

**COUNTY OF SACRAMENTO
EMERGENCY MEDICAL SERVICES AGENCY**



Program Document: **Pediatric Medical Cardiac Arrest**
Policy Number: 9006.23

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Signature on File
EMS Medical Director

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EMS Administrator

Purpose:

- A. To establish treatment standards in treating pediatric cardiac arrest patients.
- B. To establish pediatric treatment standards for Asystole, Pulseless Electrical Activity (PEA), Ventricular Fibrillation (VF), and Pulseless Ventricular Tachycardia (VT).

Authority:

- A. California Health and Safety Code, Division 2.5
- B. California Code of Regulations, Title 22, Division 9

Protocol:

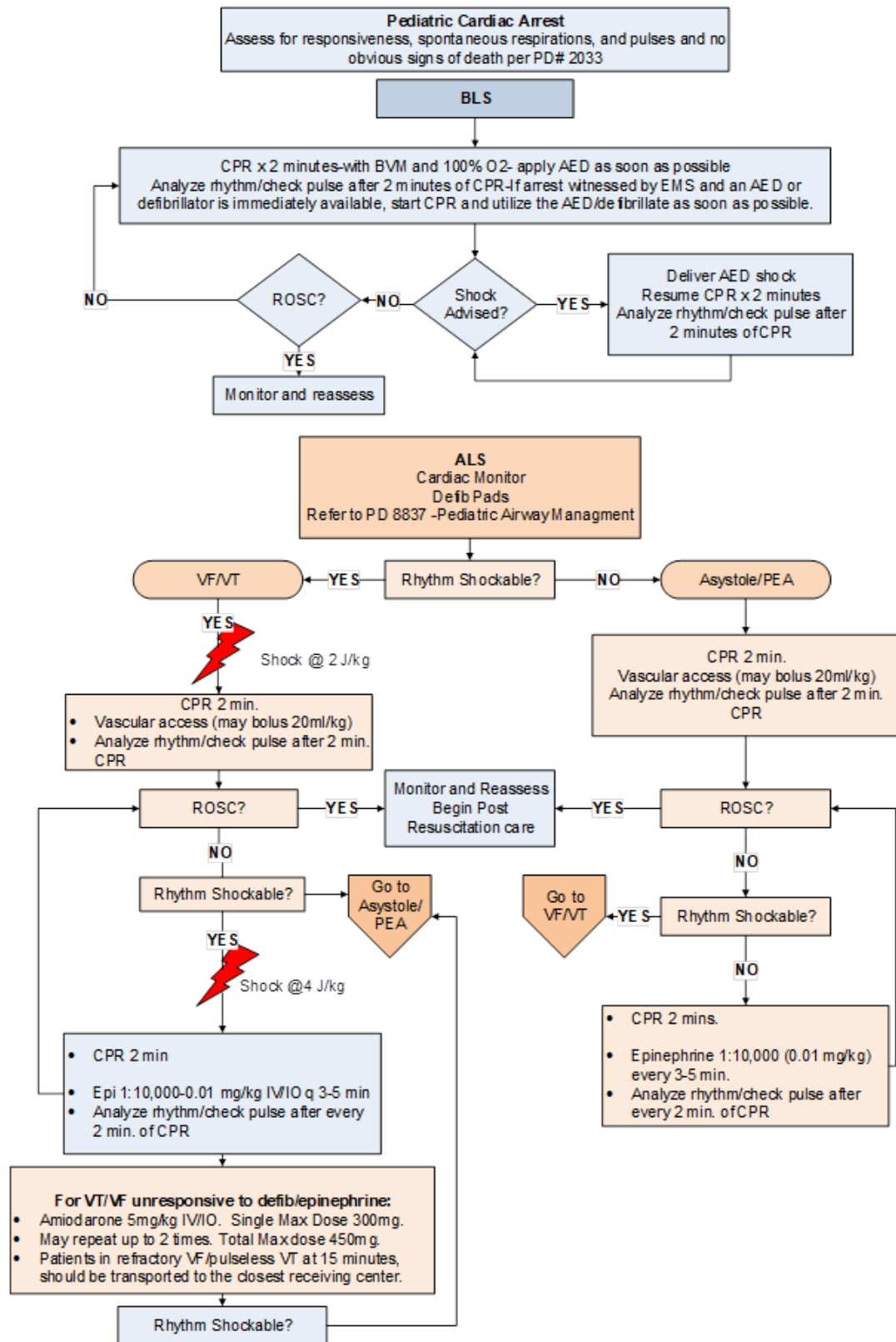
- A. High-quality Cardiopulmonary Resuscitation (CPR) is fundamental to the management of all cardiac arrest rhythms. Periodic pauses in CPR should be as brief as possible and only as necessary to assess rhythm, shock VF/VT, vascular access, drug delivery, and perform a pulse check when an organized rhythm is detected or an advanced airway is placed for patients as per SCEMSA Policy 8837 – Pediatric Airway Management.
- B. CPR must be performed with a “Chest Compression, Airway, Breathing” sequence
- C. (C-A-B) to emphasize the importance of maintaining blood flow with good compressions.
- D. Airway management per SCEMSA PD# 8837 – Pediatric Airway Management.
- E. Whenever feasible, transport the medical Durable Power of Attorney (DPOA) or immediate family member with the patient to the hospital. DPOA and immediate family members can provide medical insight and

