Post-Cardiac Arrest Therapeutic Hypothermia Orders

Orders with a □ must be checked to be carried out. Orders without a □ will be carried out unless crossed out and initialed. When an option in orders designated by an “or” is completed the default value will not be followed.

Suggested criteria to initiate Therapeutic Hypothermia

- Post-cardiac arrest from any rhythm with return of spontaneous circulation (ROSC)
- GCS motor score < 6 (not following commands) 30 minutes after ROSC
- Time of initiation of hypothermia should be as soon as possible, but < 12 hours from ROSC

**Absolute Contraindications**
- Cryoglobulinemia
- Severe bleeding

**Relative Contraindications**
- Pregnancy (Consult OB/GYN)
- Severe hemodynamic instability or arrhythmias
- DNR order prior to arrest
- Metastatic cancer
- Multi-system trauma (Unless approved by Trauma Service)
- Known acute intracranial hemorrhage (Unless approved by Neurosurgery)

1. Weight: ______ lbs or ______ kg □ measured □ stated

2. Preparation/Pre-cooling
   a. Obtain Arctic Sun® Temperature Management System. Communicate weight in kilograms
      i. Page clinical supply (ortho tech) 801-9167
   b. Oral endotracheal intubation (if not already performed).
   c. Titrate FiO₂ for goal SpO₂ of > 92%
   d. Initiate sedation (prior to paralysis) (Select only one)
      i. Propofol (Diprivan®) - Begin continuous IV infusion at 5 mcg/kg/min; titrate upward by 5 mcg/kg/min every 10 minutes to achieve a RASS of minus 4 or ______.
         1. If MAP < 70 or _____ mmHg develops, notify a physician or MLP immediately. Do not discontinue Propofol but start Norepinephrine (Levophed®) infusion at 4 mcg/min IV to achieve a MAP ≥ 70 or _____ mmHg. Do not increase norepinephrine > 10 mcg/min without discussing with a physician or MLP.
         -OR-
      ii. Dexmedetomidine (Precedex®) - Begin IV infusion at 0.2 mcg/kg/hr; titrate by 0.1 mcg/kg/hr every 10 minutes up to a maximum of 2 mcg/kg/hr for a RASS of minus 4 or ______.
         1. If HR < 50 or _____ bpm, MAP <70 or _____ mmHg, or CPP < 70 or _____, hold Dexmedetomidine until HR >60 or _____ bpm and MAP > 70 or ______ mmHg, then restart at ½ previous dose and continue to titrate up to 2 mcg/kg/hr (maximum).

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Place LABEL precisely in this space

PREPRINTED PRESCRIBER’S ORDER

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Physician consult Neurology Dr. _________________ for prognostication and need for neurologic monitoring.

3. Cooling
   a. Place internal temperature monitor and obtain baseline value
      i. Esophageal probe or Foley catheter with thermistor (only if normal urine output)
   b. Administer 2L bolus cold (4°C) saline wide open with pressure bags as soon as possible
      [Stored in MedSTAR equipment room, MICU/CCU/SICU/Cath lab refrigerators]
   c. Attach Arctic Sun® device
      i. Turn device on at back of machine
      ii. Connect temperature probe from esophageal or foley catheter
      iii. Place 4 cooling pads on patient.
         1. Pads should cover 40% TBSA. Add one or two universal pads if needed.
      iv. Connect blue pad water tubes to manifold of gray fluid delivery line.
         1. Color match (blue and white) side of connectors
      v. Press \[down\] for menu
         1. Press \[Enter\] once and use the \[up\] \[down\] arrows to select patient target 33.0°C
         2. Press \[Enter\] to accept
      vi. Press “Automatic”
   d. Monitor and document vital signs & Arctic Sun water temperature q15 minutes during induction of hypothermia until < 34.0°C, then q30 minutes times 2 and then q1 hour.
      i. If patient is not < 34.0°C, within 4 hours of starting Arctic Sun device, notify physician or MLP.
      ii. If T < 32.1°C or > 33.9°C during active cooling (maintenance phase) notify physician or MLP.
   e. Document RASS score q30 minutes during induction until < 34.0°C and then q1 hour.
   f. Document skin assessment q4 hours (pull pads back to fully assess skin).

4. Paralysis
   a. Bolus Vecuronium (Norcuron®) 0.1 mg/kg IV q1 hour until temperature < 34.0°C.
   b. Repeat Vecuronium 0.1 mg/kg IV q30 minutes as needed to control patient shivering.
   c. Notify physician or MLP for uncontrolled shivering, if > 3 doses of Vecuronium required during induction, or if water temp < 10°C for > 2 hours.
   d. Lacrilube to both eyes q8 hours while receiving vecuronium.

5. Rewarming – initiate 24 hours after goal temperature is reached
   a. On Arctic Sun® device: press “Stop”
   b. Press \[down\] for menu
      i. Press \[Enter\] and use the \[up\] \[down\] arrows to select patient target 37.0°C
      ii. Press \[Enter\] to accept
   c. Press \[down\]
i. Press \( \) (Enter) and use the \( \uparrow \downarrow \) arrows to select Warm 0.25 \(^\circ\)C/h-Automatic mode

ii. Press \( \) (Enter) to accept

iii. Press Automatic

d. Discontinue Vecuronium as-needed once the patient’s temperature is \( \geq 36.5^\circ\)C

e. Titrate sedatives to a RASS of -2 to 0 once patient is rewarmed to \( \geq 36.5^\circ\)C

f. Actively maintain temperature for 24 hours after patient \( \geq 36.5^\circ\)C

\[ \text{i. Goal temperature is 37.0}^\circ\text{C} \]

6. Additional monitoring/testing

a. Pro B, Magnesium, Ionized Calcium, ABG, Phosphorous, Lactate q 4 hours during cooling

b. CBC with diff and PT/PTT/INR every 12 hours during cooling

c. Continuous end tidal CO\(_2\) monitoring

d. 12 lead EKG every eight hours during cooling

7. Indications to discontinue cooling

a. Uncontrollable bleeding

b. Tachydysrhythmias which make the patient hemodynamically unstable

c. Withdrawal of care

8. If patient has seizure

a. Physician consult Neurology Dr. ________________ if patient is not on a Neurosurgical service.

b. Start (Select one)

   - Levetiracetam (Keppra\textsuperscript{\textregistered}) 1500 mg IV bolus. Infuse over 15 minutes. Contact provider for maintenance dose. [Maintenance dosage is dependent on creatinine clearance.]

   - OR -

   Phenytoin (Dilantin\textsuperscript{\textregistered}) 20mg/kg IV (rate not to exceed 50 mg/min). Continue IV phenytoin 100 mg in 100 ml 0.9% NaCl (rate not to exceed 50 mg/min) every 8 hours.

**Questions/Concerns?**

**Contact:**

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Arctic Sun 24/7 Urgent Help Line – 1-866-840-9776