

P A L S ALGORITHMS

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Basic EKG/ECG Rhythms

Common & Formal Rhythm Names		6 Second Rhythm Strip	Identifiers
SHOCKABLE	V-Fib Ventricular Fibrillation	 NO PULSE Rate: Unmeasurable	Irregular, No P Wave, No QRS
	V-Tach Ventricular Tachycardia	 NO PULSE Wide QRS Rate: Fast (100-250 bpm)	Regular, No P Wave, Wide QRS
	Torsade de Pointes Type Of Ventricular Tachycardia	 NO PULSE Rate: Very Fast (200-250 bpm) Tall and Short Waves	Irregular, No P Wave, Wide QRS
*Synchronized Cardioversion possible for SVT if medication ineffective.			
	SVT* Supraventricular Tachycardia	 Rate: Very Fast (150-250 bpm)	Regular, P Wave Hidden, Normal QRS
	STEMI ST Elevation Myocardial Infarction	 ST Elevation	Reg or Irreg, P Wave, ST Elevated
	A-Fib Atrial Fibrillation	 ↑ Erratic Waves ↑ * QRS normally narrow but not always	Irregular, No P Wave, Normal QRS*
	A-Flutter Atrial Flutter	 ↑ "Sawtooth" Pattern ↑	Reg or Irreg, No P Wave, Normal QRS
	PVC Premature Ventricular Contraction	 PVC No P Waves PVC	Irregular, No P Wave, Wide QRS
	Sinus Brady Sinus Bradycardia	 Rate: Slow (<60 bpm)	Regular, P Wave, Normal QRS
	Sinus Tach Sinus Tachycardia	 Rate: Fast (> 100 bpm)	Regular, P Wave, Normal QRS
	NSR Normal Sinus Rhythm	 Rate: Normal (60-100 bpm)	Regular, P Wave, Normal QRS

Pediatric BLS for Lay Rescuers

STEP 1

Make sure the scene is safe.

Check to see if the person is awake and breathing normally.



STEP 2

Shout for help.

If you're alone

- With a cell phone, phone 9-1-1, perform CPR (30 compressions and then 2 breaths) for 5 cycles, and then get an AED
- Without a cell phone, perform CPR (30 compressions and then 2 breaths) for 5 cycles, and then phone 9-1-1 and get an AED

If help is available, phone 9-1-1. Start CPR while you send someone to get an AED.



STEP 3

Repeat cycles of 30 compressions and then 2 breaths.

■ Child CPR

Push in the middle of the chest at least one third the chest depth or approximately 2 inches with 1 or 2 hands.



