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PULSELESS ELECTRICAL ACTIVITY (ADULT)

- I. **AUTHORITY:** Health and Safety Code, Division 2.5, California Code of Regulations, Title 22, Division 9
- II. **PURPOSE:** To serve as the treatment standard for EMT-Is and EMT-Ps in treating patients.
- III. **PROTOCOL:**

The absence of a detectable pulse and the presence of some type of regular electrical activity other than V-Tach define this group of arrhythmias. Many of these patients do have cardiac mechanical activity without effective cardiac output (they are in profound shock). This category includes Electromechanical-Dissociation (EMD), Idioventricular rhythms, Pseudo-EMD, and Bradycardic rhythms.

Consider Possible Causes: (Possible field treatments in parentheses)

HYPOVOLEMIA (volume infusion)	PULMONARY EMBOLISM
HYPOXIA (ventilation)	DRUG OVERDOSE (appropriate antidote)
CARDIAC TAMPONADE(pericardialcardiocentesis)	HYPERKALEMIA (sodium bicarb, calcium chloride)
TENSION PNEUMOTHORAX (needle decompression)	ACIDOSIS (ventilatation)
HYPOTHERMIA (rewarm and refer to hypothermia protocol)	MYOCARDIAL INFARCTION

Consider Code 2 transport of all patients in cardiac arrest, unless special circumstances which might favor survival are suspected.

STANDING ORDERS	
ABCs	
CPR	Minimize interruptions in compression as much as possible
INTUBATE	Ventilate with bag-valve or approved ventilator and 100% oxygen.
CONFIRM PLACEMENT	With end-tidal CO ₂ detector & esophageal detector device. Intubated patients should be monitored with waveform capnography if available.
IV/IO ACCESS	Two 14-16 gauge; wide open until systolic BP 90-100 or 2 L infused; then TKO.
CONSIDER TREATABLE CAUSES	Hypovolemia: rapid 2 liter volume infusion, followed by 250 ml boluses until systolic BP 90-100 Cardiac tamponade: 2 liter volume infusion, followed by 250 ml boluses until systolic BP 90-100 Hypoxia: provide oxygen. Tension pneumothorax: needle thoracostomy: Refer to 554.00 – ALS Introduction Hypothermia: refer to Hypothermia Protocol – 554.62
EPINEPHRINE	1 mg of 1:10,000 IV/IO push (or 2 mg of 1:1,000 ET-Flush with 5 ml NS). Repeat every 3 minutes. (Do not delay epinephrine due to difficult IV/IO starts. Give via ET).
ATROPINE	If heart rate less than 50 beats/min: 1 mg IV/IO (or 2 mg ET-Flush with 5 ml NS). Repeat every 3 minutes up to a total of 3 doses.
SODIUM BICARBONATE	1 mEq/kg IV/IO for suspected hyperkalemia (renal dialysis or peritoneal dialysis patient) or cyclic antidepressant overdose or cocaine/amphetamine overdose in cardiac arrest. Repeat every 5 minutes.
CALCIUM CHLORIDE	1000mg (10ml) IV for suspected hyperkalemia. Repeat once in 5 minutes.
BASE PHYSICIAN ORDERS	
DECLARATION OF DEATH	Refer to Declaration of Death Policy 570.20