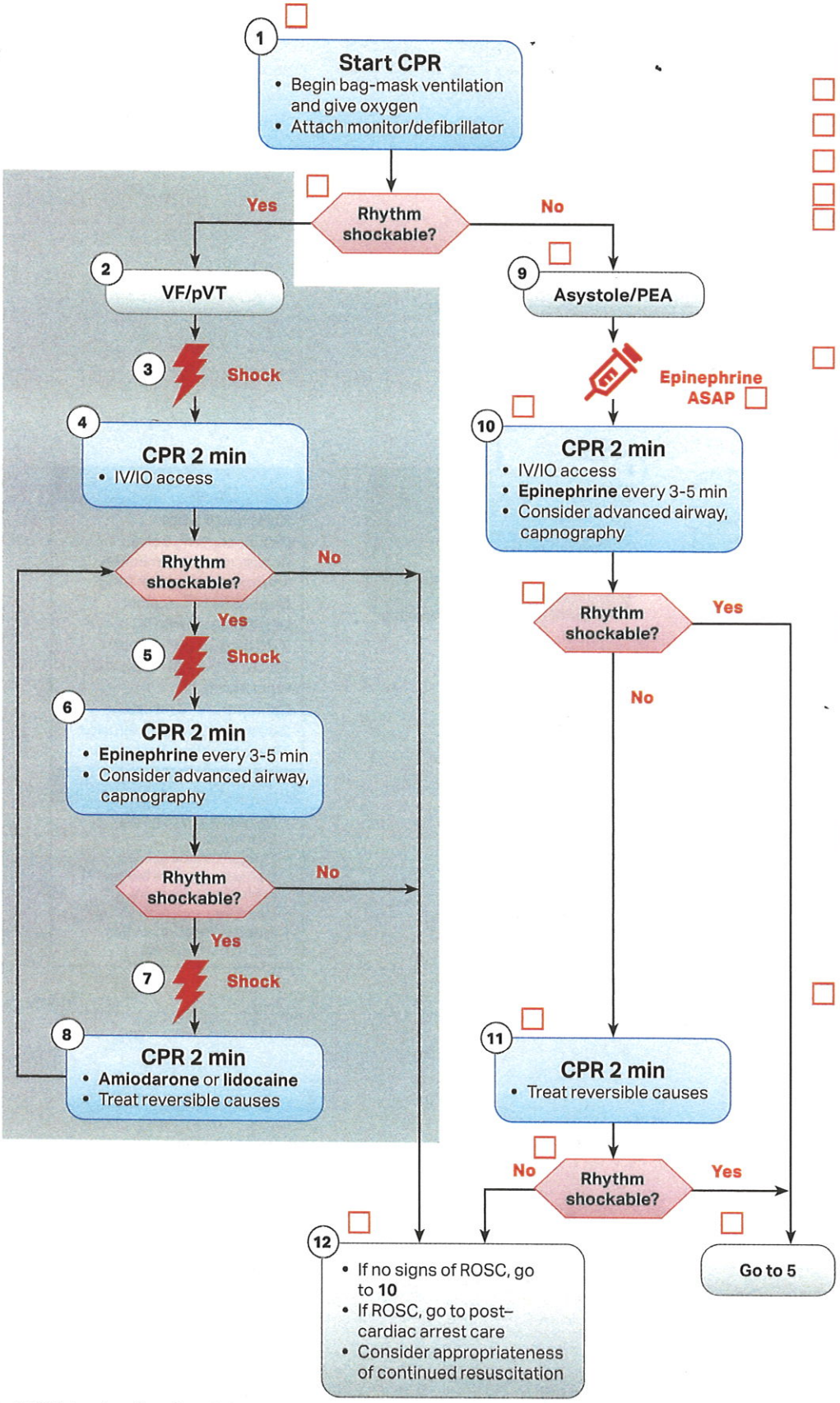
Adult Cardiac Arrest Learning Station Checklist (Asystole/PEA)

Adult Cardiac Arrest Algorithm (Asystole/PEA)



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, use 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 $ETCO_2$ 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

