CENTRAL CALIFORNIA
EMERGENCY MEDICAL SERVICES
A Division of the Fresno County Department of Public Health

Manual Emergency Medical Services Administrative Policies and Procedures	Policy Number 530.09 Page 1 of 2
Subject Paramedic Treatment Protocols **PULSELESS ELECTRICAL ACTIVITY (PEA)**	
References Title 22, Division 9, Chapter 4 of the California Code of Regulations	Effective Fresno County: 01/15/82 Kings County: 04/10/89 Madera County: 06/15/85 Tulare County: 04/19/05

STANDING ORDERS		
1. Assessment	ABCs, CPR if appropriate, refer to EMS Policy #549 – Initiation/Termination of CPR in the Medical Patient.	
2. IV/IO	LR TKO – Standard Tubing.	
3. Epinephrine	**IV/IO** 1 mg 1:10,000	
4. BLS Airway/ Intubate	Establish IV/IO over ET tube if airway is secure with BLS airway. Accomplish simultaneously with other therapy if possible.	
5. Consider Hypovolemia	Give LR wide open until systolic BP greater than 100 or 1 L infused, if hypovolemia is a possibility.	
6. Epinephrine	**IV/IO** 1 mg of 1:10,000	**ET** 2 mg of 1:1000
7. Determination of Death	Consider termination of efforts if patient is not hypothermic, and remains in PEA with rate less than 20 for at least 10 minutes and the above sequence completed. (See EMS Policy #549 – Initiation/Termination of CPR in the Medical Patient.)	
8. Transport		
9. Epinephrine	**IV/IO** 1 mg of 1:10,000 Repeat Epinephrine every 3-5 minutes.	**ET** 2 mg of 1:1000 Repeat Epinephrine every 3-5 minutes.
11. Contact Hospital	Per EMS Policy #530.02.	

BASE HOSPITAL ORDERS ON NEXT PAGE

Approved By EMS Division Manager	Revision **09/05/2023**
EMS Medical Director	

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Paramedic Treatment Protocols – Pulseless Electrical Activity	Number 530.09

BASE HOSPITAL ORDERS	
*1. Calcium Chloride in Suspected Hyperkalemia or Calcium Channel Blocker Toxicity	1000 mg (10 ml) of 10% IV/IO push.
*2. Consider Sodium Bicarbonate in Tricyclic OD or Hyperkalemia	1 mEq/kg IV/IO push.
*3. Determination of Death for rates greater than 20 per minute	Consider termination of efforts if patient is not hypothermic and remains in PEA for at least 10 minutes and the above protocol sequence completed. (See EMS Policy #549 – Initiation/Termination of CPR in the Medical Patient.)
*4. Needle Thoracostomy	In suspected tension pneumothorax. Refer to EMS Policy #530.02.

SPECIAL CONSIDERATIONS AND PRIORITIES

1. Paramedic must contact the Base Hospital if there is uncertainty as to rhythm interpretation.

2. Allow 60 seconds of adequate CPR after medication administration to circulate medications.

3. Consider causes:

   a. Hypovolemia – give fluid challenge
   b. Occult bleeding (GI bleeding, ruptured aortic aneurysm) – give fluid challenge
   c. Cardiac tamponade
   d. Tension pneumothorax
   e. Hypothermia
   f. Drug overdose
   g. Acidosis
   h. Hypoxia

4. Consider Base Hospital contact as soon as possible if PEA in the setting of isolated hypothermia (no other condition, i.e., trauma). In the setting of organized EKG rhythm (such as PEA) in a patient with isolated hypothermia, CPR is generally not indicated. Contact the Base Hospital for specific ALS orders, especially if a short ETA.

5. Consider the administration of Dextrose when EMS Personnel, family, or bystanders have performed an accucheck, with a reading below 80, prior to the patient becoming pulseless and non-breathing. Do not delay the administration of cardiac drugs or other ALS procedures for the administration of Dextrose.

6. Whenever return of spontaneous circulation occurs in the cardiac arrest patient, application of 12-lead ECG should be considered.