

Adult Cardiac Arrest Algorithm

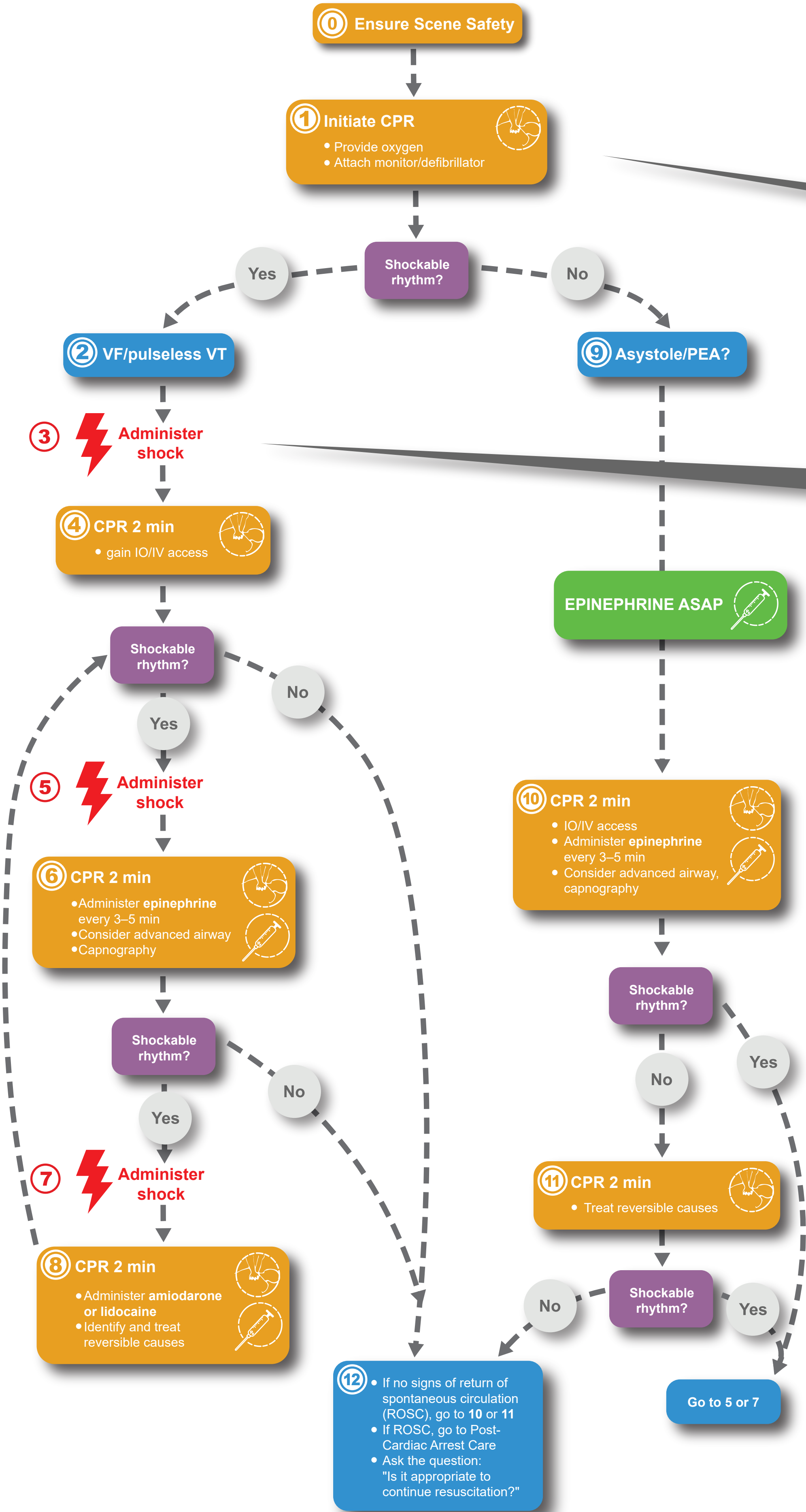
VF/pVT/Asystole/PEA



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CPR Quality



- Push hard (at least 2–2.4 inches [5 cm]) and fast (100–120/min) and allow complete chest recoil.
- Use of compression feedback device recommended
- Minimize compression interruptions.
- Avoid excessive ventilation.
- Rotate compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
 - If $\text{ETCO}_2 < 10$ mm Hg, need to improve CPR quality.
- Intra-arterial pressure
 - If relaxation phase (diastolic) pressure < 20 mm Hg, attempt to improve 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

Medication Dose/Details



- **Epinephrine IO/IV dose:** Administer 1 mg every 3–5 minutes
- **Amiodarone IO/IV dose:** First dose: 300 mg bolus. Second dose: 150 mg.
- **Lidocaine IV/IO dose:** First dose 1 to 1.5 mg/kg. Second dose: 0.5 to 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 (asynchronous)

Return of Spontaneous Circulation (ROSC)

- Abrupt sustained increase in ETCO_2 (typically ≥ 40 mm Hg)
- Ensure adequate oxygenation, ventilation and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes (Hs and Ts)

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