**Post-Cardiac Arrest Early Goal-Directed Therapy**

### Who needs this?
- Resuscitated patients with:
  - Pulseless < 60 min
  - GCS Motor score < 6
  - No other reason for coma
  - Not DNR or DNI status
  - If pregnant consult Ob/Gyn

### Getting Started
- Stat ECG, echocardiogram, and cardiology consult
- Stat head CT
- Insert arterial pressure monitoring line in radial or femoral artery
- Initiate therapeutic hypothermia if indicated (after arterial line)
- Insert Presep® CVC in subclavian or internal jugular vein
- Notify Bed Coordinator for ICU bed and EEG fellow for EEG

### MAP
- **< 80**
  - CVP > 8
    - **< 80**
      - 500 ml IVF over 5 min q 20 min until CVP > 8
      - Use 2 liters of 4°C saline (peripheral IV preferred) if initiating therapeutic hypothermia
      - If no CHF, continue IVF to get MAP = 80, but CVP no > 20
      - Consider PA cath if CVP>15 or > 5 liters IVF or CHF or significant vasopressor need
    - **> 80**
      - If EF is normal, use NOREPI
      - If ↓EF, start DOBUT (2.5-20mcg/min). If MAP↓, add DOPA or EPI
      - If severe hypotension → IABP

- **> 100**
  - **< 80**
    - Start IV NTG at 10 mcg/min. Titrate to MAP ≤ 100. Assure adequate CVP
    - Consider lasix if CHF
    - If tachycardic or ACS* w/ normal EF & ScvO₂ then consider esmolol

### CVP > 8
- **< 80**
  - MAP < 80
  - If evidence of shock is present:
    - Optimize CVP if not already done (up to 20)
    - Transfuse PRBC’s if hemoglobin ≤ 10 mg/dl
    - Dobutamine if not already initiated
    - Consider PA Cath if CVP>15 or escalating vasopressors

### ScvO₂ ≥ 65%
- Yes
- No

### ScvO₂ < 65% w/ shock?
- No
  - MAP, CVP, ScvO₂ goals achieved
  - Monitor serial lactate to rule out inadequate organ perfusion
- Yes
  - Re-evaluate to achieve goal
  - Consider IABP

*ACS=Acute coronary syndrome

Updated 5/16/06
EQUIPMENT CHECKLIST
1. Arterial line kits (both radial and femoral)
2. Presep central venous catheter
3. Two one liter bags of 4°C 0.9% saline (stored in ED and ICU refrigerators)
4. Gaymar III external cooling device
   a. Gaymar III with 1 torso and 2 thigh pads
5. Temperature probe foley catheter or esophageal temp probe
   1/8 inch to 1/4 inch adapter needed for Gaymar device
6. Neuromuscular blockade monitoring equipment (not required for ED)
   a. Twitch monitor
   b. BIS monitor and sensor
7. Rapid access to warmed IV fluid

<table>
<thead>
<tr>
<th>Gaymar III Cooling Unit</th>
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<tr>
<td>Keep device plugged in at all times</td>
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Initial Cooling

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Infuse 2 liters of 4°C saline IV (peripheral IV preferred) over 30 minutes.

Apply circumferential torso pad to chest and connect to first cooling hose
Apply circumferential thigh cooling pads to both thighs. Connect the two thigh pads in series and then connect free ends to second cooling hose.

Connect temperature monitoring foley to temperature monitoring port on cooling device. If urine output less than 4 cc/hr switch to esophageal probe.

Initially set device on rapid cooling automatic mode with target temp of 34°C. Once patient reaches 34°C, set on gradual cooling automatic mode at 33°C.

Maintenance of Hypothermia

Keep device set on gradual cooling automatic mode with target temperature set at 33°C.

Rewarming (0.25 °C/hour)

In the gradual automatic mode, increase the patient target temperature setting by 0.5°C every 2 hours until patient temperature reaches 36°C, then discontinue cooling system.