

**LIBERTYHEALTH**

Jersey City Medical Center  
Department of Patient Care Services

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**Guidelines:** Induced Hypothermia Post  
Cardiac Resuscitation

**Developed by:** Emergency Department  
& Critical Care

**Approved by:** \_\_\_\_\_

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**Approved by Policy Committee:** \_\_\_\_\_

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**Distribution:** ED; Critical Care; Cardiac Cath Lab;

**Purpose:** To provide a framework to care for patients undergoing induced hypothermia post cardiac arrest.

**Goal:** The goal of therapy is to induce hypothermia, reaching a target temperature of 32° C-34° C (89.6° F-93.2° F) within 4 hours of induction of cooling. Cooling will be continued for a duration of 24 hours.

## **Eligible Patients:**

### **Exclusion Criteria**

**STOP! Do not proceed if the patient has any 1 of the following**

- DNR Order
- Other reasons to be comatose; drug overdose, head trauma, stroke, seizures
- Down time > 30minutes
- Known coagulopathy or bleeding.
- Temp < 30°C (86°F)
- Surgery within the last 14 days (neuro, abdominal, chest)
- DO NOT initiate after 6 hours of return of spontaneous circulation (ROSC)
- Glasgow Coma Scale >6
- Age <17 years
- Significant immunologic compromise (e.g. AIDS, Leukemia)
- Acute sepsis
- Uncontrollable dysrhythmias

### **Inclusion Criteria:**

- OK to proceed with treatment order if no exclusions exist
- Cardiac arrest with ROSC within 30 minutes (VT, V-Fib, PEA, or A-systole)
- Unresponsive with GCS ≤ 6 (in the absence of sedation) with return of spontaneous circulation within the 30 minute time frame
- Intubation with mechanical ventilation
  - Note: ventilated patients with a GCS ≤ 5 should be referred to the SHARING NETWORK 1-800-541-0075
- Age > 17 with negative pregnancy test (if a woman of child bearing age)
- SBP maintained >90mmHg; MAP >60mmHg, spontaneously or with support
- If patient has an IVC filter you must use Subclavian access.

## **Pre-Initiation of Induced Hypothermia**

1. Review patient eligibility, any contraindications, advanced directives and overall prognosis.
2. Exclude other causes of coma (mass lesions, metabolic coma, seizures etc.).
3. Document Glasgow Motor Score
4. Document baseline neurological evaluation by the attending physician
5. Obtain a Cardiology consult; if catheterization is indicated DO NOT delay hypothermia induction.
6. Obtain a Head CT to rule out neurologic abnormalities.
7. Discuss related issues with health care proxy (family meeting, if readily available). Obtain consent; Note: consent for central line placement should be included.

## **Equipment**

### **Emergency Department:**

- Alsius Femoral Line Kit (Icy Catheter which is good for 4 days, 96 hours)
- Alsius Coolgard Machine & Start Up Kit with 500cc 0.9%NaCL
- Two (1) Liter bags of Iced 0.9% NaCl (stored in medication refrigerator at. 4°C)
- 2 pressure bags (for A-line and rapid Iced Saline infusion)
- Blankets

### **CCU/ICU**

- A-line
- (Neuromuscular Blockade equipment Train of Four Micro Stim Device)

## **Setting up the Alsius Cool Guard System**

- Turn on the machine
- Prime the tubing
- Attach tubing to the femoral access
- Set the Target Temp
- Set the rate at which the target temp will be reached ( 0.10°C /hour)
- Press run to start the procedure.

### Nursing Care (Actions)

1. Review physician's orders
2. Place patient on continuous cardiac monitoring and pulse oximetry
3. Insert foley catheter with temperature probe.
4. Insert NG tube for oral meds.
5. Obtain (2) 18g peripheral IV sites
6. Document Core temperature prior to initiating hypothermia treatment
7. Patient will be pre-medicated prior to initiating procedure, see MD orders.  
Note: If using paralytics the patient will be monitored using Train of Four Monitoring (TOF), document baseline Train of Four prior to administering the paralytic; the Richmond Agitation Sedation Scale (RASS) will be used to document sedation.
8. Infuse two (1) liter bags of iced 0.9% saline, (this will be stored in the medication refrigerator at 4°C [39.2°F]) at 30-40cc/kg over 30-60 minutes or according to MD orders. Continue with maintenance fluids as per MD orders.
9. **Note:** if the patient's core temp is <34°C (93.2°F) do not infuse cooled saline, and document appropriately.
10. Document vital signs every 15 minutes until the target temperature of 32°C (89.6°F) is reached; then document vital signs every 30 minutes for the duration of hypothermia treatment.
11. Document neurological status every 2 hours
12. Glucose monitoring will be done hourly during the initiation of the treatment, then every 6 hours during maintenance, along with Troponin, CBC, Pt/PTT/INR, and serum electrolytes every 6 hours.
13. Anticipate electrolyte replacement: Correct hypokalemia prior to or at the onset of cooling as potassium is expected to shift intracellularly during hypothermia. *Avoid aggressive correction with potassium administration as it may lead to hyperkalemia during the warming phase.*
14. Document I&O hourly.
15. Monitor patient for shivering and medicate according to MD orders and apply Bair Hugger to warm the skin, set the machine at 42°C (107.6°F).

### **Guidelines for Rewarming the Patient**

1. Rewarming the patient will begin 24 hours after the target temperature is reached; the recommended rate for rewarming is a 0.25°C increase in temperature per hour.  
Rewarming should occur over approximately 12 hours.
2. Paralytics, sedation and analgesia must be continued in this phase.
3. Document temperature and I&O hourly throughout the rewarming phase and for the first 24 hours after return to baseline temperature.
4. The Alsius Coolgard system may be used to control rebound hyperthermia (temp >38°C/100.4°F) for an additional 12 hours.

**References:**

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Committee Reviews/Approvals	
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