

Affix STAT sticker touching top & left edge of paper.



Albany Medical Center

### PHYSICIAN'S ORDER SHEET

#### Instructions:

1. Identify patient name, date of birth, and MR#.
2. The order must contain date, time, prescriber ID# and signature.
3. Write only in the spaces provided.
4. Check boxes when applicable.
5. Scan/Fax to pharmacy.

ALLERGIES: \_\_\_\_\_ WEIGHT: \_\_\_\_\_ kg

### Therapeutic Hypothermia (TH) Orders After Cardiac Arrest (Page 1 of 5)

1. Admit to \_\_\_\_\_ under Dr. \_\_\_\_\_

2. Consults: RN to call for Neurology consult STAT.

- |  |   |
|--|---|
| <input type="checkbox"/> ID _____        | <input type="checkbox"/> Nephrology _____ |
| <input type="checkbox"/> Pulmonary _____ | <input type="checkbox"/> Other _____      |

3. Diagnosis: \_\_\_\_\_

4. Inclusion criteria:

- a.  **Must be within 6 hours post cardiac arrest** (initial rhythm of Pulseless VT or VF, may consider Pulseless Electrical Activity (PEA) and Asystole) with return of spontaneous circulation **and ≤ 1 hour resuscitation time.**
- b.  persistent coma as evidenced by no eye opening to pain after resuscitation
- c.  SBP maintained ≥ 90mmHg spontaneously or with pressors after CPR
- d.  age 18 years or older
- e.  women must have a negative BHCG test or are over 50 years old

Exclusion criteria:

- a. other potential causes of coma (i.e., pre-existing coma prior to cardiac arrest, status epilepticus, or drug intoxication from barbiturates, benzodiazepines, and other CNS depressants including antidepressants)
- b. pregnancy
- c. known terminal illness preceding cardiac arrest
- d. known severe pre-existing coagulopathy or active bleeding
- e. **severe** cardiovascular instability (i.e., dysrhythmia, cardiogenic shock, or hypotension)
- f. DNR/DNI status or Advance Directives that would exclude TH
- g. recent major surgery within 14 days
- h. systemic infection/sepsis
- i. patients with HIT or with a vena cava filter should not receive Endovascular Cooling with Innercool®

5. Vital Signs:

- a. BP, P, R, O<sub>2</sub> sat q1h. Continue BP q15min until all vasoactive IV medications are discontinued.
- b. Neuro checks q1h—do not hold or titrate down analgesics/sedatives during 24h cooling phase.
- c. Temperature—patient and console water temp. q1h.
- d. Notify prescriber if unable to maintain below parameters or for the development of arrhythmias.

**Desired Parameters:**

Pulse (P)	> _____ and < _____ bpm
Systolic Blood Pressure (SBP)	≥ 90mmHg
Temperature (T)	33°C during active therapeutic hypothermia
Urine output	> 30ml/h

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6. Activity: Bedrest with HOB elevated  $\geq 30^\circ$  unless contraindicated.
7. Oxygen Therapy/Mechanical Ventilation:
  - a. Mode: \_\_\_\_\_ Vt: \_\_\_\_\_ Rate: \_\_\_\_\_ PEEP: \_\_\_\_\_ FiO<sub>2</sub>: \_\_\_\_\_
  - b. Adjust settings to maintain oximetry saturation  $\geq 95\%$ , pH 7.35-7.45, and PaCO<sub>2</sub> 35-45mmHg.
8. Diet: NPO for 48h.
9. NG/OG tube to continuous low wall suction. Remove prior to extubation.
10. Patient temp via Esophageal temperature probe.  
 Esophageal temperature probe is contraindicated, use a Bladder temperature probe.
11. Daily weights qAM.
12. Hourly intake and output. When hemodynamically stable, may decrease to q2h x24h, then q4h.
13. Indwelling urinary catheter to gravity drainage.
14. Apply sequential compression device (SCD).
15. Initiation of cooling with goal temperature of 33°C (range 32-34°C) in 6-8h for 24h from the time of the *initiation* of the cooling process:
  - a. Immediate initiating of cooling: place ice packs (ice pack must contain ice and water) over intact skin under the armpits, next to the neck, torso, and limbs, change ice packs frequently. Apply two cooling blankets at 4°C, one under and one over the patient.  
Additional cooling: (if more than one ordered, use concurrently)
    - i.  nasogastric lavage with ice cooled sterile water 500ml x 1.
    - ii.  1 Liter of chilled (4°C) IV NS over 30min **ONLY** via peripheral or femoral venous catheter. **Do not** infuse via internal jugular or subclavian vein.
  - b. Cooling (**choose one**):  
 External Cooling with Arctic Sun®.  
 Endovascular Cooling with Innercool®. **Contraindicated with patients with a history of heparin induced thrombocytopenia or with a vena cava filter.**
16. Re-warming—start 24h from the time of the initiation of the cooling process:
  - a. Set the goal temperature for Arctic Sun® or Innercool® to 37°C (98.6F). Set the rate at 0.3°C q1h. (Goal is to rewarm over 12h).

