



Environmental Hyperthermia

Assessment

Pediatric Pearls:

- Use pediatric dosing of medications or electrical therapy for a pediatric patient < 37 kg and as defined by the PEDIA Tape.
- Pediatric hypotension is defined as SBP < 70 + (age in years x 2) mmHg

Signs & Symptoms:

- Weakness
- Nausea & vomiting
- Cramping
- Syncope
- Diaphoresis & anhidrosis
- Altered Mental Status
- Bizarre behavior
- Hypotension
- Tachycardia

Differential:

- CVA
- Dehydration
- Encephalopathy
- Meningitis / Sepsis
- Head Trauma
- Overdose / Toxin
- Hypoglycemia
- Excited delirium
- Alcohol withdrawal

Clinical Management Options

P	P	P	P	P	P
L	L	L	L	L	L
1	2	3	4	5	6

- Age appropriate core body temperature assessment
- [Oxygen](#)
- Move to shaded/cool environment, discontinue physical activity, PO fluids if tolerated
- If AMS, then [BGL assessment](#)
- If AMS and/or body temperature > 102.2 F, then active cooling measures per patient condition:
 - Ice packs to neck, axilla and groin, wet patient, and increased airflow
- If body temperature ≥ 105.8 F, then cold water immersion if immediately available
- [Vascular access](#)
- Infuse [Isotonic Crystalloid](#) fluids titrated to effect
- [Ondansetron](#) (Zofran) if nauseated
- If AMS, then may infuse cold [Isotonic Crystalloid](#) if available up to 30 mL/kg or titrated to effect
- If shivering develops, [Midazolam](#) for sedation

Consult Online Medical Control As Needed

Pearls:

- Refer to drug formulary charts for all medication dosing for both adults and pediatric patients.
- Signs of improvement to help titrate to effect include: improved heart rate, decrease body temperature, resolution of thirst, feeling the need to urinate and/or increased urination, improvement in mental status, improvement in skin conditions, etc.
- If increased temperature, utilize passive cooling by removing excessive clothing or covers.
- NSAIDS should not be used in the setting of environmental heat emergencies.
- Exertional heat stroke should be suspected in anyone with a history of recent exertion and bizarre behavior, seizure, or syncope.
- Any AMS should have blood glucose performed. Severe heat emergencies may lead to liver dysfunction and hypoglycemia.
- If AMS and cold isotonic crystalloid fluids are not available, then ≥PL3 may begin isotonic crystalloid boluses.
- Damage caused by heat stroke is determined by how high the temperature got and how long it remained elevated.
- Cold water immersion is the most effective means of cooling.
- Active cooling should be removed when body temperature reaches 102.2 F.