

Protocol 700-C1

Cardiac Arrest

Rev: 2/18

**BLS Treatment**

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Confirm DNR Status
- ❖ PIT Crew CPR. See Reference 806 *Core Principles: Managing Cardiac Arrest*.
- ❖ Apply AED and use as indicated
- ❖ Prepare for transport/transfer of care.

**ALS Treatment**

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor and determine rhythm
- ❖ Identify possible causes\*
  - Treat according to Table 1
  - Known dialysis patients with possible hyperkalemia
    - **Sodium Bicarbonate** 1 mEq/kg IV/IO
    - **Calcium Chloride** 1 gram IV/IO.
  - Penetrating Chest Trauma
    - Consider Tension Pneumothorax (see Procedure 702 *Pleural Decompression*)
- ❖ If ROSC achieved:
  - Maintain SpO<sub>2</sub> ≥ 95% using lowest concentration of O<sub>2</sub> possible
  - Ventilate the patient 10-12 breaths per minute to achieve an end tidal CO<sub>2</sub> of 35 – 45 mmHg **Warning:** Avoid hyperventilation
  - Maintain SBP ≥ 90 mmHg.
    - IV fluids, **Normal Saline** 1 liter bolus
      - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-Dose Epinephrine Mixing Instructions*.
      - If the patient's BP is 100 systolic or higher, there is no need for any further circulatory support.
  - Manage post-arrest arrhythmias as needed.
  - Obtain a 12 lead ECG and transmit as indicated.
- ❖ Consider transporting hypothermic, drug-overdosed, or electrocuted patients.
- ❖ Consider termination of resuscitative efforts after at least 20 contiguous minutes if: (See Policy 613 *Determination of Death in the Field*)
  - Unwitnessed arrest with no bystander CPR
  - No shock delivered (AED or manual defibrillator)
  - No ROSC
  - ETCO<sub>2</sub> waveform or readings less than 1

<b>*Causes of Cardiac Arrest</b>	
• Hypovolemia	• Tox (OD/Drugs) (M1)
• Hypoxemia	• Tamponade (Cardiac)
• Hydrogen Ion (Acidosis)	• Tension Pneumothorax (702)
• Hyper/Hypokalemia	• Thrombosis (MI, PE)
• Hypothermia (E2)	

*David Ghilarducci MD*

David Ghilarducci MD  
EMS Medical Director

**Table 1**

Asystole	Pulseless Electrical Activity (PEA)	Ventricular Fibrillation or Pulseless Ventricular Tachycardia
<ul style="list-style-type: none"> <li>❖ <b>Epinephrine</b> <ul style="list-style-type: none"> <li>➢ (1:10,000)1mg IVP or IO</li> <li>➢ Repeat q3-5minutes for duration of arrest.</li> </ul> </li> <li>❖ Consider <b>Normal Saline</b> <ul style="list-style-type: none"> <li>➢ 250 ml fluid challenge.</li> <li>➢ May repeat as indicated,</li> </ul> </li> <li>❖ If no response consider termination of resuscitative efforts (see Policy 613, <i>Determination of Death in the Field</i>)</li> </ul>	<ul style="list-style-type: none"> <li>❖ <b>Epinephrine</b> <ul style="list-style-type: none"> <li>➢ (1:10,000)1mg IVP or IO</li> <li>➢ Repeat q3-5minutes for duration of arrest.</li> </ul> </li> <li>❖ Consider <b>Normal Saline</b> <ul style="list-style-type: none"> <li>➢ 250 ml fluid challenge.</li> <li>➢ May repeat as indicated,</li> </ul> </li> <li>❖ If electrical HR &lt;40 BPM due to blunt trauma, consider determination of death prior to initiating resuscitation (see Policy 613, <i>Determination of Death in the Field</i>)</li> </ul>	<ul style="list-style-type: none"> <li>❖ Defibrillate ASAP</li> <li>❖ <b>Epinephrine</b> <ul style="list-style-type: none"> <li>➢ (1:10,000)1mgIVP/IO</li> <li>➢ Repeat q3-5min</li> </ul> </li> <li>❖ Defibrillate at max. joules as above after 5 cycles of CPR</li> <li>❖ Defibrillate after each medication throughout the arrest</li> <li>❖ <b>Amiodarone</b> <ul style="list-style-type: none"> <li>➢ 300 mg IVP/IO</li> <li>➢ Repeat with 150 mg IV/IO if no response</li> </ul> </li> <li>❖ If return to supraventricular rhythm, consider:</li> <li>❖ <b>Normal Saline</b> 250ml bolus</li> </ul>

**Documentation**

- ❖ Cardiac Arrest is a System Quality Indicator (See Policy 101 *Quality Improvement Program and System Evaluation* and Policy 502 *San Benito County Patient Care Record (PCR) and Transfer of Care Document*)
- ❖ Minimum documentation elements include:
  - Primary or Secondary Impression (esituation.11 or esituation.12)= *“Cardiac Arrest -Non-traumatic”*

<ul style="list-style-type: none"> <li><input type="checkbox"/> Bystander CPR (PUB-1)</li> <li><input type="checkbox"/> AED prior to arrival (CAR-1)</li> <li><input type="checkbox"/> First Arrival time to rescuer CPR</li> <li><input type="checkbox"/> Initial rhythm recorded</li> <li><input type="checkbox"/> EtCO<sub>2</sub> readings (initial and continuous)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Defibrillation (number and dose)</li> <li><input type="checkbox"/> Intubation (see #6)</li> <li><input type="checkbox"/> ROSC (y/n) (CAR-2)</li> <li><input type="checkbox"/> Survival to ED discharge(CAR-3)</li> <li><input type="checkbox"/> Survival to hospital discharge (CAR4)</li> </ul>
--	--