■ Infant CPR

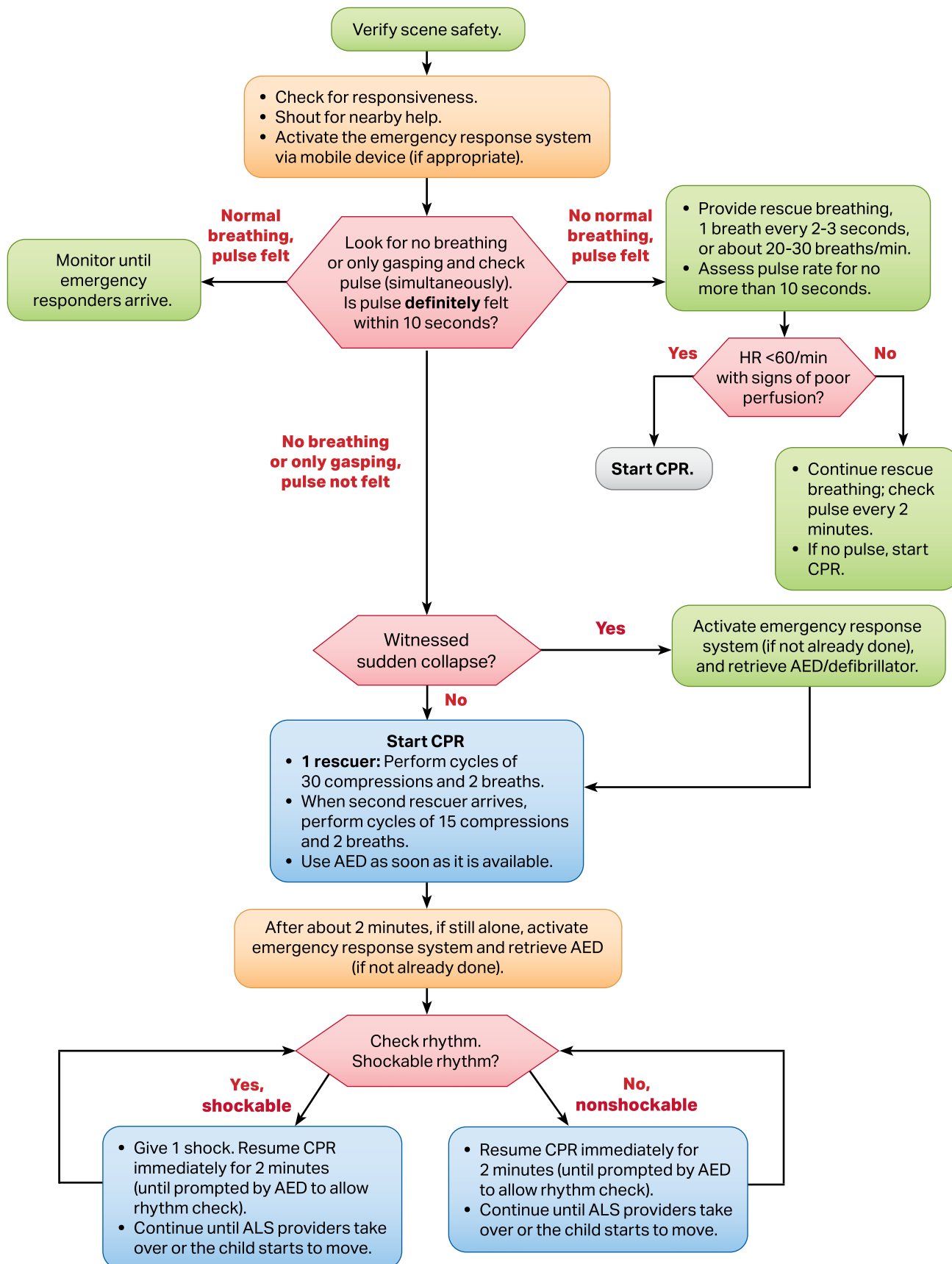
Push in the middle of the chest at least one third the chest depth or approximately 1½ inches with 2 fingers.



