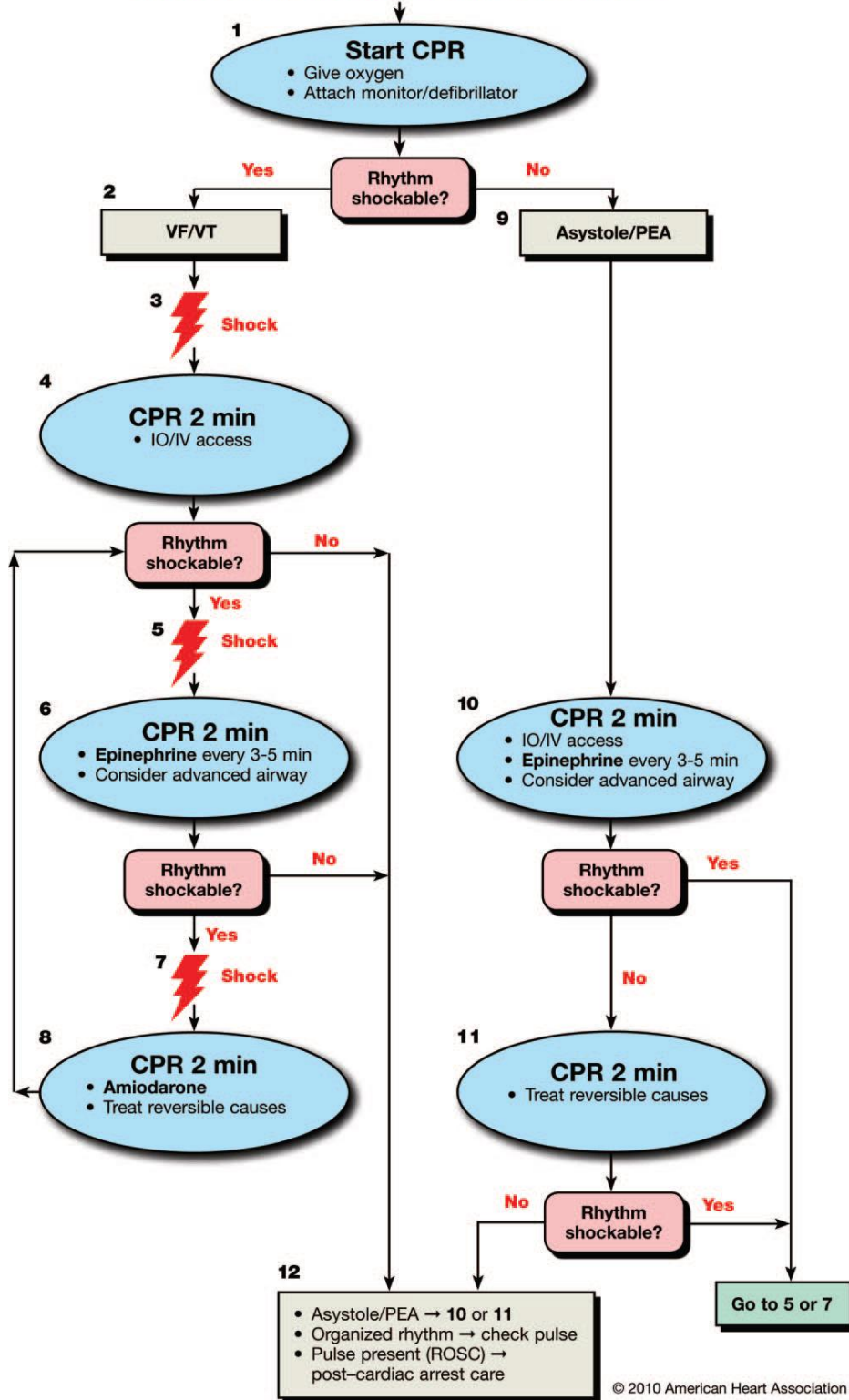


# Pediatric Cardiac Arrest

Shout for Help/Activate Emergency Response



## Doses/Details

### CPR Quality

- Push hard ( $\geq 1/3$  of anterior-posterior diameter of chest) and fast (at least 100/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Avoid excessive ventilation
- Rotate compressor every 2 minutes
- If no advanced airway, 15:2 compression-ventilation ratio. If advanced airway, 8-10 breaths per minute with continuous chest compressions

### Shock Energy for Defibrillation

First shock 2 J/kg, second shock 4 J/kg, subsequent shocks  $\geq 4$  J/kg, maximum 10 J/kg or adult dose.

