

Induced Mild Therapeutic Hypothermia After Cardiac Arrest

Algorithm 2: Supportive Therapy and Controlled Rewarming

Supportive Therapy

- To optimize cerebral perfusion a MAP goal of 80 – 100 mm Hg is preferred. (MAP = DP + 1/3 PP).
- Monitor patient for dysrhythmias associated with hypothermia.
- If persistent, life-threatening dysrhythmias, hemodynamic instability, or bleeding develop, discontinue cooling and actively re-warm patient.



Controlled Re-warming

- Begin re-warming 24 hours after initial cooling
- Set cooling unit to “manual” and increase to target temperature **NO FASTER** than 1°C every 2 – 4 hours
- Re-warming may require 8 – 16 hours
- The goal after re-warming is normothermia
- Maintain sedation until temperature of 36.5°C (97.7°F) is reached
 - Discontinue paralytic when temperature of 34.5°C (94.1°F) is reached if not already discontinued
- Monitor patient for hypotension (secondary to vasodilation)
- Discontinue potassium infusions if applicable
- Acetaminophen and external cooling as ordered. to keep temperature < 37.5°C (99.5°F) for 48 hours after normothermic
- Forced warm air may be used to assist in re-warming if needed, e.g., Bear Hugger



Complications of Hypothermia May Include:

- **Immune function** is depressed which can lead to increased risk of infection
- **Coagulopathy** increase risk of bleeding
- **Dysrhythmias**, tachycardia, bradycardia
- **Potassium** decreases with cooling, increases with re-warming. **Calcium, Magnesium and Phosphorus** will follow a similar trend. Do not replace potassium aggressively prior to re-warming.
- **Skin Burns** from the cold blanket, especially under the patient. Monitor skin closely.
- **Cold Diuresis** leads to volume depletion. CVP monitoring may be useful. Increased risk of dysrhythmia with Swan-Ganz placement.
- **Hypotension** during re-warming due to vasodilation.
- **Rebound Hyperthermia** which may require continued use of cooling blanket after re-warming.

References:

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