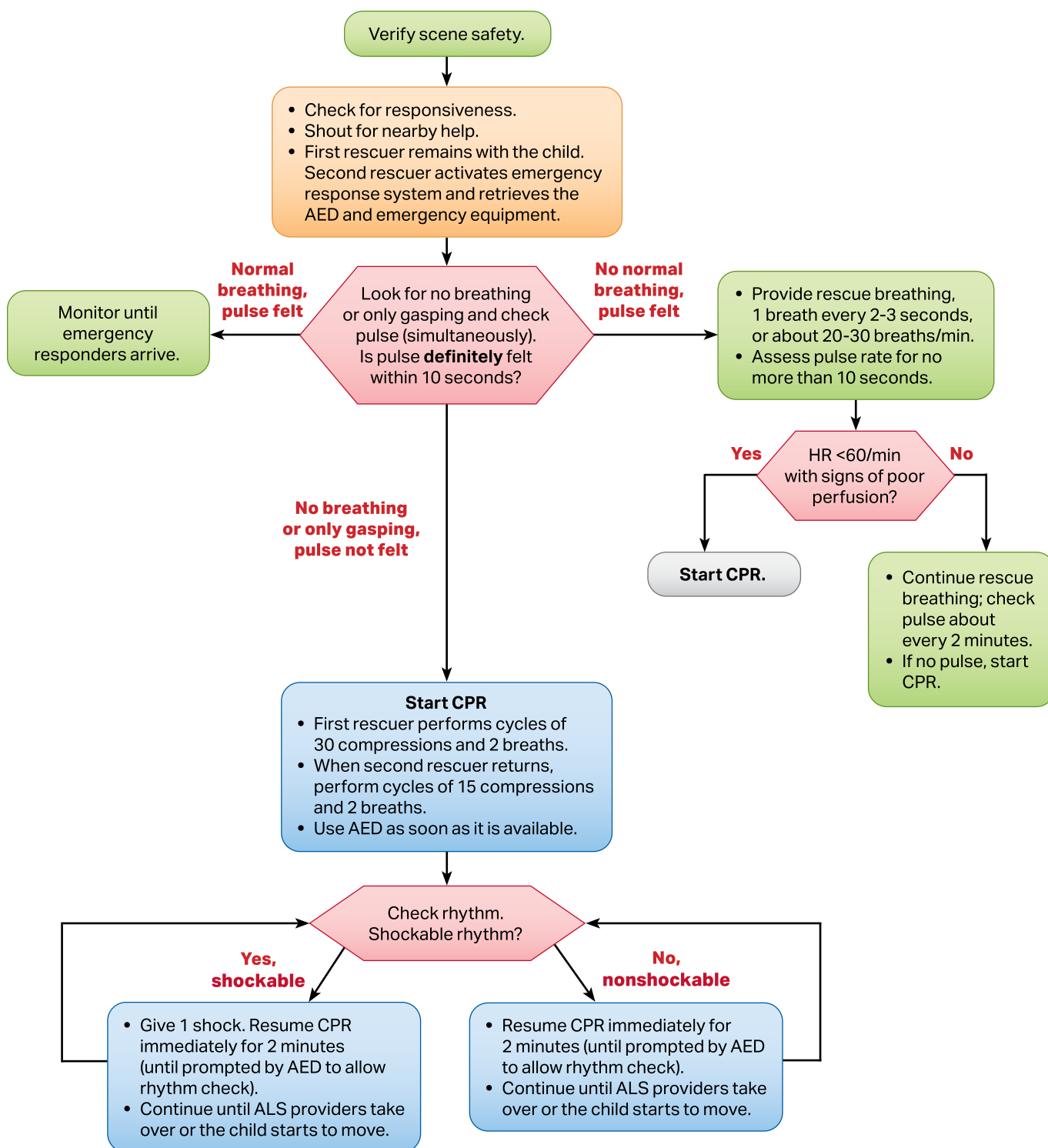
Use the AED as soon as it arrives.

Continue CPR until EMS arrives.

