid bolus**, max of 250ml

5. Hypothermia

- 5.1. Gently remove patient from cold environment and begin warming through indirect placement of hot packs to neck, groin, axilla and heated patient compartment of ambulance
- 5.2. Remove wet or restrictive clothing by cutting clothing away from patient
 - 5.2.1. Limit patient movement, especially extremities, to prevent cold blood returning to heart
- 5.3. If unresponsive, assess pulse for 45 seconds, if no pulse is present **Start CPR**
- 5.4. If defibrillation is indicated, limit to one (1) shock until patient is warmed



- 5.5. If patient presents with dysrhythmias, treat as appropriate but withhold IV medications until body temperature rises above 86°F
- 5.6. Patients with severe hypothermia causing cardiac arrest should not be declared deceased until warming measures have been performed
 - 5.6.1. Patients with cardiac arrest due to severe hypothermia should be transported for additional rewarming/treatment at hospital
 - 5.6.2. If hypothermia clearly did not contribute to the cardiac arrest, determine death according to **(Policy 600)**

6. Insect Sting or Bite

- 6.1. Remove stinger using a scraping motion, do not squeeze or use tweezers during removal, cold packs may be applied to relieve pain

7. Snake Bite

- 7.1. Do not apply cold pack, tourniquet, incise wound, or attempt to suck out venom
- 7.2. Remove jewelry or restrictive clothing on the affected extremity
- 7.3. Circle any swelling around bite marks with a pen and note time and monitor progression and indicate timeframes
- 7.4. Avoid movement with the affected extremity, splint as if fractured, avoid restrictive wrapping
- 7.5. Keep extremity at or below level of heart
- 7.6. If destination guidance is required, make **BASE CONTACT** to locate antivenom

8. Pertinent Assessment Findings

- 8.1. Heat related illness:
 - 8.1.1. Heat cramps: muscle cramps usually in legs and abdomen. Patient temperature likely normal range.
 - 8.1.2. Heat exhaustion: gradual onset resulting from salt and water depletion. Can result in tachycardia, hypotension, elevated temperature, and painful cramping. Symptoms include headache, nausea, and vomiting. Can progress to heat stroke.
 - 8.1.3. Heat stroke: body unable to perform intrinsic cooling measures due to temperature overload and/or electrolyte imbalances. Core temperature typically > 104°F. Symptoms include ALOC, seizures or coma.
 - 8.1.4. Heat syncope: transient loss of consciousness with return to normal mentation attributed to heat exposure.
- 8.2. Stimulant drug use can cause elevated body temperature.
- 8.3. Cardiac arrhythmias and cerebral edema may be present with heat stroke.
- 8.4. Cold exposure:
 - 8.4.1. Mild hypothermia (95°F-89.8°F) will present with normal mental status, shivering, and may have normal vital signs
 - 8.4.2. Moderate (89.7°F-82.5°F) to severe (less than 82.4°F) hypothermia will present with mental status changes, eventual loss of shivering, bradycardia, hypotension, and decreased respiratory status
- 8.5. Frostbite initially presents with numbness and blanching to skin for affected areas

9. Key Documentation Elements

- 9.1. Environment the patient was found in (ambient temperature/humidity, patient found wet/dry, recent activity leading up to emergency)
- 9.2. Cooling/warming interventions performed