

**LIFELIGHT OF MAINE
CRITICAL CARE TRANSPORT TEAM**

3.5 NEUROPROTECTIVE INDUCED HYPOTHERMIA AFTER CARDIAC ARREST

Indications: Increased brain temperature contributes to ischemic brain damage in patients post cardiac arrest. Studies have shown that lowering brain temperature, even by a few degrees decreases ischemic damage. In studies of out-of-hospital cardiac arrest, induced hypothermia protocols have contributed to improved neurological outcomes

Patient Inclusion Criteria:

- A. Age 18+ (less than 18, Consult Ped's Intensivist)
- B. Cardiac arrest from any malignant arrhythmia & ROSC.
- C. Cannot follow commands/Comatose.
- D. Intubated with mechanical ventilation required
- E. SBP can be maintained at 90mmHg or greater, spontaneously or with fluids, vasopressors, and/or inotropes.
- F. Less than 6 hours since ROSC and less than or equal to one hour of resuscitation time.
- G. Less than 15 minutes from collapse to CPR. (if time unknown, err on starting therapeutic hypothermia)

Patient Exclusion Criteria:

- A. Continuing significant cardiac arrhythmia or hemodynamic instability.
- B. Evidence of sepsis.
- C. Active severe bleeding
- D. Coma unrelated to arrest. (i.e. drug overdose)
- E. Recent major surgery or trauma
- F. DNR or any condition precluding treatment in the opinion of the transferring physician or flight crew.
- G. Pregnancy is **NOT** an exclusion criterion.

Procedure:

- A. Institute cooling as early as possible. Temp goal is 33°C.
- B. Sedate and paralyze the patient as per Protocol 2.3. Suppress shivering with neuromuscular blockade.
- C. Rapid IV infusion of ice cold (4°C). LR. Administer 30 ml/kg IVx1 dose over a period of 30 minutes immediately after neuromuscular blocking agent administered. Maximum of 2 liters LR during transport.
- D. Apply ice packs to patient's neck, axilla, and inguinal area after patient is sedated and paralyzed and iced LR is administered IV.
- E. If patient shivering increase sedative and/or analgesia dose prior to increasing paralytic
- F. Monitor temperature via esophageal, rectal, or foley temperature probe –as time and mission allow.
- G. Consider turning on aircraft AC to assist with cooling enroute.
- H. Report to receiving tertiary care center.