

# Cardiac Arrest – Pediatric Asystole Protocol

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## **Preamble**

In contrast to cardiac arrest in adults, cardiopulmonary arrest in pediatric patients is rarely a sudden event and does not often result from a primary cardiac cause. When it does occur, pediatric cardiac arrest usually represents the terminal event of progressive shock or respiratory failure.

The management of a pediatric cardiopulmonary arrest patient is similar to that of adult ACLS, with emphasis of ensuring airway maintenance, proper oxygenation and ventilation, establishing vascular access, and treatment of reversible causes of cardiopulmonary arrest.

## **Requirements**

1. Fully licensed Technician-Advanced Paramedic.
2. Certification in tracheal intubation – pediatric – protocol by the Medical Director.
3. Certification in cardiac arrest – pediatric asystole protocol by the Medical Director.
4. Certification in the other “cardiac arrest” protocols as determined by the Medical Director.
5. Certification in intraosseous cannulation and infusion protocol (if a treatment option).
6. Current certification as an advanced cardiac life support provider.
7. Current certification as a pediatric advanced life support provider.

## **Indications**

1. Cardiac arrest patient presenting in asystole on cardiac monitor.

## **Contraindications**

1. Patient age 16 years or greater.

## **Drug Doses and Frequencies**

1. epinephrine
  - IV / IO\*: 0.01 mg / kg IV/IO\* bolus; repeat q3-5minutes prn
  - ETT: 0.1 mg / kg diluted in normal saline to a total of 3-5 ml  
repeat q3-5minutes prn

\* intraosseous route is not permitted unless approved for use by the regional EMS medical director and the EMS personnel is certified in the intraosseous cannulation and infusion protocol

## **Procedure**

1. Perform patient assessment and record vital signs.
2. Assess that patient meets criteria for this protocol.
3. Ensure there are no contraindications to use of this protocol.
4. Initiate and continue CPR.
  - ensure effective bag-mask ventilation
5. Monitor cardiac rhythm. Confirm asystole in at least two leads.
6. Reassess and consider possible causes of cardiac arrest. If identified, go to protocol based on identified cause.
7. If, at any time, a cardiac rhythm other than asystole is noted on the monitor, treat based on the appropriate protocol.
8. Intubate and ventilate.
9. Initiate a large bore intravenous line of normal saline, TKVO.
  - intravenous fluids may be infused at a different rate if indicated
  - consider intraosseous cannulation only if indicated, intraosseous route is approved for use by regional EMS medical director, and the EMT is certified in intraosseous cannulation and infusion protocol

10. Administer epinephrine as per drug dose and frequency regimen.
11. Reassess rhythm. If there is no change, continue CPR for three to five minutes.
12. Initiate transport as soon as possible, unless other emergency condition required immediate treatment.
13. Reassess rhythm. If there is no change, repeat step 10.
14. Monitor and reassess patient en route.
15. Notify receiving facility of patient's condition and medication used.

### **Documentation Requirements**

The following information must be documented on the patient care report form:

1. Patient's presenting signs and symptoms, including vital signs.
2. Indications for protocol use.
3. Dose(s), route(s), time(s), and effect(s) of medication used.
4. Repeat assessment and vital signs, as indicated.
5. Changes from baseline, if any, that occur during treatment or transport.
6. Signature and license number of EMS personnel performing any transfer of function skills.

### **Certification Requirements**

1. Attend in-depth classes and lectures on static and dynamic rhythm interpretation.
2. Demonstrate an understanding of the pharmacology and mechanism of action of epinephrine.
3. Pass a written examination.
4. Pass practical scenarios incorporating variations of the asystole protocol.
5. Certification is by the Medical Director.

### **Recertification Requirements**

1. Review class and recertification is done every 12 months.
2. Advanced cardiac life support and pediatric advanced life support provider certifications must be kept current.
3. A record documenting all cases where this protocol is used.

### **Decertification**

1. Decertification is at the discretion of the Medical Director or the Provincial Medical Director, Emergency Medical Services, Manitoba Health & Healthy Living.

### **Quality Assurance Requirements**

1. Appropriate quality assurance policies must be in place. The Medical Director or designate must review all instances where this protocol is used. As a minimum, the following must be assessed:
  - i) appropriateness of implementation
  - ii) adherence to protocol
  - iii) any deviation from the protocol
  - iv) corrective measures taken, if indicated
2. Yearly statistics for protocol use compiled and forwarded to Emergency Medical Services, Manitoba & Healthy Living Health.