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
• 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
CPR Quality
• Push hard (at least 2 inches [5 cm]) and fast (100-120/min) 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.
• Quantitative waveform capnography
  – If PETCO₂ 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
  or
  Lidocaine IV/IO dose: First dose: 1-1.5 milligrams per kilogram. Second dose: 0.5-0.75 milligrams per kilogram.

Advanced Airway
• Endotracheal intubation or supraglottic advanced airway
• Waveform capnography or capnometry to confirm and monitor

ET tube placement
• Once advanced airway in place, give 1 breath every 6 seconds (10 breaths per minute) with continuous chest compressions

Return of Spontaneous Circulation (ROSC)
• Pulse and blood pressure
• Abrupt sustained increase in PETCO₂ (typically greater than or equal to 40 millimeters of mercury)
• Spontaneous arterial pressure waves with intra-arterial monitoring

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