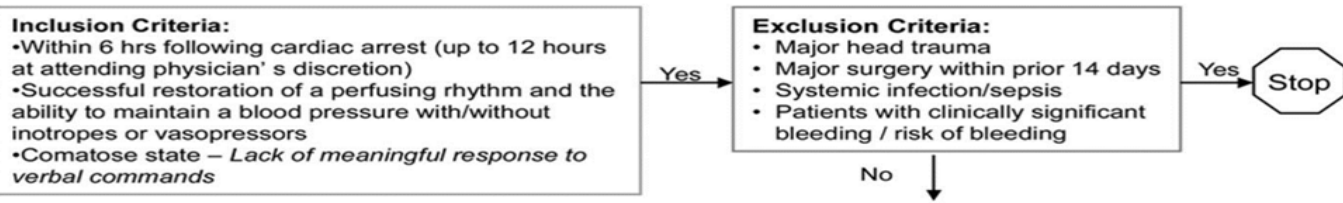


# Hypothermia After Cardiac Arrest Guidelines (HACA)

Created and Produced by Hassan Soleimanpour, Professor of Anesthesiology and Intensive Care Medicine  
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## Therapeutic Hypothermia after Cardiac Arrest Guidelines of Care



**Initiation of Cooling**

- Initiate cooling as rapidly as possible
- Either method of cooling – ice packs/cooling blankets or Arctic Sun System – can be used to initiate cooling and should be started as soon as possible.
- Remove ice packs once the [Arctic Sun] system initiated to prevent overcooling of the patient
- Defibrillator pads may be placed under the Arctic Sun gel pads. It is safe to defibrillate the patient with the Arctic Sun pads on the patient.
- Ensure two methods (bladder, esophageal, core, rectal, groin, axillary) of measuring patient temperature

**Shivering / Sedation / Analgesia**

- **Non-Pharmacologic Prevention of Shivering**  
Wrap hands/feet, cover head w/ blankets
- **Magnesium** 4 grams IVB over 4hrs
- **Sedation/Analgesia:**  
Goal sedation level of RASS -4 to -5
- **Sedative Agents:** Patients should receive low dose, continuous infusion of a sedative agent  
1) Propofol – 1<sup>st</sup> line agent; or 2) midazolam (if propofol contraindicated)
- **Analgesic agents**  
1) Fentanyl or 2) Hydromorphone

Shivering →

Shivering tends to occur most often with induction of hypothermia  
**If present, follow Algorithm in Full TH Guidelines**

- Place the Bair Hugger on the patient
- Give extra boluses of analgesia
- Increase basal sedative rate
- Bolus NMBA –Cisatracurium
- NMBA infusion

\*Never stop sedation and analgesic regimens while paralyzed

**Monitoring/Supportive Therapy**

- **Heart Rate** - Bradycardia is associated with hypothermia and should be treated if associated with hemodynamic instability. There is no need to treat normotensive bradycardia.
- **Mean Arterial Pressure (MAP):** MAP goal of >90 mmHg is preferred to theoretically improve cerebral perfusion, lower MAP goals (65-100mmHg) have shown benefit
- **Central Venous Pressure:** Goal 10-12 mmHg
- **Oxygenation:** Goal oxygen saturation of 94-96%
- **Ventilation:** Maintain normocarbida and avoid hyperventilation or hypoventilation
- **Electrolyte Repletion:** Basic chemistries should be monitored at least q 4 hours and replaced as necessary
- **Glucose Control:** Initiate BHIP for glucose is >200 mg/dl and monitor q hour while cooling q 30 min if glucose <80 mg/dl at any time. (Do not exceed 50 units of insulin / hour)
- **Miscellaneous:** EEG ASAP after initiation on TH via EEG Lab or on-call Fellow or if any suspicion of seizure. Blood cultures 12 hrs post initiation. Skin care check q 2 hr for burns caused by cold blankets.

**Rewarming**

- Begin re-warming 24 hrs after initiation of cooling at a rate of 0.25°C (0.5° F) every hour until the patient returns to normothermia (37°C/98.6° F).
- Keep Arctic Sun pads on for 48hr and set temperature at 37°C/98.6° F to maintain normothermia.
- Maintain paralytic (if started) and sedation until temperature of 36C/96.8F degrees is reached.
- Hypotension, hyperkalemia, hypoglycemia, and hyperthermia may occur during and after the re-warming.
- Stop IV insulin when glucose <200 mg/dl, unless T1DM.
- Testing to assess for neurologic prognosis should be delayed to at least 72 hours after the return to normothermia as patients who have TH have delayed neurologic recovery

**Special thanks to Dr. Peter Safar (1924-2003)**

**From Dr. Peter Safar:**

- A Life Devoted to Cheating Death
- CPR is for the person with a heart and brain too good to die

• Dr. Peter Safar  
 • Father of Resuscitation medicine  
 • Helped develop CPR  
 • Directly responsible for the research used in therapeutic hypothermia.

