

Treatment Protocols**Date: 02/01/2021****Cardiac Arrest (Suspected Non-Traumatic Origin) - Adult****Policy #9070A****Adult BLS Standing Orders**

- Universal Patient Protocol
- High quality uninterrupted CPR (See **CPR Policy**)
- Apply AED and follow device instructions (**AED Policy**)
- **If patient had arrest prior to EMS arrival, provide 2 minutes of CPR prior to defibrillation**
- BVM per **BVM Policy**
 - Adult without an advanced airway: 30:2 (30 compressions to 2 breaths)
 - Adult with an advanced airway: Continuous compressions between 100-120 bpm and 1 breath every 6 seconds (10 breaths per minute)
- Provide airway support per **Airway Protocol**
- Continuous blood pressure, pulse oximetry, and ECG monitoring should be completed if available
- Continuous capnography should be completed if ALS available
- If Return Of Spontaneous Circulation (ROSC) occurs after any intervention, transport to closest Imperial County approved receiving STEMI center if within 90 minutes of transport location
- Administer Naloxone (Narcan) 0.1 mg/kg, max of 2 mg IN. May repeat up to three (3) times, q5min per **Poisoning Policy**
- Check blood glucose, treat hypoglycemia as noted in **Altered Mental Status Policy**

If applicable:

- **Determination of Death in the Field Policy**
- **Do Not Resuscitate Policy** - Do not delay care and/or CPR while confirmation is being made
- **Termination of Resuscitation Policy**

Adult LALS Standing Order Protocol

- Establish IV
- Establish supraglottic airway per **Airway Policy**
- Administer 1,000 ml IV bolus if suspected hypovolemia
- Administer Naloxone (Narcan) 0.1 mg/kg, max of 2 mg IV. May repeat up to three (3) times, q5min per **Poisoning Policy** for suspected opiate overdose
- Treat hypoglycemia as noted in **Altered Mental Status Policy**

Adult ALS Standing Order Protocol

- Establish IO
- Place on cardiac monitor, and EtCO₂ and treat accordingly
- Treat per rhythm
- Defibrillate (if indicated **Defibrillation Policy**)
- Insert ETT
- Use supraglottic airway if one intubation attempt is unsuccessful
- EtCO₂ requires both continuous numeric and waveform monitoring on all cardiac arrests
- Consider a NS 0.9% 1,000 mL bolus IV/IO if suspected hypovolemia
- If Return Of Spontaneous Circulation (ROSC) occurs after any intervention, obtain 12 Lead ECG and transport to closest Imperial County approved receiving STEMI center if within 90 minutes of transport location

Treatment Protocols**Date: 02/01/2021*****Cardiac Arrest (Suspected Non-Traumatic Origin) - Adult*****Policy #9070A****Ventricular Fibrillation (VF) or Pulseless Ventricular Tachycardia (VT)**

- Defibrillation at manufacturer's suggested values (typically 200 J in biphasic monitors)
- Epinephrine (1:10,000) 1 mg IV / IO, repeat every 3-5 minutes for the duration of the arrest
- Amiodarone 300 mg IV / IO or Lidocaine 1-1.5 mg/kg slow IV push
- May repeat Lidocaine 0.5-0.75 mg/kg until total 3 mg/kg or patient converts rhythm
- If after 3 cycles of CPR rhythm remains in VF/VT, consider transport to Imperial County EMS approved STEMI center if available
- Note: Refractory VF/VT is generally from an ischemic source

Asystole

- Epinephrine (1:10,000) 1 mg IV / IO, repeat every 3-5 minutes for the duration of the arrest
- Provider may consider **BHP** contact for termination of resuscitative efforts if the following are fulfilled:
 - Provided high quality CPR for 20 minutes
 - Arrest was not witnessed by EMS personnel
 - No ROSC at any point
 - No shock delivered by AED or defibrillator
 - Airway in place (ET Tube or King tube)
 - Received 3 rounds of appropriate ALS medications
 - A helpful, but not definitive value to consider is an EtCO₂ <10 mmHg after prolonged resuscitation is a poor prognostic factor.
 - BLS may contact Base Hospital Physician if ALS personnel are not able to reach the incident or make patient contact.

Pulseless Electrical Activity

Identify and treat any reversible causes:

- **Hypovolemia:**
 - Consider a 500-1,000 ml fluid bolus, repeat as needed
- **Hypoxia:**
 - Ensure that the patient is adequately ventilated, utilizing an airway adjunct and bag valve mask with a supplemental oxygen supply
 - Ensure proper chest rise and fall
 - If there is question of endotracheal tube placement (esophageal intubation), provider should extubate the patient and return to a BLS airway
- **Hyperkalemia:**
 - Peaked T-waves, with possible widening of the QRS complex
 - Consider Calcium Chloride 10 mg/kg IV / IO, max dose 1 gm
 - Consider Sodium Bicarbonate 1 mEq/kg IV/ IO, max dose 50 mEq (1 amp)
- **Hypothermia:**

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- Consider rewarming measures
- Patients that are hypothermic can be unresponsive to pharmaceutical therapy and electrical therapy
- **Tension Pneumothorax:**
 - Perform pleural decompression
- Epinephrine (1:10,000) 1 mg IV / IO, may repeat every 3-5 minutes for the duration of the arrest
- Treat any rhythm changes according to correct treatment protocol

Hypothermic Cardiac Arrest (Ex: If patient is found down in near-freezing temperatures, or was pulled from near-frozen water)

- If no pulse is present, start CPR
- If defibrillation is indicated, limit to one (1) shock until patient is warm
- If patient presents with dysrhythmias, treat as appropriate
- If core temperature is less than 86°F, withhold IV medications until body temperature rises

Ventricular Assist Device (VAD) Cardiac Arrest

- High quality uninterrupted CPR may be provided if:
 - Patient is unresponsive, apneic and there is a device failure alarm with no rotor hum upon auscultation
 - If there is presence of rotor hum with no failure alarm, continue with airway management
- The only accepted determination of death in the field for a VAD patient is obvious death
- If further guidance is required during patient care, contact BH

Adult Base Hospital Orders

Reversible Causes:

<p>H's & T's</p> <ul style="list-style-type: none"> ● Hypovolemia ● Hypoxia ● Hydrogen ion excess (acidosis) ● Hypoglycemia ● Hypokalemia ● Hypothermia 	<ul style="list-style-type: none"> ● Tension pneumothorax ● Tamponade – cardiac ● Toxins ● Thrombosis (pulmonary embolus) ● Thrombosis (myocardial infarction)
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APPROVED:

Signature on File

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