### Drug Therapy

- **Epinephrine IO/IV Dose:** 0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If no IO/IV access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of 1:1000 concentration).
- **Amiodarone IO/IV Dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT.

### 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 6-8 seconds (8-10 breaths per minute)

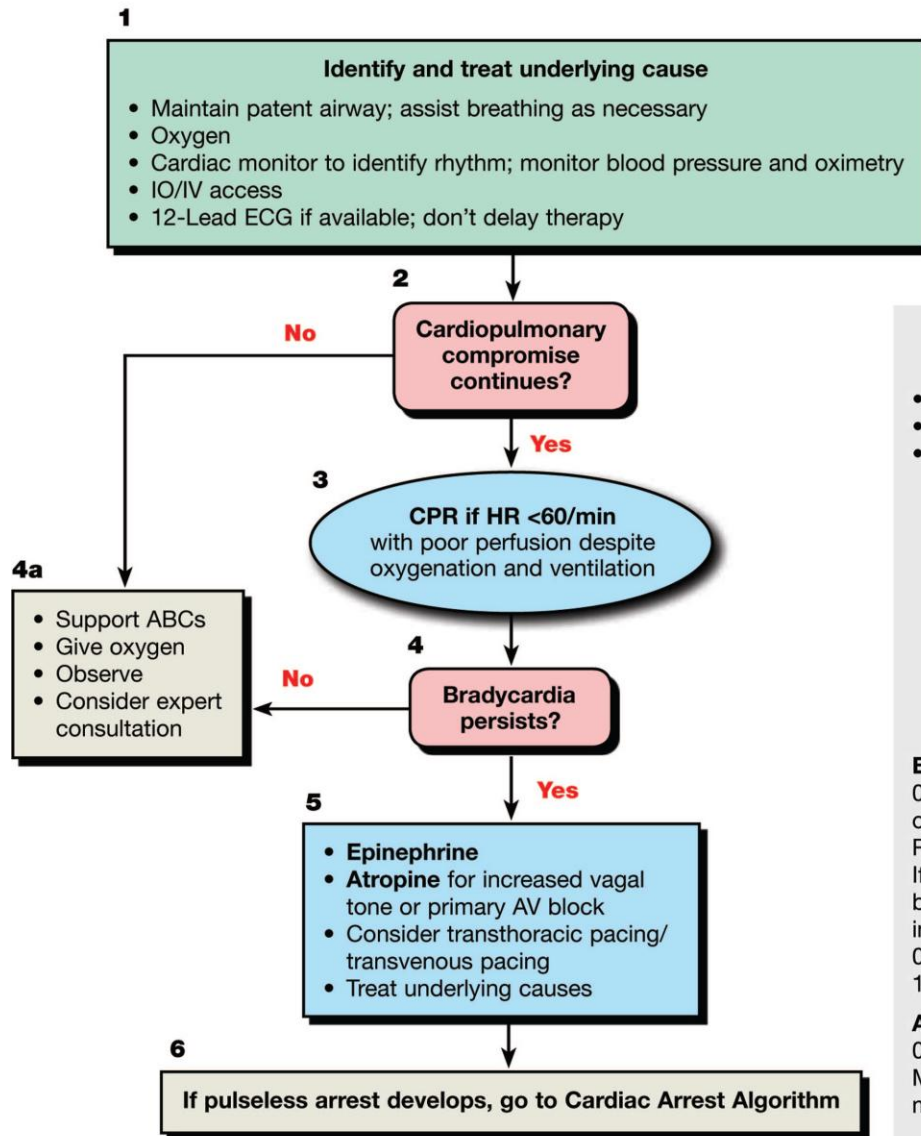
### Return of Spontaneous Circulation (ROSC)

- Pulse and blood pressure
- Spontaneous arterial pressure waves with intra-arterial monitoring

