**Start CPR**

- **Give oxygen**
- **Attach monitor/defibrillator**

2 minutes

- **Check rhythm**
- **Return of spontaneous circulation (ROSC)**
- **Drug therapy**
  - IV/IO access
  - Epinephrine every 3–5 minutes
  - Amiodarone OR Lidocaine for refractory VT/VF
- **Consider advanced airway**
- **Quantitative waveform capnography**
- **Treat reversible causes**

**CPR quality**

- Push at least 2" (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<10 mm 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
  - First dose: 1–1.5 mg/kg
  - Second dose: 0.5–0.75 mg/kg
- **Amiodarone IV/IO Dose***
- **Lidocaine:**

**Advanced airway****

- Supraglottic advanced airway or endotracheal intubation
- 10 breaths per minute with continuous chest compressions

**Indication of spontaneous circulation (ROSC)**

- Pulse and blood pressure
- Abrupt sustained increase of PETCO2, of > 25 mm Hg check perfusion status. An increase to greater than 40 mm Hg is confirmation of ROSC.
- 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

**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**

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

Shout for help/activate emergency response

Start CPR

1. Give oxygen
   Attach monitor/defibrillator

2. VF/VT
   Rhythm shockable?
   Y: Shock*
   N: Asystole/PEA
   9

3. Shock*
   CPR 2 min
   IV/IO access

4. CPR 2 min
   IV/IO access
   Rhythm shockable?
   Y: Shock*
   N: Asystole/PEA
   10

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

6. CPR 2 min
   Epinephrine every 3–5 min
   Consider advanced airway, capnography
   Rhythm shockable?
   Y: If no signs of return of spontaneous circulation (ROSC), go to 10 or 11.
   N: If ROSC, go to post-cardiac arrest care.
   12

7. Shock*
   CPR 2 min
   Amiodarone or lidocaine
   Treat reversible causes

8. CPR 2 min
   Amiodarone or lidocaine
   Treat reversible causes
   Rhythm shockable?
   Y: If no signs of return of spontaneous circulation (ROSC), go to 10 or 11.
   N: If ROSC, go to post-cardiac arrest care.
   12

9. Asystole/PEA

10. CPR 2 min
    IV/IO access
    Epinephrine every 3–5 min
    Consider advanced airway, capnography

11. CPR 2 min
    Treat reversible causes
    Rhythm shockable?
    Y: If no signs of return of spontaneous circulation (ROSC), go to 10 or 11.
    N: If ROSC, go to post-cardiac arrest care.
    12

12. Go to 5 or 7