



STAT MEDICATION

Date/Time: _____

Inclusion Criteria:

- Negative pregnancy test for women under 55 years of age
- Intubated and ventilated
- Patients unresponsive within a 6 hour post-cardiac arrest time; no eye opening to painful stimuli
- B/P maintained at or above MAP 60 mmHg with or without vasopressors

Exclusion Criteria:

- Age < 12 years
- Pregnancy
- Pre-existing coagulopathy or bleeding; Platelet count less than 50,000
- Major surgery within 14 days (risk of infection and bleeding)
- Systemic infection/sepsis
- Coma for other reasons (drug intoxication, coma prior to cardiac arrest)
- Pre-existing vasospastic disorders, i.e. Raynauds, Buerger's, Sickle cell
- Palliative care/Comfort care
- Head CT with acute intracranial process

MD: Do not delay cooling for line placement, tests, or procedures. Patients should receive all appropriate treatment for AMI including ASA.

I. Initial Patient Care

- Admit to ICU bed.
- Placement of central venous line. (Monitor CVP)
- Initiate Pain & Sedation Protocol immediately. **Goal: deep sedation; RASS of -4.**
- Initiate Continuous Insulin Infusion orders if blood sugar equal to or greater than 150 mg/dL

II. Cooling: Goal of therapy: Patient temperature of 91 F (33 C) ASAP achieved as rapidly as possible.

Maintain goal temperature of 89.6-93.2F (32-34° C) for:

- 12 Hours **OR** _____ hours per physician order.
- Notify ordering MD if target temp is not reached in 4 hours.

Record vital signs & temperature on flowsheet every 30 minutes during cooling

- Do not allow temperature to go below 89.6F (32°C).
- Rapidly infuse 1 liter of cold NS (~4° C) obtain from medication refrigerator in ED if not already given in ED.
- Infuse 2nd liter of cold NS (~4° C) at 250 mL per hour.
- Insert Foley catheter with temperature probe. (Monitor u/o hourly for "cold diuresis".)
- Turn down thermostat in patient room to 60°F.
- Apply ice packs to neck, axilla, lateral torso, and groin to accelerate cooling.
- Use 2 cooling blankets; 1 under & 1 over the patient
 - Place a sheet between cooling blankets & patient
 - Connect the urinary catheter temperature probe to the cooling machine cable to display temp.
 - Select the AUTO control on cooling machine & set the blanket & patient temperatures both at 91° F (33° C).
 - If patient is slow to cool, reset the blanket temperature to 50°F (10°C) for more rapid cooling.
 - When the patient's temperature reaches 93.2° (34°C) reset the blanket temperature to 91°F & remove the top cooling blanket & ice packs.
 - Continue to monitor the patient temperature, do not allow to fall below 91F (33C)
- RT to turn off ventilator heater (LEAVE COOL VENTILATOR HUMIDIFIER ON).
- DISCONTINUE COOLING IF: Significant arrhythmias, hemodynamic instability, or bleeding develops.

Centigrade	Fahrenheit
31	87.8
32	89.6
33	91
34	93.2
35	95.0
36	96.8
37	98.6
38	100.4
39	102.2
40	104

III. Labs/Diagnostics: Do not replace potassium/magnesium per protocol.

- Call ordering MD for specific electrolyte replacement orders.**
- Stat & every 4 hours from start of cooling:
 - Complete metabolic panel
 - Accucheck glucose (more frequent if IV Insulin orders used)
- Stat and Every 8 hours from start of cooling:
 - CBC without differential
 - Cardiac enzymes
 - PT/PTT/INR
 - ABG with lactate corrected to core temperature
- 12-lead ECG now & daily x3
- Portable CXR now & daily x3

- DVT Prophylaxis:** SCD to lower extremities
 Enoxaparin (Lovenox) 40 mg SQ daily
- GI Prophylaxis:** Pantoprazole (Protonix) 40 mg IVP daily
- Skin Care:** Repositioning & skin assessment every 1-2 hours
 Check for skin redness from cooling blankets frequently.

