### 2.8 Hyperthermia – Adult & Pediatric

**Indications:** Elevated temperature due to environmental exposure, over exertion, pharmacological agents or excited/agitated delirium.

**Contraindications:** Fever associated with likely infectious illness.

### EMT STANDING ORDERS - ADULT & PEDIATRIC
- Routine Patient Care.
- Move victim to a cool area and shield from the sun or any external heat source.
- Remove as much clothing as is practical and loosen any restrictive garments.
- If alert and oriented, give small sips of cool liquids.
- Monitor and record vital signs and level of consciousness.
- Obtain temperature – rectal temperature preferred as appropriate.
- If temperature is $40^\circ C$ ($>104^\circ F$) or if altered mental status is present, begin active cooling by:
  - Continually misting the exposed skin with tepid water while fanning the patient (most effective).
  - Truncal ice packs and wet towels/sheets may be used, but are less effective than evaporation.
  - Discontinue active cooling when the patient reaches $38.5^\circ C$ ($101.5^\circ F$), or if shivering occurs and cannot be managed by paramedics (see below).

### ADVANCED EMT STANDING ORDERS – ADULT & PEDIATRIC
- ADULT: Consider 500 ml 0.9% NaCl IV fluid bolus for dehydration even if vital signs are normal.
- PEDIATRIC: Consider 10 – 20 ml/kg 0.9% NaCl IV fluid bolus for dehydration even if vital signs are normal.

### PARAMEDIC STANDING ORDERS - ADULT
- If uncontrolled shivering occurs during cooling:
  - *Midazolam 2.5 mg IV/IN, may repeat once in 5 minutes or; 5 mg IM may repeat once in 10 minutes OR
  - Lorazepam 1 mg IV, may repeat once in 5 minutes or; 2 mg IM, may repeat once in 10 minutes OR
  - Diazepam 2 mg IV, may repeat once in 5 minutes

### PARAMEDIC STANDING ORDERS - PEDIATRIC
- If uncontrolled shivering occurs during cooling:
  - *Midazolam 0.05 mg/kg IV/IM or 0.1 mg/kg IN (maximum dose 3 mg); may repeat once in 5 minutes, OR
  - Lorazepam 0.05 mg/kg IV/IM (maximum dose 1 mg); may repeat once in 5 minutes, OR
  - Diazepam 0.1 mg/kg IV (maximum dose 5 mg); may repeat once in 5 minutes.

*For IN administration of midazolam use a 5 mg/mL concentration.

**PEARLS:**
- Exertional hyperthermic patients may be significantly dehydrated, and may require repeat fluid boluses.
- Immersion cooling is the most effective method to lower core body temperature if proper resources are available.