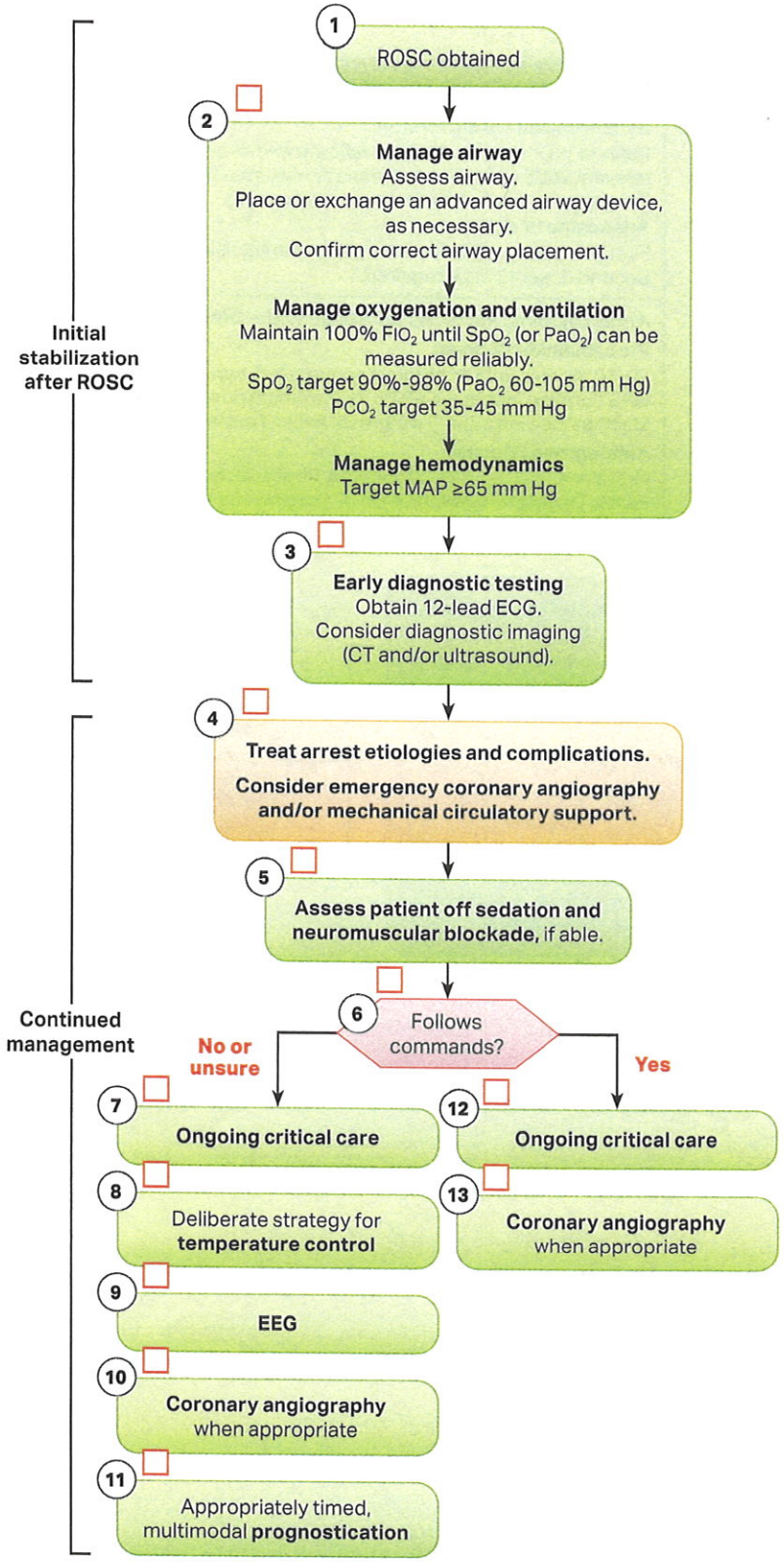
- ET intubation or supraglottic advanced airway
- Continuous waveform capnography or capnometry to confirm and monitor ET tube placement

Reversible Causes

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

Adult Post–Cardiac Arrest Care Learning Station Checklist

Adult Post–Cardiac Arrest Care Algorithm



Initial Stabilization After ROSC

Resuscitation is ongoing during the post-ROSC phase, and many of these activities can occur concurrently.

Manage airway: Assess and consider placement or exchange of an advanced airway device (usually endotracheal tube or supraglottic device). Confirm correct placement of an advanced airway. This generally includes the use of waveform capnography or capnometry.

Manage oxygenation and ventilation: Titrate FIO_2 for SpO_2 90%-98% (or PaO_2 60-105 mm Hg). Adjust minute ventilation to target PCO_2 35-45 mm Hg in the absence of severe acidemia.

Manage hemodynamics: Initiate or adjust vasopressors and/or fluid resuscitation as necessary for goal MAP ≥65 mm Hg.