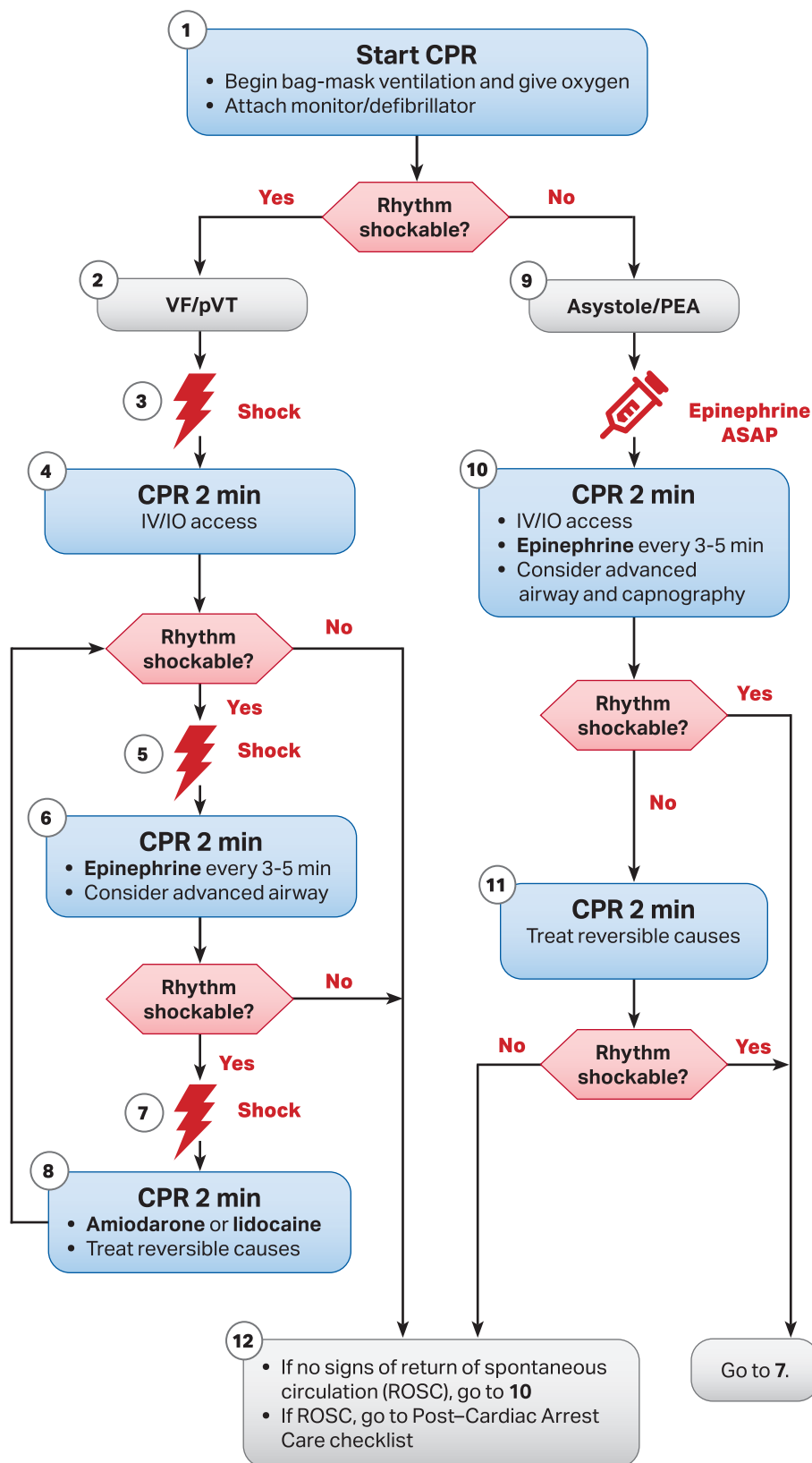
Pediatric Basic Life Support Algorithm for Healthcare Providers—Single Rescuer



Pediatric Basic Life Support Algorithm for Healthcare Providers—2 or More Rescuers



Pediatric Cardiac Arrest Algorithm



CPR Quality

- Push hard ($\geq \frac{1}{3}$ of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil
- Minimize interruptions in compressions
- Change compressor every 2 minutes, or sooner if fatigued
- If no advanced airway, 15:2 compression-ventilation ratio
- If advanced airway, provide continuous compressions and give a breath every 2-3 seconds

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 mL/kg of the 0.1 mg/mL concentration). Max dose 1 mg. Repeat every 3-5 minutes. If no IV/IO access, may give endotracheal dose: 0.1 mg/kg (0.1 mL/kg of the 1 mg/mL concentration).
- Amiodarone IV/IO dose:** 5 mg/kg bolus during cardiac arrest. May repeat up to 3 total doses for refractory VF/pulseless VT or
- Lidocaine IV/IO dose:** Initial: 1 mg/kg loading dose

