

Adult Cardiac Arrest Circular Algorithm

Cascading numbered boxes and a circular pattern correspond to actions the provider should perform in sequence.

Box 1

Start CPR

- Begin bag-mask ventilation and give oxygen
- Attach monitor/defibrillator

Box 2

- Check rhythm. This box starts a repetitive pattern, represented by the outside of a circle.
If VF/pVT, deliver shock, followed by 2 minutes of:
 - Continuous CPR
 - Monitor CPR Quality
 - Continuous CPR
- After 2 minutes, check rhythm again and repeat this cycle until return of spontaneous circulation (ROSC), then initiate post-cardiac arrest care.

Inside the circle are listed things to perform as necessary during the resuscitation effort:

Drug Therapy

- IV/IO access
- Epinephrine every 3 to 5 minutes
- Amiodarone or lidocaine for refractory VF/pVT

Consider Advanced Airway

- Quantitative waveform capnography

Treat Reversible Causes

Sidebar

High-Quality CPR

- Push hard (at least 2 inches [5 cm])
- Push fast (100 to 120 per minute) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Change compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30 to 2 compression-ventilation ratio.
- If advanced airway in place, give 1 breath every 6 seconds (10 breaths per minute) with continuous chest compressions.
- Continuous waveform capnography
 - If ETCO₂ is low or decreasing, reassess CPR quality.

Shock Energy for Defibrillation

- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120 to 200 Joules); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 Joules

Drug Therapy

- **Epinephrine IV/IO dose:** 1 milligram every 3 to 5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 milligram bolus. Second dose: 150 milligrams.
or
- **Lidocaine IV/IO dose:** First dose: 1 to 1.5 milligrams per kilogram. Second dose: 0.5 to 0.75 milligrams per kilogram.

Advanced Airway

- Endotracheal intubation or supraglottic advanced airway
- Continuous waveform capnography or capnometry to confirm and monitor endotracheal tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths per minute) with continuous chest compressions

Reversible Causes

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