Early diagnostic testing: Obtain 12-lead ECG to assess for ischemia or arrhythmia. Consider CT head, chest, abdomen, and/or pelvis to determine cause of arrest or assess for injuries sustained during resuscitation. Point-of-care ultrasound or echocardiography may be reasonable to identify clinically significant diagnoses requiring intervention.

Continued Management

Treat arrest etiologies and complications.

Consider emergency cardiac intervention:

- Persistent ST-segment elevation present
- Cardiogenic shock
- Recurrent or refractory ventricular arrhythmias
- Severe myocardial ischemia

Temperature control: If patient is not following commands off sedation and neuromuscular blockade or is unable to assess, initiate a deliberate strategy of temperature control with goal 32 °C-37.5 °C as soon as possible.

Evaluate for seizure: Evaluate for clinical seizure and obtain EEG to evaluate for seizure in patients not following commands.

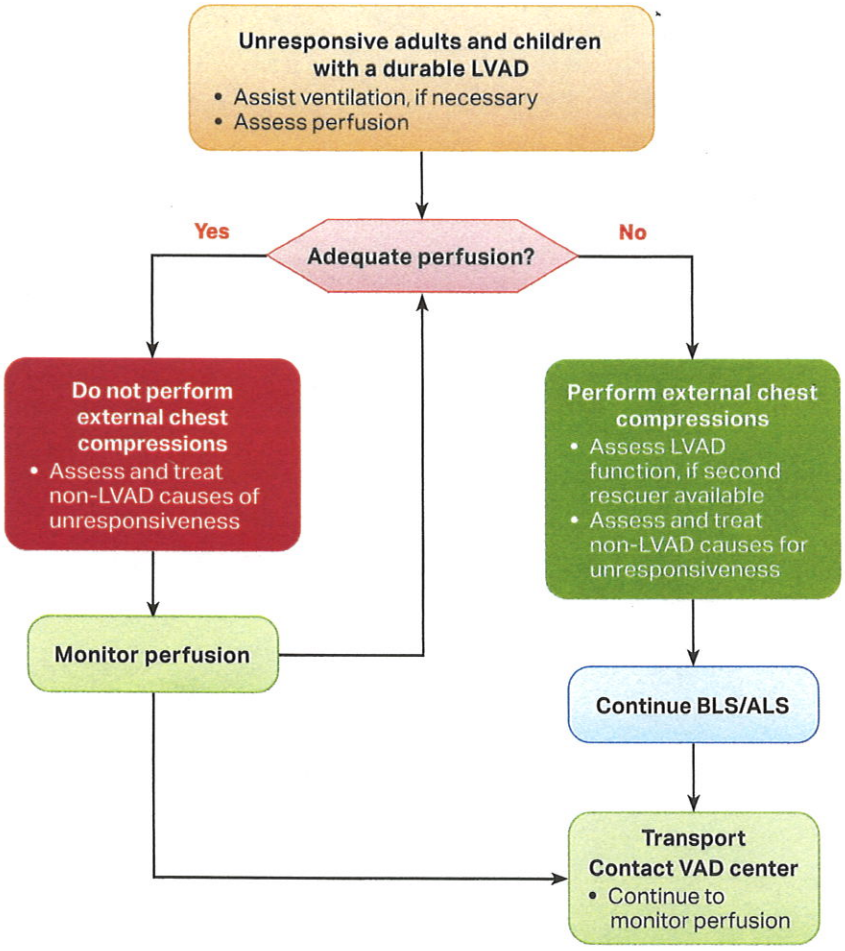
Prognostication: Multimodal approach with delayed impressions (≥72 hours from ROSC or achieving normothermia).

Ongoing critical care includes the following:

- Target PaO_2 60-105 mm Hg, PCO_2 35-45 mm Hg (unless severe acidemia); avoid hypoglycemia (glucose <70 mg/dL) and hyperglycemia (glucose >180 mg/dL); target MAP ≥65 mm Hg.
- Consider antibiotics.