Advanced Airway

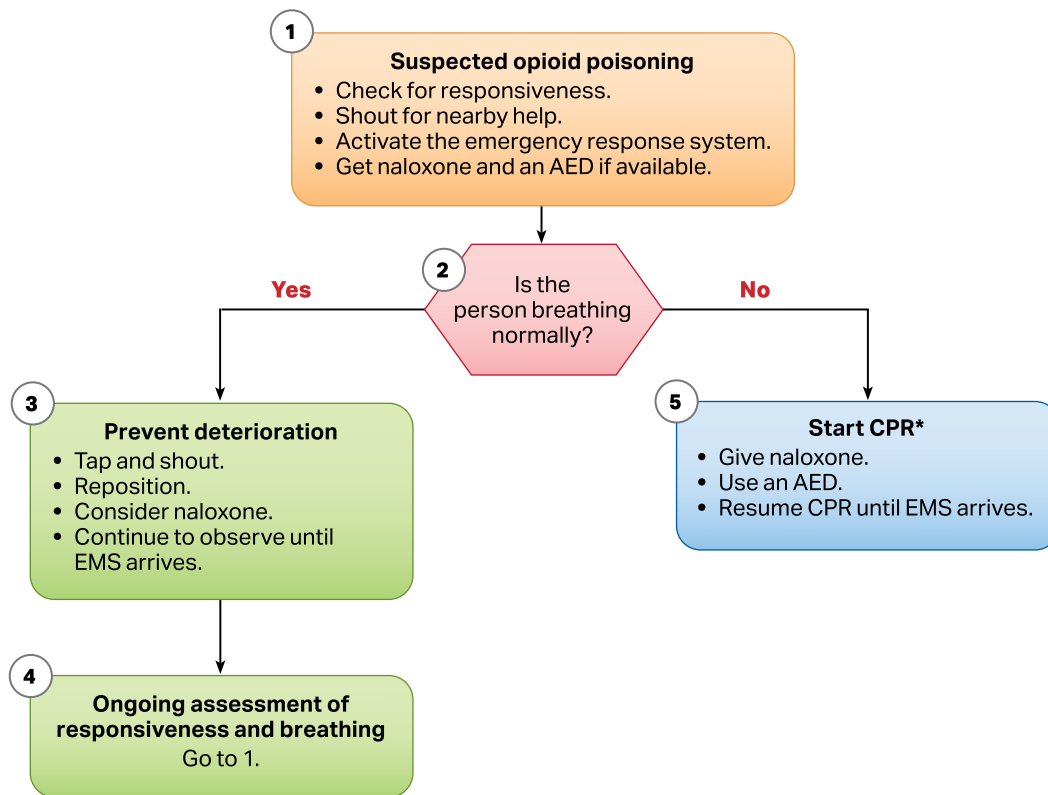
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement

Reversible Causes

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

Components of Post-Cardiac Arrest Care		Check
Oxygenation and ventilation		
Measure oxygenation and target normoxemia 94%-99% (or child's normal/appropriate oxygen saturation).		☐
Measure and target $Paco_2$ appropriate to the patient's underlying condition and limit exposure to severe hypercapnia or hypocapnia.		☐
Hemodynamic monitoring		
Set specific hemodynamic goals during post-cardiac arrest care and review daily.		☐
Monitor with cardiac telemetry.		☐
Monitor arterial blood pressure.		☐
Monitor serum lactate, urine output, and central venous oxygen saturation to help guide therapies.		☐
Use parenteral fluid bolus with or without inotropes or vasopressors to maintain a systolic blood pressure greater than the fifth percentile for age and sex.		☐
Targeted temperature management (TTM)		
Measure and continuously monitor core temperature.		☐
Prevent and treat fever immediately after arrest and during rewarming.		☐
If patient is comatose apply TTM (32°C-34°C) followed by (36°C-37.5°C) or only TTM (36°C-37.5°C).		☐
Prevent shivering.		☐
Monitor blood pressure and treat hypotension during rewarming.		☐
Neuromonitoring		
If patient has encephalopathy and resources are available, monitor with continuous electroencephalogram.		☐
Treat seizures.		☐
Consider early brain imaging to diagnose treatable causes of cardiac arrest.		☐
Electrolytes and glucose		
Measure blood glucose and avoid hypoglycemia.		☐
Maintain electrolytes within normal ranges to avoid possible life-threatening arrhythmias.		☐
Sedation		
Treat with sedatives and anxiolytics.		☐
Prognosis		
Always consider multiple modalities (clinical and other) over any single predictive factor.		☐
Remember that assessments may be modified by TTM or induced hypothermia.		☐
Consider electroencephalogram in conjunction with other factors within the first 7 days after cardiac arrest.		☐
Consider neuroimaging such as magnetic resonance imaging during the first 7 days.		☐

