

PEORIA AREA EMS SYSTEM
PEDIATRIC PREHOSPITAL CARE MANUAL

**Resuscitation of Pediatric
Pulseless Rhythms Protocol**

The successful resuscitation of patients in cardiac arrest is dependent on a systematic approach to resuscitation. ACLS medications are an important factor in successful resuscitation of the pulseless patient when the initial rhythm is not ventricular fibrillation (V-fib) or in cases where defibrillation has been unsuccessful. It is important that BLS providers understand the value of effective CPR and an ALS intercept in providing the patient with ACLS therapy.

First Responder Care

Not applicable. First Responders are not equipped with ACLS medications and shall treat the patient in accordance with the *Pediatric Cardiac Arrest Protocol*.

BLS Care

Not applicable. BLS providers are not equipped with ACLS medications and shall treat the patient in accordance with the *Pediatric Cardiac Arrest Protocol*.

Ventricular Fibrillation (V-fib) or Pulseless Ventricular Tachycardia (V-tach)

ILS Care

1. Initiate *Pediatric Cardiac Arrest Protocol*.
2. Evaluate the rhythm after 2 minutes of CPR. If V-fib or pulseless V-tach:
Defibrillate at 2 Joules / kg. **
➡ **If the patient converts to a perfusing rhythm (with a heart rate > 80 bpm), administer Lidocaine: 1mg/kg IV (with Medical Control order only).
3. **Immediately resume CPR for 2 minutes** and re-evaluate the patient/rhythm.

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Ventricular Fibrillation (V-fib) or Pulseless Ventricular Tachycardia (V-tach) (continued)

ILS Care (continued)

4. **Epinephrine 1:10,000**: 0.01mg/kg IV. *Minimum dose* 0.1mg (*Max single dose*: 1mg) and repeat every **3 to 5 minutes** as needed.
5. If pulseless V-fib/V-tach persists: **Defibrillate at 4 Joules / kg**.
6. **Immediately resume CPR for 2 minutes** and re-evaluate the patient/rhythm.
7. **Lidocaine**: 1mg/kg IV. Repeat bolus: 1mg/kg IV in **3-5 minutes** to a total of 3mg/kg for refractory V-fib/V-tach.
8. If pulseless V-fib/V-tach persists: **Defibrillate at 4 J/kg.****
9. **Immediately resume CPR** and re-evaluate patient/rhythm every 2 minutes.
10. **Dextrose**: if blood sugar is < 60mg/dL:
 - a) *0-1 month*: **D10**: 2mL/kg IV
 - b) *1 month – 2 years*: **D25**: 2mL/kg IV
 - c) *>2 years*: **D50**: 2mL/kg IV
11. **Narcan**: 0.1mg/kg IV (*Max single dose*: **2mg**) if suspected narcotic overdose.
12. Initiate ALS intercept and transport as soon as possible.
13. **Contact Medical Control** as soon as possible.

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Ventricular Fibrillation (V-fib) or Pulseless Ventricular Tachycardia (V-tach) (continued)

ALS Care

1. Initiate *Pediatric Cardiac Arrest Protocol*.
2. Evaluate the rhythm after 2 minutes of CPR. If V-fib or pulseless V-tach:
Defibrillate at 2 Joules / kg. **
 - ➡ ****If the patient converts to a perfusing rhythm** (with a heart rate > 80 bpm), administer **Lidocaine**: 1.0mg/kg IV/IO or 2.0mg/kg ETT.
3. **Immediately resume CPR for 2 minutes** and re-evaluate the patient/rhythm.
4. **Epinephrine 1:10,000**: 0.01mg/kg IV/IO. (*Minimum dose 0.1mg*) (**Max single dose: 1mg**) and repeat every **3 to 5 minutes** as needed.
OR
Epinephrine 1:1,000: 0.1mg/kg ETT (**Max single dose: 1mg**) and repeat every **3 to 5 minutes** as needed.
5. If pulseless V-fib/V-tach persists: **Defibrillate at 4 J/kg**.
6. **Immediately resume CPR for 2 minutes** and re-evaluate the patient/rhythm.
7. **Lidocaine**: 1mg/kg IV/IO or 2.0mg/kg ETT. Repeat bolus: 1mg/kg IV/IO or 1.0mg/kg ETT in **3-5 minutes** to a total of 3mg/kg for refractory V-fib/V-tach.
8. If pulseless V-fib/V-tach persists: **Defibrillate at 4 J/kg**.
9. **Immediately resume CPR** and re-evaluate the patient/rhythm every 2 minutes.
10. **Dextrose**: if blood sugar is < 60mg/dL:
 - a) *0-1 month*: **D10**: 2mL/kg IV/IO
 - b) *1 month – 2 years*: **D25**: 2mL/kg IV/IO
 - c) *>2 years*: **D50**: 2mL/kg IV/IO