consent for special therapies or termination of resuscitation to hospital staff.

- F. The ability to maintain temperature in prehospital settings in pediatric patients is a significant problem with a dose-dependent increase in mortality for temperatures below 37°C or 98.6°F. Simple interventions to prevent hypothermia can reduce mortality. During transport, warm and maintain normal temperature, being careful to avoid hyperthermia.

NOTE: It is important to spend the 20 minutes doing effective CPR to attempt to get ROSC in the field.

If CPR and advanced life support is performed for 20 minutes with no ROSC, the patient will be transported to the ED and not pronounced on scene.



- CPR Quality:**
- Push hard and fast (< 1 years of age 1.5 inches, >1 years of age, 2 inches) 100-120 times a minute and allow complete chest recoil.
 - Minimize interruptions in compressions
 - Avoid excessive ventilation
 - Rotate compressor every 2 minutes or sooner if fatigued.
 - If no advanced airway, 15:2 compression-ventilation ratio.
 - Advanced Airway: Waveform Capnography to confirm and monitor supraglottic airway placement.
- Reversible Causes:**
- Hypovolemia
 - Hypoxia
 - Hydrogen ion (acidosis)
 - Hypo/Hyperkalemia
 - Hypothermia
 - Tension pneumothorax
 - Cardiac Tamponade
 - Toxins
 - Pulmonary Thrombosis
 - Coronary Thrombosis
 - Hypoglycemia
 - Opiates

Post Resuscitation Considerations:

- A. IV fluids should be placed at TKO unless hypotension is present.
- B. Post-resuscitation Dysrhythmia See PD# 9014 – Cardiac Dysrhythmias.
- C. Hypotension/Shock:
 - 1. Administer 20ml/kg fluid bolus. Repeat once. Reassess vital signs and lung sounds after each bolus.
 - 2. To determine if shock is present, assess capillary refill (≤ 2 seconds) and brachial and femoral pulses (absent, weak, or present).
 - 3. Systolic blood pressure parameters for pediatric patients older than one year can be approximated by the following formulas:
 - a. $90\text{mm HG} + (2 \times \text{age in years})$
 - b. $70\text{mm HG} + (2 \times \text{age in years})$ – Lower limit
- D. **Push Dose Epinephrine**
 - 1. 0.01 mg/ml (10 mcg/ml)-0.5-2ml (5-20 mcg) IV/IO every 2-5 minutes. Titrate to systolic blood pressure (SBP) for the patient's age, improvement of symptoms, or a total of 0.3 mg is given.

NOTE: Monitor SBP while administering/titrating.

Cross References:

- PD# 8837 – Pediatric Airway Management
- PD# 9013 – Pediatric Shock
- PD# 9014 – Pediatric Cardiac Dysrhythmias