### 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 and Poor Perfusion



**Cardiopulmonary Compromise**

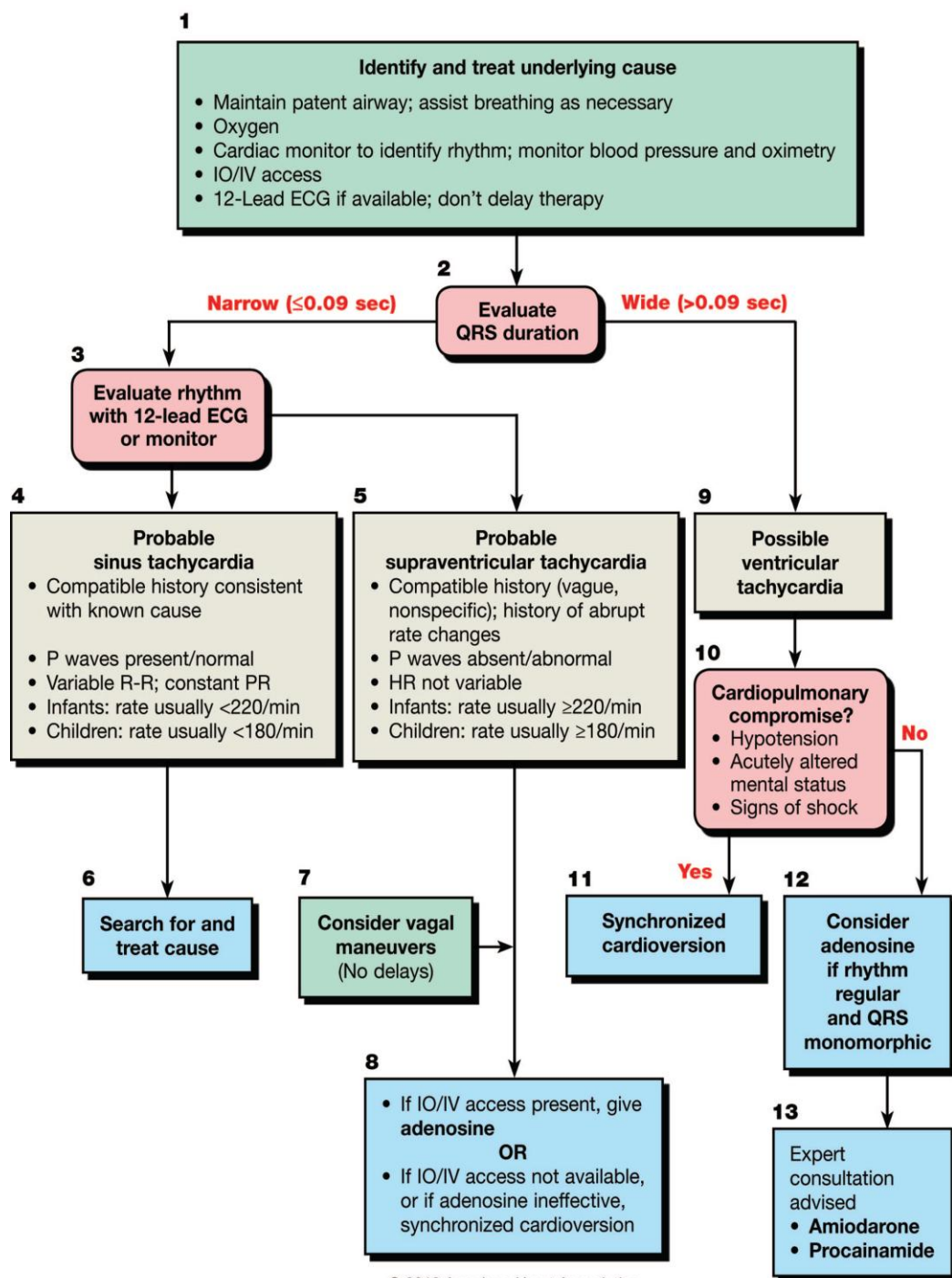
- Hypotension
- Acutely altered mental status
- Signs of shock

**Doses/Details**

**Epinephrine IO/IV Dose:**  
0.01 mg/kg (0.1 mL/kg of 1:10 000 concentration). Repeat every 3-5 minutes. If IO/IV access not available but endotracheal (ET) tube in place, may give ET dose: 0.1 mg/kg (0.1 mL/kg of 1:1000).

