Adult Cardiac Arrest Algorithm

1. **Start CPR**
   - Give oxygen
   - Attach monitor/defibrillator

2. **VF/pVT**

3. **Shock**

4. **CPR 2 min**
   - IV/IO access

5. **Rhythm shockable?**
   - Yes
     - Start CPR
   - No

6. **CPR 2 min**
   - Epinephrine every 3-5 min
   - Consider advanced airway, capnography

7. **Shock**

8. **CPR 2 min**
   - Amiodarone or lidocaine
   - Treat reversible causes

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

12. **Rhythm shockable?**
    - Yes
      - If no signs of return of spontaneous circulation (ROSC), go to 10 or 11
      - If ROSC, go to Post–Cardiac Arrest Care
      - Consider appropriateness of continued resuscitation
    - No

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, 30:2 compression-ventilation ratio
- Quantitative waveform capnography
  - If PETCO₂ is low or decreasing, reassess CPR quality.

Shock Energy for Defibrillation
- Biphasic: Manufacturer recommendation (e.g., 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

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.
  or
- Lidocaine IV/IO dose: First dose: 1-1.5 mg/kg. Second dose: 0.5-0.75 mg/kg.

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/min) 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

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

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