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17. Labs and Diagnostic Testing:
- a. Prior to initiation of cooling: CMP,  $ICa^{++}$ , Mg, CBC, ABG, lactate level, and PT/PTT.
  - b. Then  $K^+$ , Mg, Glucose, and CBC q4h and prn until stable.
  - c. ABG (temperature correction) with change in patient condition, shivering,  $1^\circ C$  change in temperature in 15 minutes, or with vent changes except for  $FiO_2$ .
  - d. 12h after the initiation of cooling: Blood Cultures x 2 peripherally.
  - e. 24h after initiation of cooling: CMP and CBC.
  - f. Other: \_\_\_\_\_
  - g. EKG qAM and prn for arrhythmias.
  - h. Portable CXR qAM.
  - i. For Innercool®, KUB x-ray post-insertion of Endovascular Cooling with Innercool® x1.
18. IV Access:
- a. Maintain Vascular (central-line) Access Device.
  - b. Saline well as indicated.
  - c. Vascular Access Device. Flush per protocol. Nursing scan Addendum C to pharmacy.
19. IV Fluids:
- a.  Maintenance IV \_\_\_\_\_ ml/h.
  - b.  NS 250ml IV q30min (\_\_\_\_\_ ml total) for SBP < 90mmHg and/or CVP < \_\_\_\_\_ mmHg.
20. **Anti-Bacterial Medications:** Chlorhexidine (Peridex®) Oral Rinse 15ml swab bid.
21. **Blood Glucose Surveillance and Glycemic Control:**
- a. For WBG >180mg/dl x1 or > 140mg/dl x2, initiate the Insulin Infusion Moderate Control (WBG 140-180mg/dl) Orders for Adult Critical Care Patients
22. **Electrolytes**— discontinue any previous electrolyte orders  
For the following electrolytes—if replacement is administered, repeat respective level 1h after dose completion and repeat dose per specific parameters below.
- a. Magnesium sulfate 1g IV over 1h for Mg level 1.5–2mg/dl.  
Magnesium sulfate 2g IV over 1h for Mg level < 1.5mg/dl.  
Notify prescriber if Mg level < 1.2 mg/dl.
  - b. Calcium Chloride 1g IV over 1h for  $ICa^{++}$  levels  $\leq 1.17$ mmol/L.
  - c. Potassium supplementation to maintain  $K^+$  level > 3.4mEq.  
See chart below for dosing. **Discontinue 8h prior to rewarming** and notify pharmacy.

Urine Output	$K^+$ level < 3.4mEq
< 100ml/h	Administer KCl 10mEq/50ml IV once over 30min
$\geq 100$ ml/h	Administer KCl 20mEq/100ml IV over 1h