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Ventricular Fibrillation (V-fib) or Pulseless Ventricular Tachycardia (V-tach) (continued)

ALS Care (continued)

11. **Narcan:** 0.1mg/kg IV/IO/ETT (*Max single dose: 2mg*) if suspected narcotic overdose.
12. **Contact Medical Control** as soon as possible.
13. Transport as soon as possible.

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**Resuscitation of Pediatric
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Pulseless Electrical Activity & Asystole

ILS Care

1. Initiate *Cardiac Arrest Protocol*.
2. Evaluate rhythm after 2 minutes of CPR.
3. **Epinephrine 1:10,000**: 0.01mg/kg IV (*Minimum dose 0.1mg*) (*Max single dose: 1mg*) every 3 to 5 minutes as needed.
4. **Continue CPR** and re-evaluate patient/rhythm every 2 minutes.
5. **IV Fluid Therapy**: 20mL/kg fluid bolus for suspected hypovolemia.
6. **Dextrose**: if blood sugar is < 60mg/dL:
 - a) *0-1 month*: **D10**: 2mL/kg IV
 - b) *1 month – 2 years*: **D25**: 2mL/kg IV
 - c) *>2 years*: **D50**: 2mL/kg IV
7. **Narcan**: 0.1mg/kg IV (*Max single dose: 2mg*) if suspected narcotic overdose.
8. Initiate ALS intercept and transport as soon as possible.
9. **Contact Medical Control** as soon as possible.

ALS Care

1. Initiate *Cardiac Arrest Protocol*.
2. Evaluate rhythm after 2 minutes of CPR.

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Pulseless Electrical Activity & Asystole (continued)

ALS Care (continued)

3. **Epinephrine 1:10,000**: 0.01mg/kg IV/IO (*Minimum dose 0.1mg*) (*Max single dose: 1mg*) and repeat every *3 to 5 minutes* as needed.
OR
Epinephrine 1:1,000: 0.1mg/kg ETT (*Max single dose: 1mg*) and repeat every *3 to 5 minutes* as needed.
4. **Continue CPR** and re-evaluate patient/rhythm every 2 minutes.
5. **IV Fluid Therapy**: 20mL/kg fluid bolus for suspected hypovolemia.
6. **Dextrose**: if blood sugar is < 60mg/dL:
 - a) *0-1 month*: **D10**: 2mL/kg IV/IO
 - b) *1 month – 2 years*: **D25**: 2mL/kg IV/IO
 - c) *>2 years*: **D50**: 2mL/kg IV/IO
7. **Narcan**: 0.1mg/kg IV/IO/ETT (*Max single dose: 2mg*) if suspected narcotic overdose.
8. **Needle chest decompression** for a patient in *traumatic* cardiac arrest with suspected tension pneumothorax.
9. **Contact Medical Control** as soon as possible.
10. Transport as soon as possible.

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Critical Thinking Elements

- Pediatric cardiac arrest is often related to hypoxia and poor ventilation. Ensure proper oxygenation and ventilation.
- Prompt transport of the pediatric patient is an important aspect of successful resuscitation. *Do not spend time at the scene attempting to do procedures you may not feel confident in or experienced in doing.* CPR and good BVM ventilation are the only procedures needed initially.
- Broselow tapes are an effective means to estimate weight. Refer to PAEMS protocols for medication doses.