Date _____ Time _____ Physician _____



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Therapeutic Hypothermia after Cardiac Arrest Physician Orders

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IV. Maintenance Phase: Monitor for "cold diuresis" during cooling. Goal: Prevent hypovolemia from fluid loss during this phase.

- 1. Continue monitoring vital signs & temperature every hour, include TOF during NMB administration.
2. Maintain MAP in range using fluid boluses, vasopressors, & inotrope orders.
3. Replace electrolytes as needed until 8 hours prior to rewarming (confirm time with physician).
4. Continue labs on the 4 hour & 8 hour orders from page 1.

V. Rewarming: Stop all potassium administration 8 hours prior to re-warming. D/C potassium from all IV fluids. Passive rewarming causes rebound Hyperkalemia.

- Start passive rewarming in ___ hours after goal hypothermia achieved. DO NOT REWARM QUICKLY.
Replace top blanket on patient & Initiate active rewarming up to 97.3F (36.5C) after 24 hours of cooling or as ordered by physician.
Reset cooling blanket temperature to 1.3°F (1°C) higher than the patient's current temperature.
Increase the blanket temperature by 1.3°F (1°C) every 2 hours until the patient reaches 97°F (36.5°C).
Turn off blanket & remove both cooling blankets from patient.
Reset thermostat in room to 75°F.
Notify RT to turn on ventilator heater if patient is difficult to re-warm.
[X] Monitor for Hypotension & Hyperkalemia
Discontinue NMB infusion when temperature reaches 96.8°F (36°C).
When TOF reaches 4/4 muscle twitches, begin weaning sedation

VI. Volume Management: Initiate vasopressor & or inotrope if MAP less than 60 mmHg.

Norepinephrine

Table with 2 columns: Parameter, Value. Rows: Infusion (Start at 2 mcg/minute), Concentration (8 mg in 250 mL normal saline), Maximum (30 mcg/minute), Goal (MAP greater than 60 mmHg)

Dobutamine

Table with 2 columns: Parameter, Value. Rows: Infusion (Start at 2 mcg/kg/minute), Concentration (1000 mg in 250 mL normal saline), Maximum (30mcg/kg/minute (with physician order)), Goal (MAP greater than 60 mmHg)

VII. Consider neuromuscular blockade (NMB) to control shivering: Use BIS monitor to assess level of sedation during NMB use.

VECURIUM (avoid in renal insufficiency)

Table with 2 columns: Parameter, Value. Rows: Bolus (0.1 mg/kg), Infusion (1 mcg/kg/min for shivering unrelieved by sedation & analgesia), Concentration (50 mg/250 mL normal saline), Discontinue (Discontinue paralytics when patient re-warmed to 97.7° F (36.5° C)), Goal (Train of four (TOF) titrate to 1-2 twitches out of 4 twitches)

CISTRACURIUM (avoid in hepatic insufficiency)

Table with 2 columns: Parameter, Value. Rows: Bolus (0.1 mg/kg to be given over 5-10 seconds), Infusion (1 mcg/kg/min for shivering unrelieved by sedation & analgesia), Concentration (0.2 mg/mL in normal saline (maximum 5 mcg/kg/min)), Discontinue (Discontinue paralytics when patient re-warmed to 97.7° F (36.5° C)), Goal (Train of four (TOF) titrate to 1-2 twitches out of 4 twitches)

VIII. Other: Avoid hyperthermia during rewarming.

- Acetaminophen 650 mg every 6 hours PRN core temperature greater than 99.5° (37.5°C) Do not exceed 4 Grams/24 hours.
Lacrilube ointment to eyes every 8 hours while receiving paralytics.
[X] Record vital signs every hour during all phases of this order set.
Other:

Date _____ Time _____ Physician _____



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