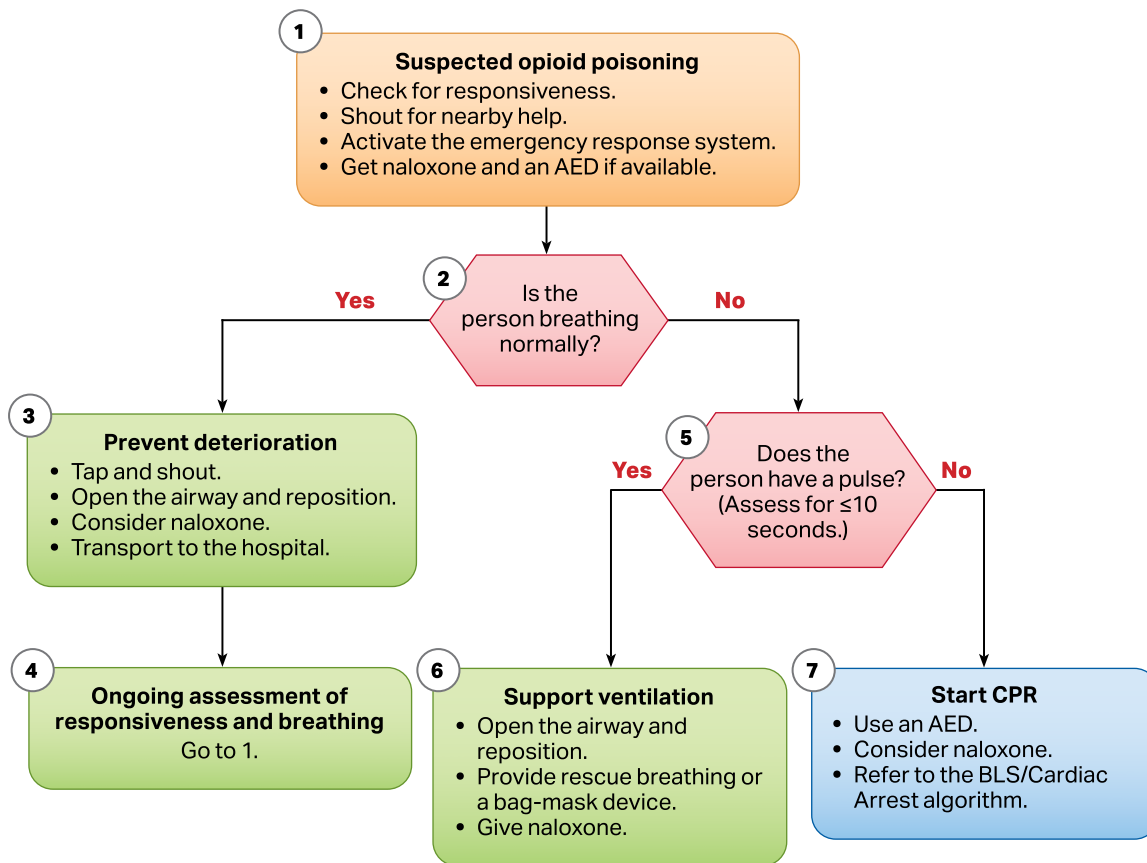
Opioid-Associated Emergency for Lay Responders Algorithm



