



THERMAL DISORDERS (HYPERTHERMIA/HYPOTHERMIA) – PEDIATRIC

BASE GUIDELINES

Determine ALS Standing Order treatments/procedures rendered prior to base hospital contact. Use ALS standing order as guidelines for treatments/procedures not initiated prior to Base Hospital/CCERC contact.

Hyperthermia:

1. If presenting with altered level of consciousness, obtain blood glucose in addition to initiating **Normal Saline 20 mL/kg bolus**.
 - ▶ If blood glucose is equal to or less than 60, administer one of the following:
 - **Oral glucose** preparation
 - If tolerated and airway reflexes are intact
 - **10% Dextrose 5 mL/kg IV** if unable to establish IV
 - Maximum single dose 250 mL
 - **Glucagon 0.5 IM** if unable to establish IV
- Note:** IO access may be used for dextrose administration when patient is unconscious with blood glucose less than 60, unable to establish IV and there is no response to IM glucagon.

ALS STANDING ORDER

Hyperthermia:

Mild/Moderate (manifested by malaise, tachycardia, nausea-vomiting):

1. Move from heat source to cool (shaded) open area with good air flow. If fan is available provide breeze directly onto victim.
2. Encourage oral intake of water or balanced salt solution (athletic drink without caffeine)
3. Apply passive cooling measures such as cool soaked towels or ice packs as tolerated.

Severe (manifested by confusion or unconsciousness; or hot, dry skin; or hypotension):

1. Establish Base Hospital/CCERC contact as soon as possible for receiving facility designation.
 - ▶ High-flow Oxygen by mask or nasal cannula at 6 L/min flow rate (direct or blow-by)
2. If hypotensive or signs of poor perfusion:
 - ▶ Establish IV access
 - ▶ Infuse **20 mL/kg Normal Saline** bolus, may repeat up to maximum 60 mL/kg to maintain adequate perfusion.
3. Active or passive cooling measures as available (ice or cold packs to axillae, posterior neck, and groin areas; active fan air breeze with skin modestly exposed).

ALS escort all hyperthermia pediatric patients to nearest appropriate ERC.

Approved:

Carl Schultz, MD



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BASE GUIDELINES

Hypothermia:

1. For patients presenting with pain when BP greater than 80 systolic:

▶ **Morphine 0.1 mg/kg IV/IM**

- Maximum single dose 5 mg
- Maximum total dose 10 mg

OR

▶ **Fentanyl 2 mcg/kg IV/IM/IN**

- Maximum single dose 50 mcg
- Maximum total dose 100 mcg

ALS STANDING ORDER

Hypothermia:

Not in Cardiac Arrest:

1. Initiate active warming as available; remove any wet clothing and cover to conserve body heat.
2. Cardiac monitor, document rhythm
3. Expect slow heart rate and weak pulse, do not attempt to reverse bradycardia in field.
4. Transport immediately to nearest ERC.

Apparent Cardiac Arrest:

1. Initiate active warming; remove any wet clothing and cover to conserve body heat.
2. Monitor pulse for 30-45 seconds before initiating CPR.
 - ▶ If in cardiac arrest, use pediatric cardiac arrest Standing Orders (SO-P-40).
3. Assist ventilation with bag-valve-mask, avoid hyperventilation.
4. Do not pronounce in field; ALS transport to nearest ERC.

Approved:

Carl Schultz, M.D.