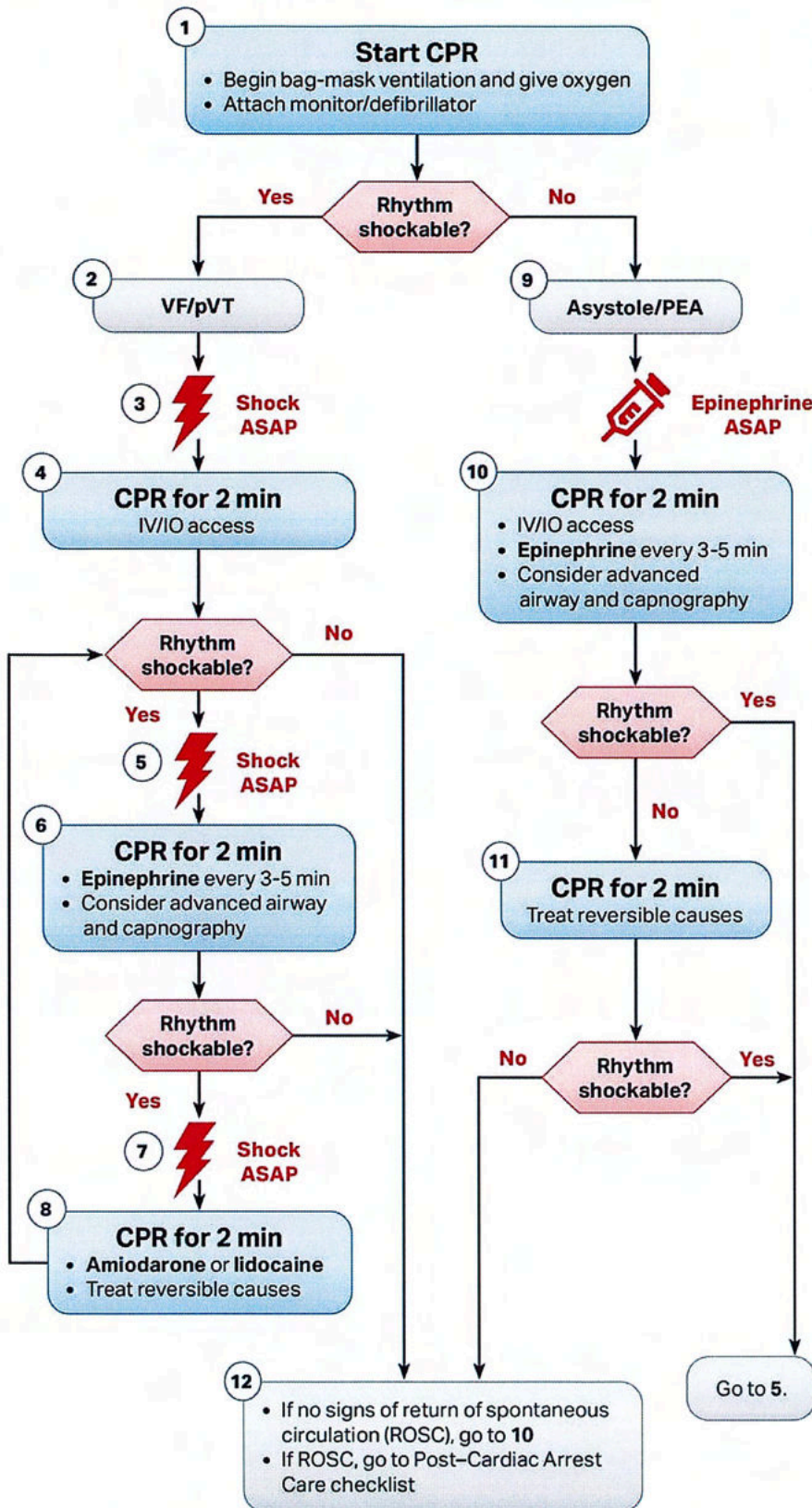


Pediatric Cardiac Arrest Algorithm



High-Quality CPR

- Push hard ($\geq \frac{1}{3}$ AP diameter of the chest)
- Push fast: 100-120/min
- Allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 min, sooner if fatigued
- If no advanced airway, use compression-ventilation ratio of
 - 15:2 if 2 rescuers (prepuberty)
 - 30:2 if 2 rescuers (postpuberty onset)
 - 30:2 if 1 rescuer (any age)
- If advanced airway, provide continuous compressions and give a breath every 2-3 seconds
- Monitor ETCO₂ and, when available, invasive diastolic BP