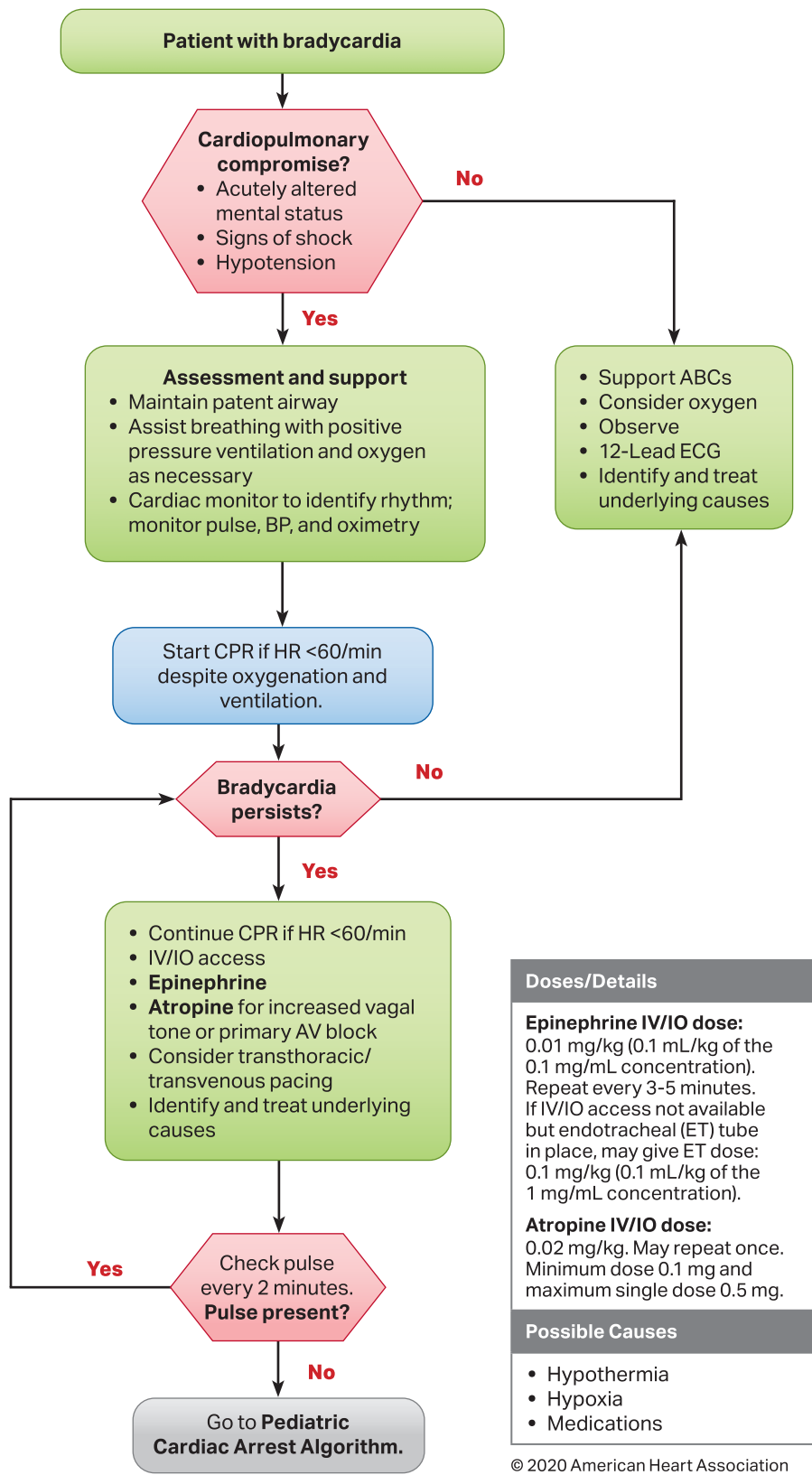
*For adult and adolescent victims, responders should perform compressions and rescue breaths for opioid-associated emergencies if they are trained and perform Hands-Only CPR if not trained to perform rescue breaths. For infants and children, CPR should include compressions with rescue breaths.