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23. **Eye care:** Lubricant ophthalmic ointment to each eye q8h and prn dryness.
24. **Fever: Do NOT administer during TH:**  
\*Acetaminophen (Tylenol®) 650mg PO/PT, or 1300mg PR if unable to tolerate PO/PT, q4h prn for  $T \geq 38.5^{\circ}\text{C}$ . \*Max daily dose of acetaminophen not to exceed 4g. Consider all sources.
25. **Pain—Choose one:**
- a.  Sufentanil (Sufenta®) 100mcg/100ml D5W start continuous IV infusion at 10mcg/h. For breakthrough pain score  $> 2$  administer 2mcg IV over 5min via pump and increase original infusion rate by 2mcg/h. May repeat in 10min prn. After NMBA and TH discontinued, titrate to the lowest dose which maintains a pain score  $\leq 2$ .
- b. Other: \_\_\_\_\_
26. **Sedation—Goal:** Modified Ramsay Score (MRS) of 5
- Choose one:**
- a.  Midazolam (Versed®) 100mg/100ml NS bolus \_\_\_\_\_ mg (2-6mg) IV x1, then continuous infusion at (2-8mg/h) \_\_\_\_\_ mg/h. See AMC Continuous Infusion Dosing Chart. Rebolus \_\_\_\_\_ mg (0.03-0.05mg/kg) IV and increase infusion rate by 2mg/h q1h prn to maintain goal MRS.
- b.  Propofol (Diprivan®) See Propofol Continuous Infusion Protocol.
27. **Shivering:** (at initiation of cooling)
- a. \*Acetaminophen (Tylenol®) 975mg PT, or 1300mg PR if unable to tolerate PT, q6h. Discontinue after patient is rewarmed and notify pharmacy.  
\*Maximum daily dose of acetaminophen not to exceed 4g. Consider all sources.
- b. Buspirone (Buspar®) 30mg PT q8h. Discontinue after patient is rewarmed and notify pharmacy.  
**For breakthrough shivering not responsive to above therapy, use sequentially.**
- c. Meperidine (Demerol®) 50mg IV, if no effect may repeat 50mg in 5min x1.
- i. For patients who respond to Meperidine, may repeat meperidine 50mg IV q1h, discontinue after patient is rewarmed and notify pharmacy.
- ii. For refractory shivering advance to Atracurium (see d.) and discontinue Meperidine and notify pharmacy.
- d. Atracurium 40mg IV over 3-5min q1h x4 doses prn shivering. If no response initiate NMBA protocol with Atracurium infusion at 40mg/h. Titrate infusion to Deep Paralysis (Level III, i.e. no movement, no respiratory effort, TOF: 1-3 twitches) q4h: increase by 5mg/h, or decrease by 25%. Discontinue Neuromuscular Blocking Agent (NMBA) once  $36^{\circ}\text{C}$  is obtained and notify pharmacy.

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THO (10/08 Rev. 12/08, 12/30/08, 8/09, 8/19/09, 10/09, 2/10, 2/26/10)

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28. **Stress Ulcer Prophylaxis: (choose one)**
- Famotidine (Pepcid®) 20mg IV q12h x 24h, then 40mg PO/PT qhs.
  - Serum creatinine > 3 mg/dl: Famotidine (Pepcid®) 20mg IV qhs x 24h, then 20mg PO/PT qhs.
  - Esomeprazole (Nexium®) 40mg PO/PT daily 15-30min before breakfast.
29. **Vasoactive Infusions—Select ONE --- See Desired Parameters:**  
*See AMC Formulary for Adult Critical Care Drug Guidelines—Obtain Adult IV Drip Sheets.*
- Dopamine 800mg/250ml D5W at \_\_\_\_\_ mcg/kg/min.
  - Norepinephrine (Levophed®) 16mg/250ml NS. Initiate at 1mcg/min and titrate by 1mcg/min q5min for max dose of 200mcg/min.
  - Phenylephrine (NeoSynephrine®)  10mg/250ml NS  60mg/250ml NS  
Initiate at 20mcg/min and titrate by 10mcg/min q5min for max dose of 400mcg/min.
  - Vasopressin (Pitressin®) 100units/250ml NS. Initiate at 0.6 units/h and titrate by 0.6 units/h increments for max dose of 12 units/h.
30. **Venous Thromboembolism Prophylaxis—Choose one: (Hold for platelet count <75,000/mm<sup>3</sup>)**
- Heparin 5,000units SC q12h.
  - Heparin 5,000units SC q8h.
  - See Dalteparin (Fragmin®)/Fondaparinux (Arixtra®) Adult Orders

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