Shock Energy for Defibrillation

- First shock 2 J/kg
- Second shock 4 J/kg
- Subsequent shocks ≥ 4 J/kg, maximum 10 J/kg or adult dose

Drug Therapy

- **Epinephrine IV/IO dose:** 0.01 mg/kg (0.1 mg/mL concentration). Max dose 1 mg.
- **Amiodarone IV/IO dose:** 5 mg/kg bolus (max 300 mg). May repeat up to 3 doses (max 150 mg subsequent doses).
or
- **Lidocaine IV/IO dose:** 1 mg/kg

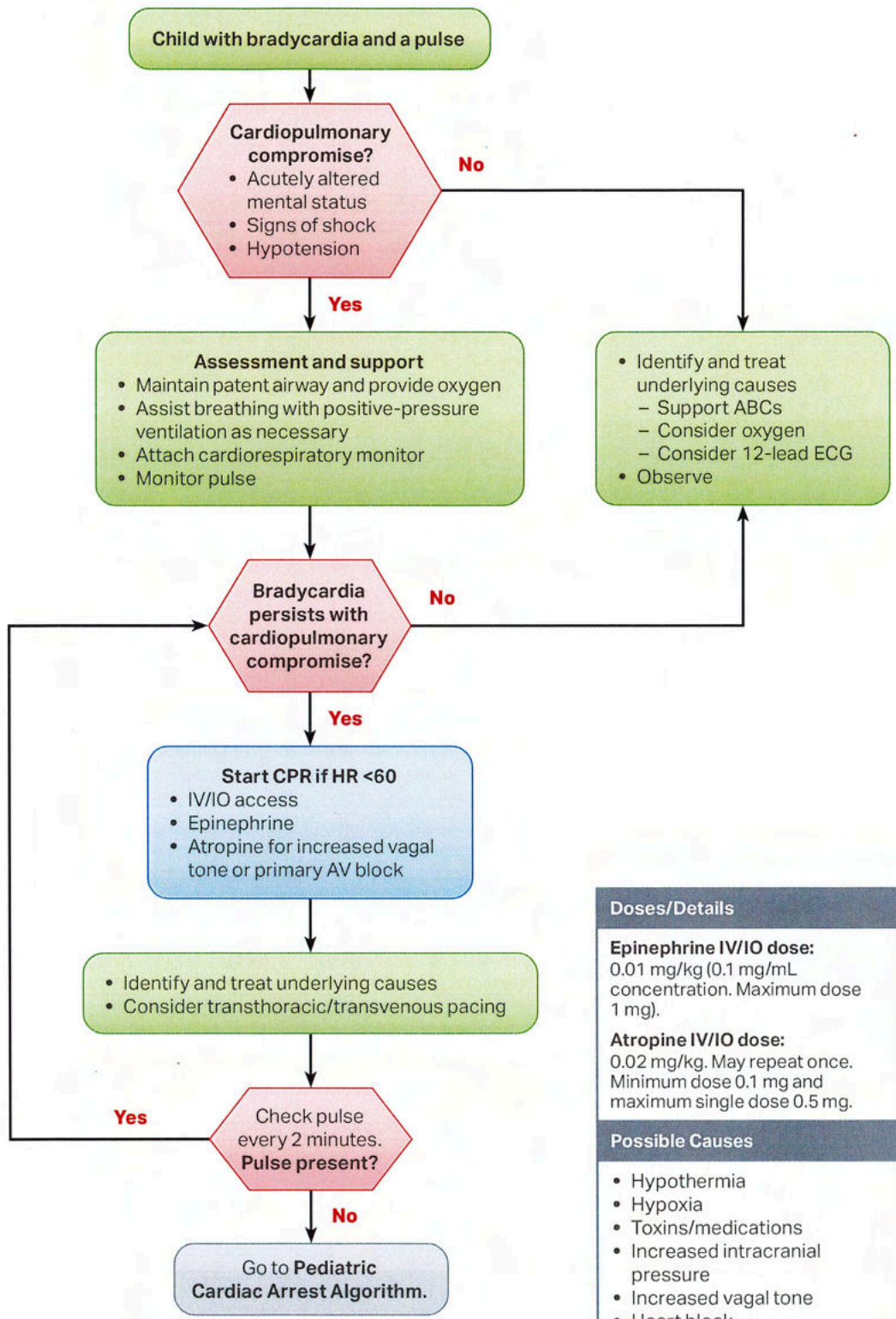
Advanced Airway

- ET intubation or supraglottic airway
- ETCO₂ to confirm and monitor ET tube placement

Reversible Causes

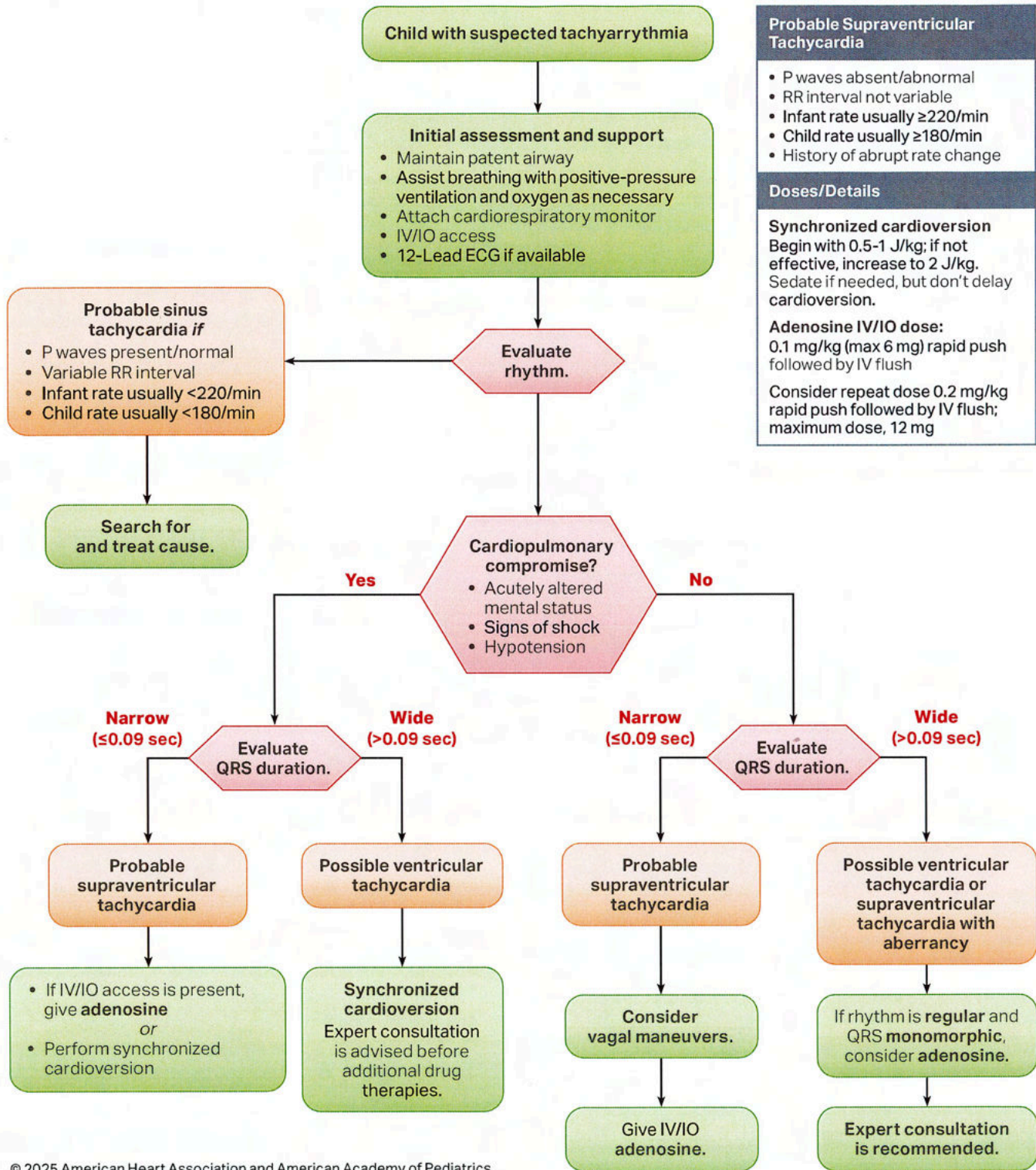
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypoglycemia
- Hypo-/hyperkalemia
- Hypothermia
- Tension pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

