

SUNY-DOWNSTATE MEDICAL CENTER/UNIVERSITY HOSPITAL OF BROOKLYN
DEPARTMENT OF EMERGENCY MEDICINE

Targeted Temperature Management after Cardiac Arrest: Code Ice Activation and Induction in the Emergency Department

Inclusion Criteria:

Adults with return of spontaneous circulation (ROSC) and coma after cardiac arrest

Exclusion Criteria:

1. Glasgow Coma Scale > 8
2. Poor functional status prior to arrest (i.e. inability to perform basic activities of daily living)
3. Life-threatening infection or sepsis (note that the 'post-arrest syndrome' may present as a 'SIRS-like' syndrome)
4. Cryoglobulinemia; temperature-induced hemoglobinopathies (i.e. sickle-cell disease)
5. Life-threatening bleeding or uncorrectable coagulopathy
6. Pregnancy
7. Traumatic arrest, except due to electrical injury
8. Mean arterial pressure < 60 mm Hg despite correction of electrolytes, fluid resuscitation, and at least two vasopressor/inotropic agents
9. The plan of care does not include critical care or the goals of care are not consistent with aggressive management.

Procedure:

1. Apply the inclusion and exclusion criteria. **Activation of "Code Ice" and initiation of the protocol is determined by ED staff.**
2. Notify MICU service and **admit the patient to the MICU under the MICU attending** (note: patient may board in CCU or CTICU). If patient is transferred to the catheterization suite *and* undergoes percutaneous coronary intervention, the admission should be updated to CCU under the cardiology attending (see complete

policy and procedure for details related to concurrent Code H activation).

3. Document GCS and pupillary, corneal, and gag reflexes.
4. Set ventilator to AC with TV of 4-6 ml/kg. Maintain O₂ saturation between 94-99%. Consider ARDSnet protocol. Avoid hyperoxemia.
5. Peripheral (≥ 18G) venous access.
6. Use Therapeutic Hypothermia order set in T-system. This includes all suggested laboratory and radiologic studies.
7. Bolus 20-30 ml/kg of 4°C lactated Ringer's. Consider use of pressure bag set at 300 mm Hg for more rapid infusion.
8. Maximize exposed skin.
9. Place cooling blanket underneath patient; set to maximum cooling.
10. Place bladder catheter with temperature probe.
11. Acetaminophen 650 mg OGT/NGT/PR.
12. Fentanyl 1.0 mcg/kg IV bolus followed by 50-150 mcg/hr infusion. Consider propofol for additional sedation.
13. Cisatracurium (Nimbex) 0.1-0.15 mg/kg IVP.
14. **Place Solex 7 Catheter (SL-2593) in internal jugular or subclavian vein.** ED senior resident/attending, CCM fellow/attending must perform procedure. **Sterile ultrasound-guidance is required.**
15. Maintain potassium 3.5-4.0 mmol/L and magnesium > 2.0 mg/dL.
16. Goal temperature range in the ED is 32-36°C. Temperatures of greater than 36°C should be treated with 250 ml boluses of 4°C normal saline every 15 minutes.
17. **Facilitate transfer to the MICU, CCU, CTICU, or cardiac catheterization laboratory within 4 hours.** Notify ADN or bed manager for assistance.