The Pediatric Cardiac Arrest Algorithm
Text in cascading boxes describes the actions that a provider should perform in sequence during a pediatric cardiac arrest. Arrows guide providers from one box to the next as they perform the actions. Some boxes have 2 arrows that lead outward, each arrow to a different treatment pathway depending on the outcome of the most recent action taken. Pathways are hyperlinked.

Box 1
Start CPR
• Begin bag-mask ventilation and give oxygen
• Attach monitor/defibrillator
Is the rhythm shockable?
If Yes, it is shockable, proceed to Box 2.
If No, it is nonshockable, proceed to Box 9.

Box 2
The patient has VF or pVT; proceed to Box 3.

Box 3
Deliver shock.

Box 4
CPR 2 minutes
• IV or IO access
Is the rhythm shockable?
If Yes, it is shockable, proceed to Box 5.
If No, it is nonshockable, proceed to Box 12.

Box 5
Deliver shock.

Box 6
CPR 2 minutes.
• Epinephrine every 3 to 5 minutes
• Consider advanced airway
Is the rhythm shockable?
If Yes, it is shockable, proceed to Box 7.
If No, it is nonshockable, proceed to Box 12.

Box 7
Deliver shock.

Box 8
CPR 2 minutes
• Amiodarone or lidocaine
• Treat reversible causes
Is the rhythm shockable?
If Yes, it is shockable, return to Box 5.
If No, it is nonshockable, proceed to Box 12.

Box 9
The patient has asystole or PEA; give epinephrine ASAP.
**Box 10**

**CPR 2 minutes**
- IV or IO access
- Epinephrine every 3 to 5 minutes
- Consider advanced airway and capnography

Is the rhythm shockable?
If Yes, it is shockable, proceed to **Box 7**.
If No, it is nonshockable, proceed to **Box 11**.

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**Box 11**

**CPR 2 minutes**
Treat reversible causes.

Is rhythm shockable?
If Yes, it is shockable, proceed to **Box 7**.
If No, it is nonshockable, proceed to **Box 12**.

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**Box 12**

- If there are no signs of return of spontaneous circulation, proceed to **Box 10**
- If return of spontaneous circulation is achieved, go to Post–Cardiac Arrest Care checklist

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**Sidebar for the Pediatric Cardiac Arrest Algorithm**

**CPR Quality**
- Push hard (at least one-third of the anteroposterior diameter of the chest) and fast (100 to 120 per minute) and allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 minutes, or sooner if fatigued
- If no advanced airway, 15 to 2 compression to ventilation ratio
- If advanced airway, provide continuous compressions and give a breath every 2 to 3 seconds

**Shock Energy for Defibrillation**
- First shock: 2 Joules per kilogram
- Second shock: 4 Joules per kilogram
- Subsequent shocks: at least 4 Joules per kilogram, up to a maximum of 10 Joules per kilogram or adult dose

**Drug Therapy**
- **Epinephrine IV or IO dose**: 0.01 milligrams per kilogram (0.1 milliliter per kilogram of the 0.1 milligram per milliliter concentration). Maximum dose: 1 milligram. Repeat every 3 to 5 minutes. If no IV or IO access, may give endotracheal dose of 0.1 milligrams per kilogram (0.1 milliliter per kilogram of the 1 milligram per milliliter concentration)
- **Amiodarone IV or IO dose**: 5 milligrams per kilogram bolus during cardiac arrest. May repeat up to 3 total doses for refractory VF or pulseless VT
- **Lidocaine IV or IO dose**: Initial: 1 milligram per kilogram 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
- Hypokalemia or hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary