Shout for Help/Activate Emergency Response

Start CPR

Give Oxygen  Attach Monitor/Defibrillator

Give Oxygen

Attach Monitor/Defibrillator

Check Rhythm

2 minutes

Return of Spontaneous Circulation (ROSC)

Drug Therapy

IV/IO access

Continuous CPR

Return of Spontaneous Circulation (ROSC)

Post-Cardiac Arrest Care

CPR Quality

Push hard (2” to 2.4” or 5–6cm) and fast (100–120/min) and allow complete chest recoil.

Minimize interruptions in compressions.

Avoid excessive ventilation.

Rotate compressor every 2 minutes.

If no advanced airway, 30:2 compression-ventilation ratio.

Quantitative waveform capnography.

If PETCO2<10mmHg, 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
First dose: 300 mg bolus
Second dose: 150 mg

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 doses 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

Doses/Details for the Cardiac Arrest Algorithms

Continuous CPR

Consider Advanced Airway

Quantitative waveform capnography

Treat Reversible Causes

Monitor CPR Quality

Pulse and blood pressure.

Abrupt sustained increase in PETCO2 (typically ≥ 40 mm Hg).

Spontaneous arterial pressure waves with intra-arterial monitoring.

Hypovolemia

Hypoxia

Hydrogen ion (acidosis)

Hypo-/Hyperkalemia

Hypothermia

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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


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 2016.02.a

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Cardiac Arrest Algorithm

Shout for Help/Activate Emergency Response

Start CPR

1. Give Oxygen
   - Attach Monitor/Defibrillator

2. VF/VT
   - Rhythm Shockable?
     - Yes
     - Shock*
     - CPR 2 min
     - IV/IO access

   - No
     - Asystole/PEA

3. Shock*
   - CPR 2 min
   - IV/IO access

4. Rhythm Shockable?
   - Yes
     - CPR 2 min
     - Epinephrine every 3–5 min
     - Consider advanced airway, capnography

   - No
     - Shock
     - CPR 2 min
     - Epinephrine every 3–5 min
     - Consider advanced airway, capnography

5. Shock
   - CPR 2 min
   - Epinephrine every 3–5 min
   - Consider advanced airway, capnography

6. Rhythm Shockable?
   - Yes
     - CPR 2 min
     - Epinephrine every 3–5 min
     - Consider advanced airway, capnography

   - No
     - CPR 2 min
     - Treat reversible causes

7. Shock
   - CPR 2 min
   - Amiodarone
   - Treat reversible causes

8. Rhythm Shockable?
   - Yes
     - CPR 2 min
     - Epinephrine every 3–5 min
     - Consider advanced airway, capnography

   - No
     - CPR 2 min
     - Treat reversible causes

9. Asystole/PEA
   - CPR 2 min
   - IV/IO access
   - Epinephrine every 3–5 min
   - Consider advanced airway, capnography

10. If no signs of return of spontaneous circulation (ROSC), go to 10 or 11.

11. If ROSC, go to Post-Cardiac Arrest Care.

12. Go to 5 or 7