Purpose: to serve as a management guideline for the use of therapeutic hypothermia in a post cardiac arrest patient.

Inclusion Criteria:
1. Adult comatose survivors of cardiac arrest (any rhythm) with return of spontaneous circulation

Exclusion Criteria:
1. Do Not Resuscitate Order in place
2. Poor baseline function
3. Cardiac arrest secondary to Trauma
4. No vital signs for more than 30 minutes
5. Pregnancy
6. Known coagulopathy or uncontrolled bleeding
7. Prolonged or persistent hypotension
8. Persistent life-threatening dysrhythmias
9. Responsiveness to verbal stimulation

Procedure:
1. Stabilize the patient according the AHA ACLS recommendations
   a. Intubate the patient if not performed in the prehospital phase
2. Place 2 large-bore IVs (18ga or larger)
   a. Recommended labs:
      i. Cardiac panel
      ii. Blood Cultures
   b. EKG
c. Chest X-Ray

3. Consider cardiology consult for emergent transfer to Montefiore/Einstein in the present of STEMI

4. Start cooling as soon as possible – target temperature = 33°C for 24 hours
   a. Expose the patient
   b. Apply Artic Sun
      i. If the patient is large, apply 1-2 additional universal pads to the abdomen
   c. If the Artic Sun device is not available:
      i. Infuse 30mL/kg of crystalloid solution cooled to a temperature of 4°C (39.2°F) over 30 minutes (approximately 2 liters of fluid)
      OR
      ii. Use cooling blanket, assuring 1 blanket is placed on the anterior surface and another blanket is placed on the posterior surface
      OR
      iii. Apply ice packs to the groin and axilla

5. Sedate and prevent shivering
   a. Recommended: Midazolam 0.125mg/kg/hr then titrate as needed
   b. If unable to prevent shivering and the temperature is not decreasing consider the use of Rocuronium 1mg/kg bolus followed by 10-12mcg/kg/min

6. Insert temperature sensing urinary catheter for continuous temperature monitoring

7. Contact the SMR to arrange for a bed and continued cooling therapy
   a. MICU is the first choice for admission
   b. CCU will receive the patient if no MICU bed is available

8. Case must be discussed with the critical care attending or fellow by the SMR

9. Discontinue hypothermia therapy if any of the following occur:
   a. Severe refractory shock
   b. Bleeding
   c. Persistent hypoxia
   d. Patient is medically futile
   e. 2 vasopressors are required to maintain the mean arterial pressure greater than 60 mmHg

10. Transporting the Patient on Hypothermia Therapy:
    a. Disconnect the pads from the Artic Sun device, allow the pads to remain on the patient
    b. Send the device to the receiving unit and exchange with unit device
    c. Upon arrival to unit bed reconnect the patient to the Artic Sun device and select the “Continue Current Patient” option from the device menu

**Ongoing Patient Assessment:**

1. Skin assessment is performed every 4 hours while the patient is on the Artic Sun device
   a. If an area of skin is not intact, do not place the Artic Sun pads on that area
   b. Replace Artic Sun pads if the hydrogel no longer adheres to the skin

2. Document assessment findings in QuadraMed

**Rewarming the Patient:**

1. Rewarming is started after 24 hours of therapy or sooner if required
2. Temperature is increased at a rate of 0.25° per hour over 16 hours (this is the rewarming default setting on the Artic Sun device)
3. Check serum electrolytes every 8 hours
4. If the temperature rises more than 2°C in 2 hours, or if the temperature rises above 37°C, recheck the serum electrolytes and immediately contact the critical care attending or fellow
5. Allow Artic Sun pads to remain on the patient for 12 hours after the rewarming process is completed in the event that fever develops

Artic Sun Clinical Support Hotline: 877-267-2314