**Atropine IO/IV Dose:**  
0.02 mg/kg. May repeat once. Minimum dose 0.1 mg and maximum single dose 0.5 mg.

# Pediatric Tachycardia With a Pulse and Poor Perfusion



**Doses/Details**

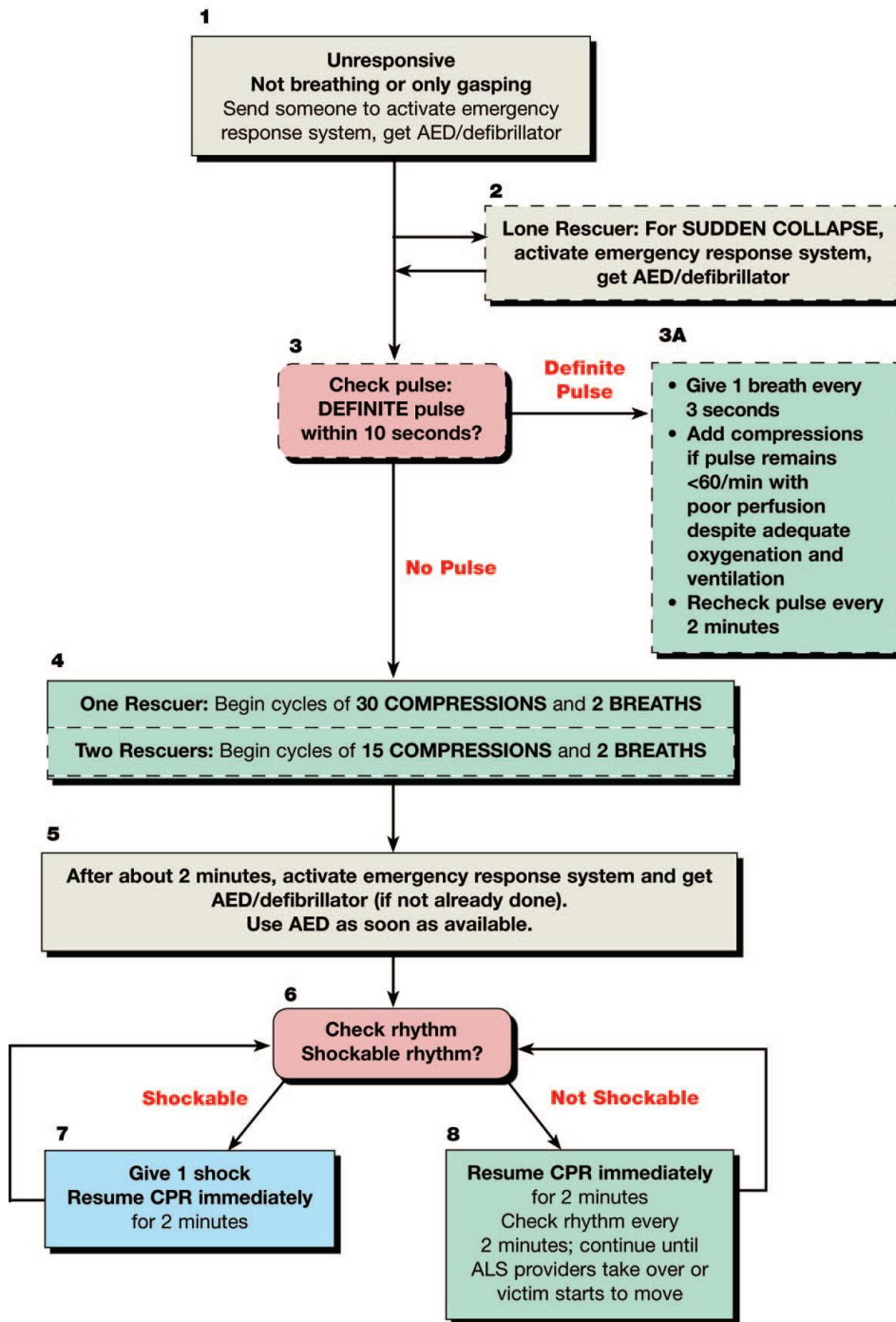
**Synchronized Cardioversion:**  
Begin with 0.5-1 J/kg; if not effective, increase to 2 J/kg. Sedate if needed, but don't delay cardioversion.

**Adenosine IO/IV Dose:**  
First dose: 0.1 mg/kg rapid bolus (maximum: 6 mg).  
Second dose: 0.2 mg/kg rapid bolus (maximum second dose 12 mg).

**Amiodarone IO/IV Dose:**  
5 mg/kg over 20-60 minutes  
or  
**Procainamide IO/IV Dose:**  
15 mg/kg over 30-60 minutes

Do not routinely administer amiodarone and procainamide together.

## Pediatric BLS Healthcare Providers



### High-Quality CPR

- Rate at least 100/min
- Compression depth to at least  $\frac{1}{3}$  anterior-posterior diameter of chest, about 1½ inches (4 cm) in infants and 2 inches (5 cm) in children
- Allow complete chest recoil after each compression
- Minimize interruptions in chest compressions
- Avoid excessive ventilation

Note: The boxes bordered with dashed lines are performed by healthcare providers and not by lay rescuers

# Newborn Resuscitation Algorithm

