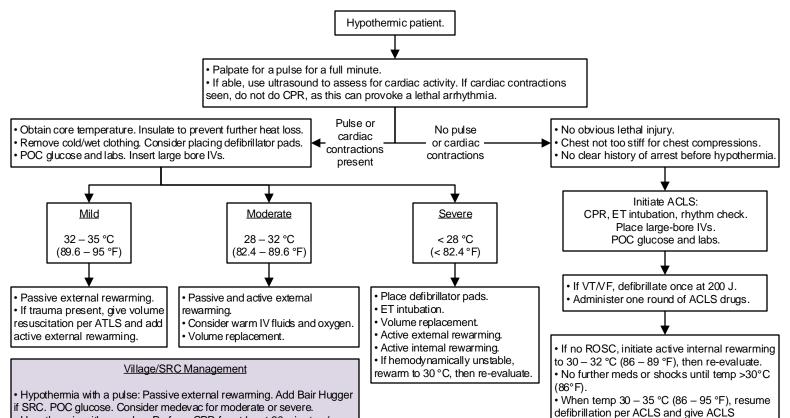


Clinical Guideline

Hypothermia



Core Temperature

· Hypothermia with no pulse: Perform CPR for at least 30 minutes (or

Esophageal probe preferred over rectal in intubated patients. Place after intubation and verify placement with CXR. Preferred location is distal third of esophagus. Estimate insertion length using OG landmarks but end at mid-sternum rather than xyphoid. Oral insertion route preferred.

Contact

ANMC Trauma Surgeons are the consultants of choice. Contact them via Tiger Connect ANMC On-Call General Surgery/Trauma Attending.

Rewarming Methods

If goal rewarming rate not met after one hour, escalate to next level.

Rewarm trunk first and minimize movement (especially of extremities) to avoid increasing the return of cold blood to central circulation, which can lead to hemodynamic instability and cardiac arrest (known as core afterdrop).

<u>Passive external rewarming</u>: Remove cold stress and wet clothing.
 Place in warm, dry environment. Provide insulation with warm blankets.
 Allow shivering.

Goal increase 0.5 °C/hour (~1 °F/hour).

- Active external rewarming: Add exogenous heat via forced-air rewarming device (Bair HuggerTM), external temperature control system (Arctic SunTM), or radiant warmer for young children.
- Goal increase 2 °C/hour (~3.5 °F/hour).
- · Active internal rewarming:

longer per team discretion).

- Warm IV fluids: Use normal saline and not LR, as hepatic metabolism of lactate is impaired. IVF should be $40-42\,^{\circ}\text{C}$ ($104-107\,^{\circ}\text{F}$). If no warmer available, place a 1L bag of NS in a conventional microwave for 30 second intervals until temperature $40\,^{\circ}\text{C}/104\,^{\circ}\text{F}$. Do not do this with blood products, dextrose-containing fluids, or glass bottles.
 - Thoracic cavity lavage
 - Peritoneal lavage

When to Cease Resuscitative Efforts

medications at regular doses but double the

typical interval between administration.
• When temp >35, resume regular dosing

If ROSC, rewarm per pathway to left.

- If potassium > 10.
- If temperature >32°C (89°F) and no ROSC.

Decision to continue resuscitative efforts must be based on clinical judgment and available resources. Providers are encouraged to contact the CD on call or clinical ethicist early in resuscitative efforts for guidance. In a mass casualty event or when the number of critically ill patients requiring treatment exceeds the capability of the available staff and resources, consultation with CD on call and the clinical ethicist should occur promptly.

Pitfalls & Pearls

- Avoid transporting in hospital until patient is rewarmed to 30 32 °C (86 89 °F).
- If passive external rewarming fails to rewarm a mildly hypothermic patient, strongly consider antibiotics, as infection can contribute to slowed/failed rewarming.
- Pupils can be fixed and dilated below 27 °C (80 °F) without associated neurologic deficit.
- Bradycardia is expected in moderate or severe hypothermia. Normal heart rate should be considered relative tachycardia in these patients.
- Hyperkalemia can be present without EKG changes. Potassium levels can fluctuate rapidly during rewarming.
- If placing CVL, femoral line preferred to avoid irritating heart.
- YKHC ventilators cannot warm air. High-flow nasal cannula, BiPAP, and CPAP can warm air.

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.

Approved by Clinical Guideline Committee 5/15/23.

Click here to see the supplemental resources for this guideline.

If comments about this guideline, please contact Clinical_Guidelines@ykhc.org.