



# Critical Topics in Saving NC Lives

## Focus Cardiac Arrest

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Regional Approach to Cardiovascular Emergencies *Cardiac Arrest Resuscitation System*



HeartRescue  
PROJECT



Cardiac Arrest Resuscitation System



Cardiac  
Arrest  
Resuscitation  
System



## Resuscitation Capable Hospital Pre-Transfer Guidelines

### Inclusion Criteria

- Adults (age  $\geq$  18 years)
- Return of Spontaneous Circulation (ROSC) within 60 minutes of arrest
- Persistent Coma: Inability to follow commands and/or GCS  $<$  9

### Exclusion Criteria

- Severe or terminal illness with anticipated non-aggressive care
- Active hemorrhage
- Systemic infection/sepsis
- Severe refractory shock

### Resuscitation Priorities

- Airway: Intubation
- Breathing
  - Avoid hyperventilation (goal PaCO<sub>2</sub> of 38 – 42mmHg)
  - Avoid hyperoxia (rapidly decrease FiO<sub>2</sub> to maintain SpO<sub>2</sub>>95%)
- Circulation
  - Goal MAP>65
  - Anticipate and avoid hypotension
  - Norepineprine is the preferred vasopressor
  - ECG screen for STEMI

### Cooling Induction

- Initiate cooling as soon as possible after ROSC
- Refrigerated (4°C) NS 30 cc/kg IV bolus as tolerated
- Ice packs to groin, axilla and neck
- Shivering control with Propofol 10 mcg/kg/min
- Paralyze patient with Vecuronium 0.1mg/kg q1hr

Courtesy of David Pearson, MD, Carolinas Medical Center Code Cool



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Optimal Cardiac Arrest System Specification  
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### Resuscitation Capable Hospital

**Goal: To Improve survival from cardiac arrest by 50%**

|                          |  |
|--------------------------|--|
| <input type="checkbox"/> | Standard and well executed ACLS Protocols  |
| <input type="checkbox"/> | Baseline Neurologic examination  |
| <input type="checkbox"/> | 2 large bore IV  |
| <input type="checkbox"/> | ECG: If new LBB or STEMI : Activate STEMI Plan   |
| <input type="checkbox"/> | Early notification of the receiving hospital   |
| <input type="checkbox"/> | Early activation of the transport plan   |
| <input type="checkbox"/> | Implement Treatment protocols for STEMI and Cardiac Arrest   |
| <input type="checkbox"/> | Send medical records including EMS Information, ECG, record of treatment with times, and EMTALA form (can fax records if need time to complete, EMTALA forms must go with patient) |
| <input type="checkbox"/> | Optimize BP to MAP>65mmHG  |
| <input type="checkbox"/> | Titrate EtCO2 for 35-40  |
| <input type="checkbox"/> | Consider CT of Brain   |
| <input type="checkbox"/> | Pressure Infuse 2L of cold saline if candidate for hypothermia (if EMS started cooling do not stop)  |
| <input type="checkbox"/> | Sedation and possibly paralysis  |
| <input type="checkbox"/> | Train family In recognition of cardiac emergency and compression only CPR prior to patient discharge   |
| <input type="checkbox"/> | Family and Staff support   |
| <input type="checkbox"/> | Data measurement and feedback  |



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## Cardiac Arrest Center

**Goal: To improve the survival from cardiac arrest by 50%**

|                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Standard and well executed ACLS protocols   |
| <input type="checkbox"/> | Baseline neurologic examination   |
| <input type="checkbox"/> | 2 large bore IV's   |
| <input type="checkbox"/> | ECG: STEMI to cath lab  |
| <input type="checkbox"/> | Optimize BP to MAP>65mmHG   |
| <input type="checkbox"/> | Titrate EtCO2 for 35-40   |
| <input type="checkbox"/> | Consider CT of brain, do not delay cooling for scan or extensive testing before transfer unless clinically indicated              |
| <input type="checkbox"/> | Pressure infuse 2L of cold saline if candidate for hypothermia (If EMS started cooling do not stop)-continue cooling in transport |
| <input type="checkbox"/> | Continue therapeutic hypothermia for 24 hours   |
| <input type="checkbox"/> | Sedation and possibly paralysis   |
| <input type="checkbox"/> | On-going neurological assessment and care   |
| <input type="checkbox"/> | 24/7 Cath lab availability for STEMI  |
| <input type="checkbox"/> | Early coronary angiography if not a STEMI   |
| <input type="checkbox"/> | ICD Evaluation  |
| <input type="checkbox"/> | Rehabilitation plan   |
| <input type="checkbox"/> | Train family in recognition of cardiac emergency and compression only CPR prior to patient discharge                              |
| <input type="checkbox"/> | Family and staff support  |
| <input type="checkbox"/> | Data measurement and feedback   |



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