



Environmental Exposure

Adult Medical

Austin County
EMS Protocol & Guideline

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Overview: Heat exposures are considered an “exertion related injury”. Heat injuries may exist in the absence of temperatures, however are more common during presence of high temperatures. Heat injuries may also, less commonly, present in the absence of exertion, especially in extreme high temperatures. Level of treatment should be in proportion to patient presentation.

Definition: Exposure to temperatures and/or exertion which results in a physiological response ranging from fatigue and cramping up to and including seizures and death.

EMT

- Place patient on the **Cardiac Monitor**
- Obtain **12 Lead EKG**
- **CPR & AED** as appropriate to patient presentation
- **Oxygen** administration as appropriate to the patient presentation
- **Airway Adjuncts** (Supraglottic Airway, OPA, NPA), EtCO2 monitoring appropriate to patient presentation
- Obtain Oral/Rectal **Temperature**
- Remove patient from the environment
- **Heat Exposure/ Hyperthermia** Remove clothing, pour cool fluids over patient, promote convection and evaporation if possible with the ambulance AC, Apply Ice/cold packs to axilla, groin and neck. Administer PO fluids to patients suffering from heat cramps without distress
- **Cold Exposure/ Hypothermia** Remove clothing, Cover with dry blankets and sheets, turn heat on in the back of the ambulance to promote convectional heating
- **Ondansetron** 4mg tablet - May repeat once -for Nausea & Vomiting

AEMT

- Establish **IV** or **IO** access with **normal saline** at **20 ml/kg** (without the presence of pulmonary edema), Re-Bolus PRN, use chilled or heated fluid as indicated
- **Ondansetron** 4mg slow IV for severe nausea and vomiting, **Max 8mg**
- **Diphenhydramine** 12.5 – 25 mg IV/IM, **Max** single dose 50mg
- **Dextrose 25% -50%** 25g –IVP for Blood Sugar less than 60
- **Intubation** if appropriate to the patient’s condition

Paramedic

- **Diazepam** 5mgs –IVP to control seizures, may repeat q 5 mins x 3, titrate to patient’s response and vitals
- **Diazepam** 5mgs – IVP for severe muscle cramps associated with heat exposure, q 5 mins x 3 PRN

PEARLS

- Oral fluids are acceptable in patients presenting with heat cramps.
- In heat stroke, patients may present with absence of sweating. This indicates a volume depleted heat stroke and aggressive fluid challenges are needed.
- Although rare; assess for hyper-hydration which presents with very similar symptoms as heat exhaustion. If hyper-hydration exists, **DO NOT** administer IV fluid bolus other than flush or TKO. Hyper-hydration typically exists when extra effort was made by the patient to prehydrate before exertion (i.e. race, competition, etc.).
- Degrees of Heat Exposure :

Heat Cramps

- Environmental evidence of heat cramps (hot, humid), **AND**,
- Cramps in extremities **AND** **WITHOUT** signs or symptoms of heat exhaustion.

Heat Exhaustion

- Environmental evidence of heat exhaustion (hot, humid), **AND**
- Weakness, headache, nausea or syncope
- Profuse sweating, tachycardia
- Temperature normal or 1-2 degrees elevated

Heat Stroke

- Skin will be red and excessively dry
- Extreme tachycardia/tachypnea
- Temperature of 105 °F (40.6 °C) or greater, **AND**
- Altered mentation, **OR** Seizure