Pediatric Medical Cardiac Arrest

EMS Medical Director:
Signature on File
EMS Administrator:
Signature on File

AT ANY TIME

Return of spontaneous circulation
Go to Post ROSC Care Bundle

Criteria for death/no resuscitation
Review DNR/POLST form

Yes → If patient has obvious signs of death per policy 2033 – Determination of Death

Do not attempt resuscitation

No →

E **CPR x 2 minutes-with BVM and 100% O2**

ALS available?

No →

E Apply AED if available

Shockable rhythm?

Yes → E Automated defibrillation
Resume CPR X 2 minutes
Assess and repeat

No → E CPR x 2 minutes
Assess and repeat

Yes →

P A Establish IV/IO Access with NS
EtCO$_2$ monitoring
Cardiac monitor/AED

Shockable rhythm?

No → Follow Asystole/PEA and PD #9003 -Pediatric Respiratory Distress **as indicated**

Yes → Follow VF/VT and PD #9003 - Pediatric Respiratory Distress **as indicated**

DRAFT

E	EMT
A	A-EMT
P	PARAMEDIC

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V-Fib/V-Tach

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EMS Administrator:
Signature on File

Enter from
Cardiac Arrest

P	Shock @ 2 J/Kg
	CPR 2 minutes
	Establish IV/IO
P	Shock @ 4 J/Kg
	CPR 2 minutes
P	**Epinephrine (1:10,000) .01mg/kg IV/IO** Every 3-5 minutes, max total dose 3mg.
	Consider advanced airway Waveform capnography to confirm and monitor supraglottic airway placement.
	Shock @ 4 J/Kg
	Amiodarone: 5 mg/kg IV/IO **Single Max Dose: 300 mg** *May repeat up to 2 times if rhythm persists* **Total Max Dose: 450 mg**
	CPR 2 minutes
	Treat reversable causes

AT ANY TIME

Return of spontaneous circulation

Go to Post Resuscitation Bundle

Reversible Causes

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo/Hyperkalemia
Hypoglycemia
Tension pneumothorax
Tamponade (cardiac)
Toxins
Thrombosis (pulmonary)(PE)
Thrombosis (coronary)(MI)

NOTE:
Patients in refractory VF/ pulseless VT at 15 minutes should be transported to the closest receiving center

Criteria for discontinuation?

YES → Discontinue Resuscitation

Follow Policy 1004 – Determination of Death

NO

Notify receiving facility. Contact Base Hospital for medical direction

E	EMT
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P	PARAMEDIC

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Asystole/PEA

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AT ANY TIME

Return of spontaneous circulation

Go to Post ROSC Care Bundle

P	**CPR 2 minutes**
	Establish IV/IO (may bolus 20 ml/kg)
	Epinephrine (1:10,000) .01mg IV/IO Every 3-5 minutes, max total dose 3mg.
	Consider advanced airway Waveform capnography to confirm and monitor supraglottic airway placement.
	Asystole/PEA

P	**CPR 2 minutes**
	Treat reversable causes
	CPR 2 minutes

Reversible Causes

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo/Hyperkalemia
Hypoglycemia
Tension pneumothorax
Tamponade (cardiac)
Toxins
Thrombosis (pulmonary)(PE)
Thrombosis (coronary)(MI)

Criteria for discontinuation?

YES → Discontinue Resuscitation

Follow PD# 2033 – Determination of Death

NO

Notify receiving facility. Contact Base Hospital for medical direction

E	EMT
A	A-EMT
P	PARAMEDIC

Medical Cardiac Arrest

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Pediatric Medical Cardiac Arrest

NOTES:

- 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.
- If arrest witnessed by EMS and an AED or defibrillator is immediately available, start CPR and utilize the AED/ defibrillate as soon as possible.
- CPR must be performed with a "Chest Compression, Airway, Breathing" sequence (C-A-B) to emphasize the importance of maintaining blood flow with good compressions.
- 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.
- The ability to maintain temperature in prehospital settings in pediatric patients is a significant problem with a dose-dependent increase in mortality for temperatures below37°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.

** 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 (< l 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

POST RESUSCITATION CONSIDERATIONS:

- IV fluids should be placed TKO unless hypotension is present.
- Post-resuscitation Dysrhythmia See PD # 9014 – Cardiac Dysrhythmias
- Hypotension/Shock
  - Administer 20 ml/kg fluid bolus. Repeat once. Reassess vital signs and lung sounds after each bolus.
  - To determine if shock is present, assess capillary refill (≤ 2 seconds) and brachial femoral pulses (absent, weak, or present).
  - Systolic blood pressure parameters for pediatric patients older than one year can be approximated by the following formulas:
    90mm HG + (2x age in years)
    70mm HG + (2x age in years) – Lower limit

PUSH DOSE EPINEPHRINE: 0.01 mg/ml (10mcg/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. (**NOTE:** Monitor SPB while administering/ titrating.)

CROSS REFERENCE: PD # 8837 – Pediatric Airway Management
PD # 9013 – Pediatric Shock
PD # 9014 – Pediatric Cardiac Dysrhythmias

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