Pediatric Cardiac Arrest Algorithm

1. Start CPR
   - Begin bag-mask ventilation and give oxygen

2. Rhythm shockable?
   - Yes
   - VF/pVT
   - Shock
   - CPR 2 min
   - IV/IO access
   - Rhythm shockable?
     - Yes
     - Shock
     - CPR 2 min
     - IV/IO access
     - Epinephrine every 3-5 min
     - Consider advanced airway and capnography
     - CPR 2 min
     - Treat reversible causes
   - No
   - Asystole/PEA
   - CPR 2 min
   - IV/IO access
   - Epinephrine every 3-5 min
   - Consider advanced airway and capnography
   - CPR 2 min
   - Treat reversible causes

3. Shock

4. CPR 2 min
   - IV/IO access
   - Epinephrine every 3-5 min
   - CPR 2 min
   - Treat reversible causes

5. Shock

6. CPR 2 min
   - Epinephrine every 3-5 min
   - Consider advanced airway
   - CPR 2 min
   - Treat reversible causes

7. Shock

8. CPR 2 min
   - Amiodarone or lidocaine
   - Treat reversible causes

9. Asystole/PEA
   - CPR 2 min
   - IV/IO access
   - Epinephrine every 3-5 min
   - CPR 2 min
   - Treat reversible causes

10. CPR 2 min
    - IV/IO access
    - Epinephrine every 3-5 min
    - CPR 2 min
    - Treat reversible causes

11. CPR 2 min
    - Treat reversible causes

12. If no signs of return of spontaneous circulation (ROSC), go to 10
    - If ROSC, go to Post–Cardiac Arrest Care checklist

CPR Quality
- Push hard (≥⅓ of anteroposterior diameter of chest) and fast (100–120/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 minutes, or sooner if fatigued
- If no advanced airway, 15:2 compression-ventilation ratio
- If advanced airway, provide continuous compressions and give a breath every 2-3 seconds

Shock Energy for Defibrillation
- First shock 2 J/kg
- Second shock 4 J/kg
- Subsequent shocks ≥4 J/kg, maximum 10 J/kg or adult dose

Drug Therapy
- Epinephrine IV/IO dose: 0.01 mg/kg (0.1 mL/kg of the 0.1 mg/mL concentration). Max dose 1 mg. Repeat every 3-5 minutes. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of the 1 mg/mL concentration).
- Amiodarone IV/IO dose: 5 mg/kg bolus during cardiac arrest. May repeat up to 3 total doses for refractory VF/pulseless VT or Lidocaine IV/IO dose: Initial: 1 mg/kg loading dose

Advanced Airway
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement

Reversible Causes
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypoglycemia
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

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