Notes/Definitions

- Hypothermia is a medical condition in which the body's core temperature drops below 35°C (95° F).
- Mild hyperthermia refers to a condition where the body's core temperature is elevated but not dangerously high, typically above 98.6°F (37°C). It is often associated with symptoms like heat cramps or heat rash.
- Moderate hyperthermia is a heat-related illness characterized by an elevated body temperature, typically between 100.4°F (38°C) and 104°F (40°C) and requires prompt attention to prevent progression to more severe conditions. It is often associated with symptoms like malaise, tachycardia, nausea, or vomiting.
- Severe hyperthermia is often associated with symptoms like confusion, altered level of consciousness, hot dry skin, or hypotension.

BLS Interventions

- Refer to OCEMS General BLS Standing Orders SO-BLS.

For hypothermia:

- Initiate active warming as available.
- Remove any wet clothing and cover to conserve body heat.

For mild / moderate hyperthermia:

- Move from heat source to a cool (shaded) open area with good air flow. If fan is available provide breeze directly onto victim.
- May encourage oral intake of water or electrolyte solution if patient able to tolerate.
- Apply passive cooling measures, such as cool, soaked towels or ice packs as tolerated.

For severe hyperthermia:

- Begin active cooling by:
  - Continually misting exposed skin with tepid water while fanning the victim.
  - Cover patient with sheet saturated with ice water.
  - Applying ice packs is less effective than evaporation. Ice packs to cheeks, palms, and soles are preferred to truncal application.

ALS Interventions

For hypothermia:

- Establish IV / IO access.
- Cardiac monitoring.
- Expect a slow heart rate.
- Do NOT attempt to reverse bradycardia in the field.
- 12-lead EKG if applicable.
- If no pulse is detected, refer to OCEMS Treatment Guideline C-010.
- Do NOT pronounce in the field.

For mild / moderate hyperthermia:

- Establish IV / IO access as needed.
- Treat for hypotension (SBP < 90) or signs of shock:
  - ► **Normal Saline 250 mL IV / IO bolus** - may repeat up to 1 liter to maintain adequate perfusion.
- Treat for nausea and vomiting if not suspected or known to be pregnant:
  - ► **Ondansetron (Zofran) 8 mg ODT** – once
  - ► **Ondansetron (Zofran) 4 mg IV** - may repeat once after 3 minutes

For severe hyperthermia:

- Obtain IV / IO access.
- Treat for hypotension (SBP < 90) or signs of shock:
  - ► **Normal Saline 250 mL IV / IO bolus** - may repeat up to 1 liter to maintain adequate perfusion.
- Treat for nausea and vomiting if not suspected or known to be pregnant using one of the following:
  - ► **Ondansetron (Zofran) 8 mg ODT** – once
  - ► **Ondansetron (Zofran) 4 mg IV** - may repeat once after 3 minutes
- Treat for seizure activity:
  - ► **Midazolam 10 mg IM** - once (preferred route)
  - ► **Midazolam 5 mg IV / IN / IO** - if unable to deliver IM; may repeat once after 3 minutes.
- Treat for combativeness:
  - ► **Midazolam 10 mg IM / IN** - once

  OR
  - ► **Midazolam 5 mg IV** - may repeat once after 3 minutes.

Transport Consideration

- ALS escort to nearest appropriate ERC or as directed by the Base Hospital.

Additional Considerations

- Monitor the skin if you apply ice packs for prolonged periods. The skin is susceptible to damage with prolonged exposure to ice. Covering ice packs with a sheet and adjusting the site can mitigate injury.

Base Hospital

For hypothermia:

- May treat for pain if SBP > 90 choosing one of the following to administer:
  - ► **Fentanyl 50 mcg IV / IM** – may repeat once after 3 minutes, hold for SBP < 90
  - ► **Fentanyl 100 mcg IN** – may repeat once after 3 minutes, hold for SBP < 90
  - ► **Morphine sulfate 5 mg (or 4 mg CARPUJECT™) IV / IM / IO** – may repeat once after 3 minutes, hold for SBP < 90
  - ► **Ketamine 0.1 mg / kg IV** – may repeat once after 15 minutes, max single dose 10 mg
  - ► **Ketamine 0.5 mg / kg IM** – may repeat once after 15 minutes, max single dose 50 mg

- ▶ **Ketamine 1 mg / kg IN** – once, max dose 100 mg
- ▶ **Ketorolac 15 mg IV / IO / IM** – once

For hyperthermia:

- If presenting with altered level of consciousness, obtain blood glucose in addition to initiating Normal Saline bolus.

Cross References:

SO-BLS General BLS Standing Orders
SO-M-030 Psychiatric / Behavioral Emergencies
SO-M-040 Seizure / Convulsions
SO-M-045 Shock (Symptomatic Hypotension)
SO-M-045 Nausea / Vomiting