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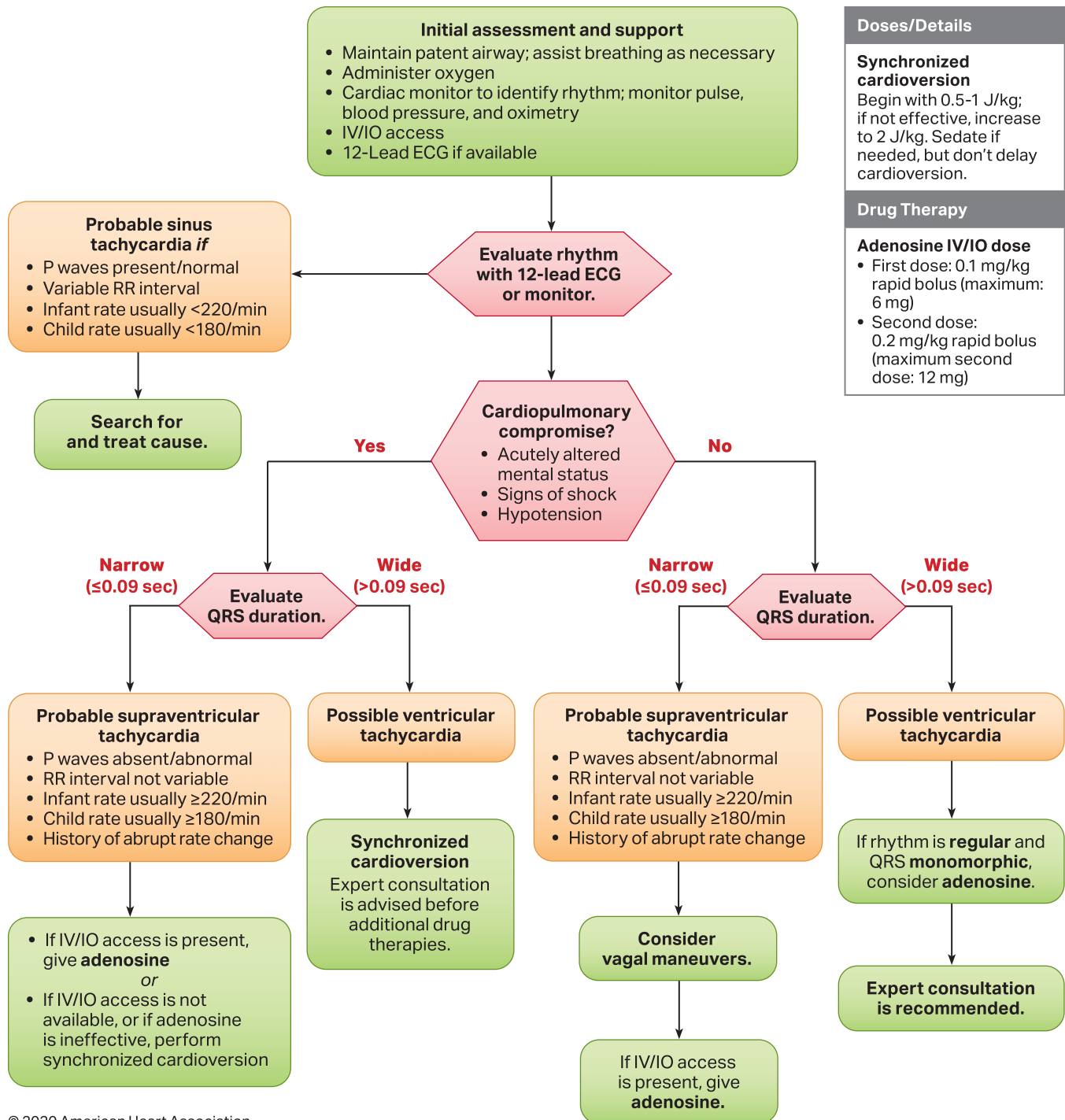
Opioid-Associated Emergency for Healthcare Providers Algorithm



Pediatric Bradycardia With a Pulse Algorithm



Pediatric Tachycardia With a Pulse Algorithm



Neonatal Resuscitation Algorithm

