

Non-Traumatic Cardiac Arrest (Pediatric)

CFR and All Provider Levels

1. Begin CPR as per AHA guidelines
2. Turn on the Automated External Defibrillator (AED)
3. Apply appropriately-sized AED pads to the patient's bare chest with minimal interruption of chest compressions
4. Connect AED pads and follow the AED voice prompts
5. Continue CPR, re-analyze every two (2) minutes and shock as indicated

CFR STOP

EMT

6. Request ALS assistance
7. Continue CPR and AED analysis with minimal interruption of chest compressions
8. Transport after a total of three (3) cycles of CPR and AED analysis

EMT STOP

Paramedic

9. Continue CPR and defibrillation cycles with minimal interruption of chest compressions
10. If an AED is in place, transition from the AED to an ALS monitor after AED analysis and begin cardiac monitoring
11. Obtain intravascular access
12. Administer Epinephrine 0.01 mg/kg IV (maximum 1 mg) (0.1 ml/kg of a 1:10,000 concentration). Repeat every 3-5 minutes until patient achieves return of spontaneous circulation (ROSC)
13. Perform advanced airway management after second rhythm analysis only if unable to provide effective bag valve mask ventilations
14. If the rhythm is ventricular fibrillation/pulseless ventricular tachycardia:
 - 14.1 Defibrillate with the following energy settings using appropriately-sized AED/monitor pads:
 - Initial defibrillation: 2 joules/kg
 - Second defibrillation as needed: 4 joules/kg
 - Subsequent defibrillations as needed: 10 joules/kg
 - 14.2 Administer one of the following medications:
 - OPTION A: Amiodarone 5 mg/kg IV (maximum 300 mg)
 - OPTION B: Lidocaine 1 mg/kg IV (maximum 100 mg)
15. Obtain blood glucose level (BGL). If BGL < 60 mg/dl, administer Dextrose 0.5 g/kg IV (maximum 25 g) using the following concentrations:
 - Age ≤ 1 month: 10% Dextrose
 - Age between 1 month - 14 years: 25% Dextrose

16. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)

Paramedic STOP

Medical Control Options

17. For suspected tricyclic antidepressant overdose, salicylate toxicity, or hyperkalemia, administer Sodium Bicarbonate 1 mEq/kg IV (maximum 44 mEq). Repeat as needed every 10 minutes
18. For suspected hyperkalemia or calcium channel blocker overdose, administer Calcium Chloride 20 mg/kg IV (maximum 1 g) slowly, followed with a crystalloid fluid flush
19. Administer crystalloid fluids 20 ml/kg IV (maximum 2 L)
20. For persistent or recurring ventricular fibrillation or pulseless ventricular tachycardia, administer one of the following:
 - OPTION A: Amiodarone 5 mg/kg IV (maximum 150 mg). Repeat as needed (maximum cumulative 3 doses)
 - OPTION B: Magnesium Sulfate 25-50 mg/kg IV (maximum 2 g)

Key Points / Considerations

- Defibrillation should not be delayed or withheld for any reason
- If the cardiac monitor is unable to deliver the desired weight-based joule setting, use the closest setting without exceeding the desired setting
- Do not interrupt chest compressions for placement of an advanced airway
- Effective bag valve mask ventilation is a reasonable alternative to advanced airway interventions (endotracheal intubation or use of a supraglottic airway) in the management of pediatric cardiac arrests in the out-of-hospital setting
- Magnesium Sulfate must be diluted prior to administration. An example method uses Magnesium Sulfate 2 g diluted in 50 ml Normal Saline (final concentration 40 mg/ml). Agitate the solution prior to withdrawing the desired volume