Adult Cardiac Arrest Algorithm for Patients With Suspected or Confirmed COVID-19 (VF/pVT/Asystole/PEA)

Start CPR
• Give oxygen*
• Attach monitor/defibrillator

1. Rhythm shockable?
   Yes
   - CPR 2 min
     • IV/IO access
   No
   - VF/pVT
     2. Shock*

3. CPR 2 min
   • IV/IO access
   • Epinephrine every 3-5 min
   • Consider advanced airway,* capnography
   4. Rhythm shockable?
      Yes
      - Shock*
      No
      - CPR 2 min
        • Amiodarone or lidocaine
        • Treat reversible causes
    5. CPR 2 min
    6. Rhythm shockable?
       Yes
       - Shock*
       No
       - CPR 2 min
         • Amiodarone or lidocaine
         • Treat reversible causes
    7. CPR 2 min
    8. Rhythm shockable?
       Yes
       - Shock*
       No
       - CPR 2 min
         • 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. 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

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 (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

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
• Rapidly apply PPE before AGPs.
• Provide endotracheal intubation or supraglottic advanced airway.
• For all ventilation, use a HEPA filter.
• Perform waveform capnography or capnometry to confirm and monitor ET tube placement.
• Once advanced airway is 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

Icon Legend
- Surgical mask (minimum); N95 respirator, eye protection, gloves, impermeable gown (as soon as possible)
- HEPA filter
  • Suspected AGP (on the basis of current studies)

Abbreviations: AGP, aerosol-generating procedure; CPR, cardiopulmonary resuscitation; ET, endotracheal; HEPA, high-efficiency particulate air; IO, intraosseous; IV, intravenous; PEA, pulseless electrical activity; PPE, personal protective equipment; ROSC, return of spontaneous circulation; VF, ventricular fibrillation; pVT, pulseless ventricular tachycardia.

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