Pediatric Bradycardia With a Pulse Algorithm

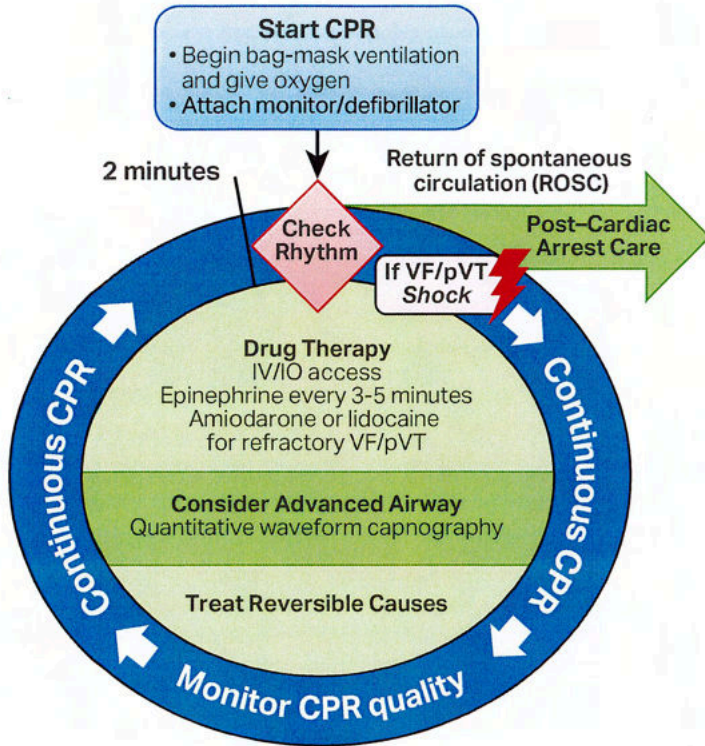


Doses/Details
Epinephrine IV/IO dose: 0.01 mg/kg (0.1 mg/mL concentration. Maximum dose 1 mg).
Atropine IV/IO dose: 0.02 mg/kg. May repeat once. Minimum dose 0.1 mg and maximum single dose 0.5 mg.
Possible Causes
<ul style="list-style-type: none"> • Hypothermia • Hypoxia • Toxins/medications • Increased intracranial pressure • Increased vagal tone • Heart block • Physiologic/appropriate

Pediatric Tachyarrhythmia With a Pulse Algorithm



Adult Cardiac Arrest Circular Algorithm



High-Quality CPR

- Push hard (at least 2 inches [5 cm]).
- Push 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.
- If advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions.
- Continuous waveform capnography
 - If ETCO₂ 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

- ET intubation or supraglottic advanced airway
- Continuous 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

Reversible Causes

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