Cardiac Arrest Circular Algorithm^{*}

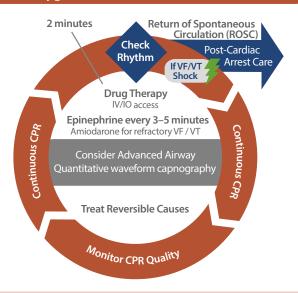




Shout for Help/Activate Emergency Response

Start CPR

● Give Oxygen ● Attach Monitor/Defibrillator





Doses/Details for the Cardiac Arrest Algorithms

CPR Quality

- Push hard (2" to 2.4" or 5–6cm) and fast (100–120/min) and allow complete chest recoil.
- Minimize interrruptions in compressions.**
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 30:2 compression-ventilation ratio
- Quantative waveform capnography
- If PETCO₂<10mm Hg, attempt to improve CPR quality
- If relaxation phase(diastolic) pressure<20mm Hg, attempt to improve CPR quality.

Drug Therapy

- Epinephrine IV/IO Dose:
- 1 mg every 3–5 minutes
- Amiodarone IV/IO Dose***:

First dose: 300 mg bolus Second dose: 150 mg

Advanced Airway****

- Supraglottic advanced airway or endotracheal intubation
- Waveform capnography to confirm and monitor ET tube placement
- 10 breaths per minute with continuous chest compressions

Return of Spontaneous Circulation(ROSC)

- Pulse and blood pressure
- Abrupt sustained increase in PETCO2 (typically ≥ 40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Shock Energy

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

Reversible Causes

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

Heart Association Guidelines Update for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation 2015 132 (suppl 2):S444-S464
**Bobrow BJ, Clark LL, Ewy GA, Chikani V, Sanders AB, Berg RA, Richman PB Minimally Interrupted cardiac resuscitation by emergency medical services for out of hospital cardiac arrest. JAMA 2008;299:1158-1165

Version control: This document is current with respect to 2015 American Heart Association Guidelines for CPR and ECC. These guidelines are current until they are replaced on October 2020. If you are reading this page after October 2020, please contact ACLS Training Center at support@acls.net for an updated document. Version 2016.01.a

^{*}Link MS, Berkow LC, Kudenchuk PJ, Halperin HR, Hess EP, Moitra VK, Neumar RW, O'Neil BJ, Paxton JH, Silvers SM, White RD, Yannopoulos D, Donnino MW. Part 7: adult advanced cardiac life support. 2015 American Heart Association Guidelines Undate for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Circulation 2015 132 (suppl 2):5444-5464

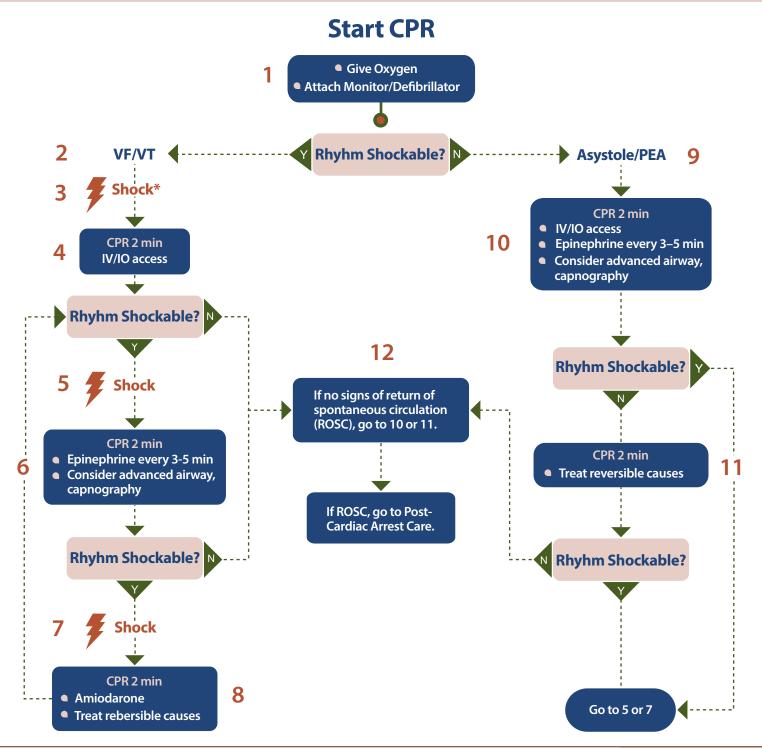
^{***}Dorian P, Cass D, Schwartz B, Cooper R. Gelaznikas R, Barr A. Amiodarone as compared with Lidocaine for shock resistant ventricular fibrillation N Engl J Med 2002;346:884-890.
****Dorges V, Wenzel V, Knacke P, Gerlach K, Comparison of different airway management strategies to ventilate apneic, nonpreoxygenated patients. Crit Care Med. 2003;31:800-804

Cardiac Arrest Algorithm





Shout for Help/Activate Emergency Response



^{*} Link MS, Atkins DL, Plassman RS, Halperin HR, SAmson RA, White RD, Cudnik MT, Berg MD, Kudenchuk PJ, Kerber RE. "Part 6: electrical therapies: automated external defibrillators, defibrillation, cardioversion, and pacing: 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care". Circulation. 2010;122(suppl 3): S706-S719. http://circ. ahajournals.org/content/122/18_suppl_3/S706

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