Adult and Pediatric Durable Left Ventricular Assist Device Learning Station Checklist

Adult and Pediatric Durable Left Ventricular Assist Device Algorithm



Assessing Perfusion

Adequate perfusion* if any of the following present:

- Normal skin color and temperature
- Normal capillary refill
- MAP >50 mm Hg (if noninvasive BP cuff nonfunctional, use doppler or arterial line, if available)
- $PETCO_2$ >20 mm Hg (if available and should be used only when an ET tube or tracheostomy is used to ventilate the patient; use of a supraglottic [eg, King] airway results in a falsely elevated $PETCO_2$ value)

**Patients may not have palpable pulse*

Non-LVAD Causes of Unresponsiveness

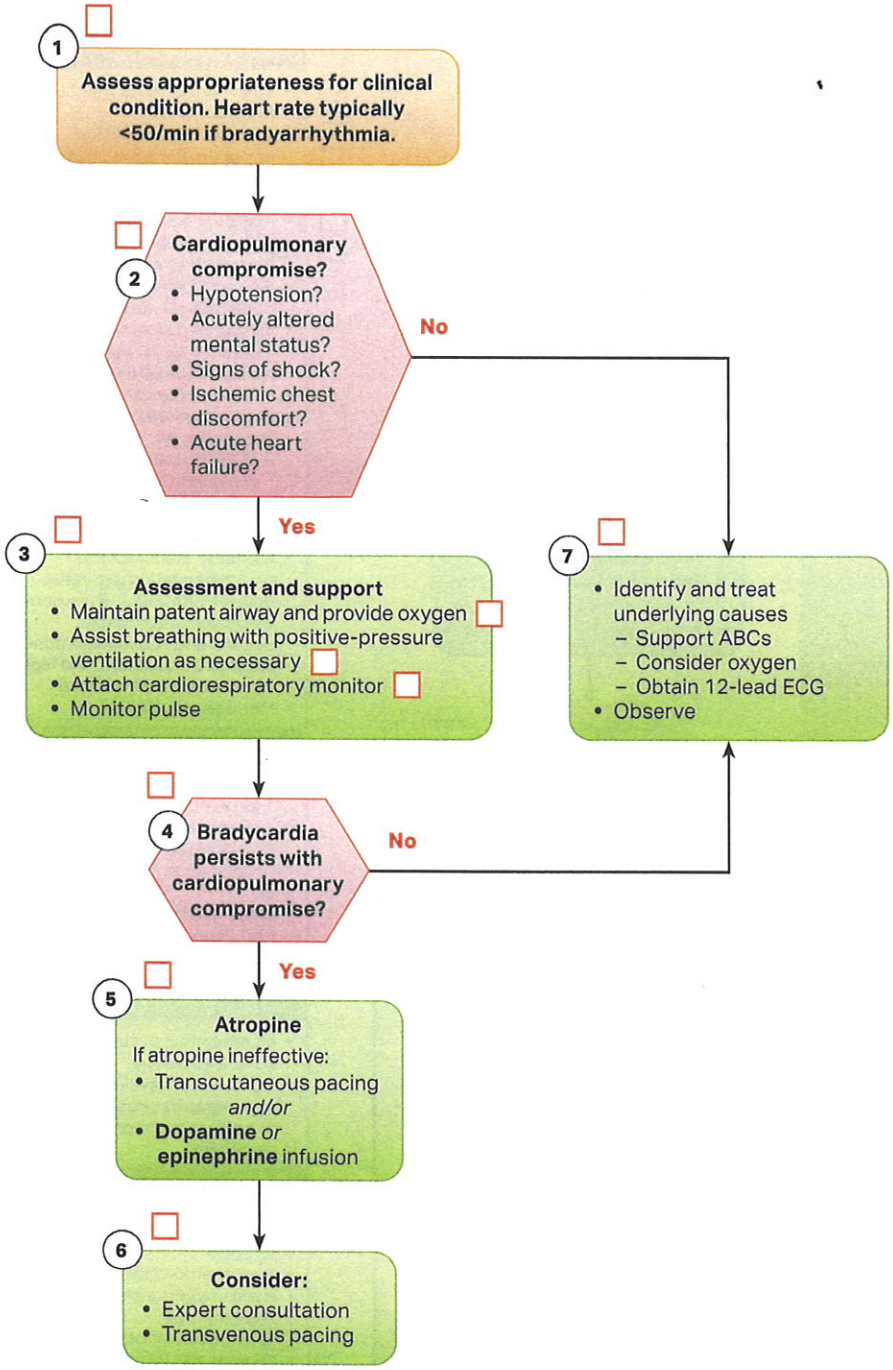
- Dysrhythmia
- Hemorrhage/hypovolemia
- Hypoglycemia
- Hypoxia
- Overdose
- Right ventricular failure
- Sepsis
- Stroke

Assess and Attempt to Restart LVAD Function

- Look/listen for alarms
- Listen for LVAD hum
- Driveline connected?
- Power source connected?
- Need to replace system controller?

Adult Bradycardia With a Pulse Learning Station Checklist

Adult Bradycardia With a Pulse Algorithm

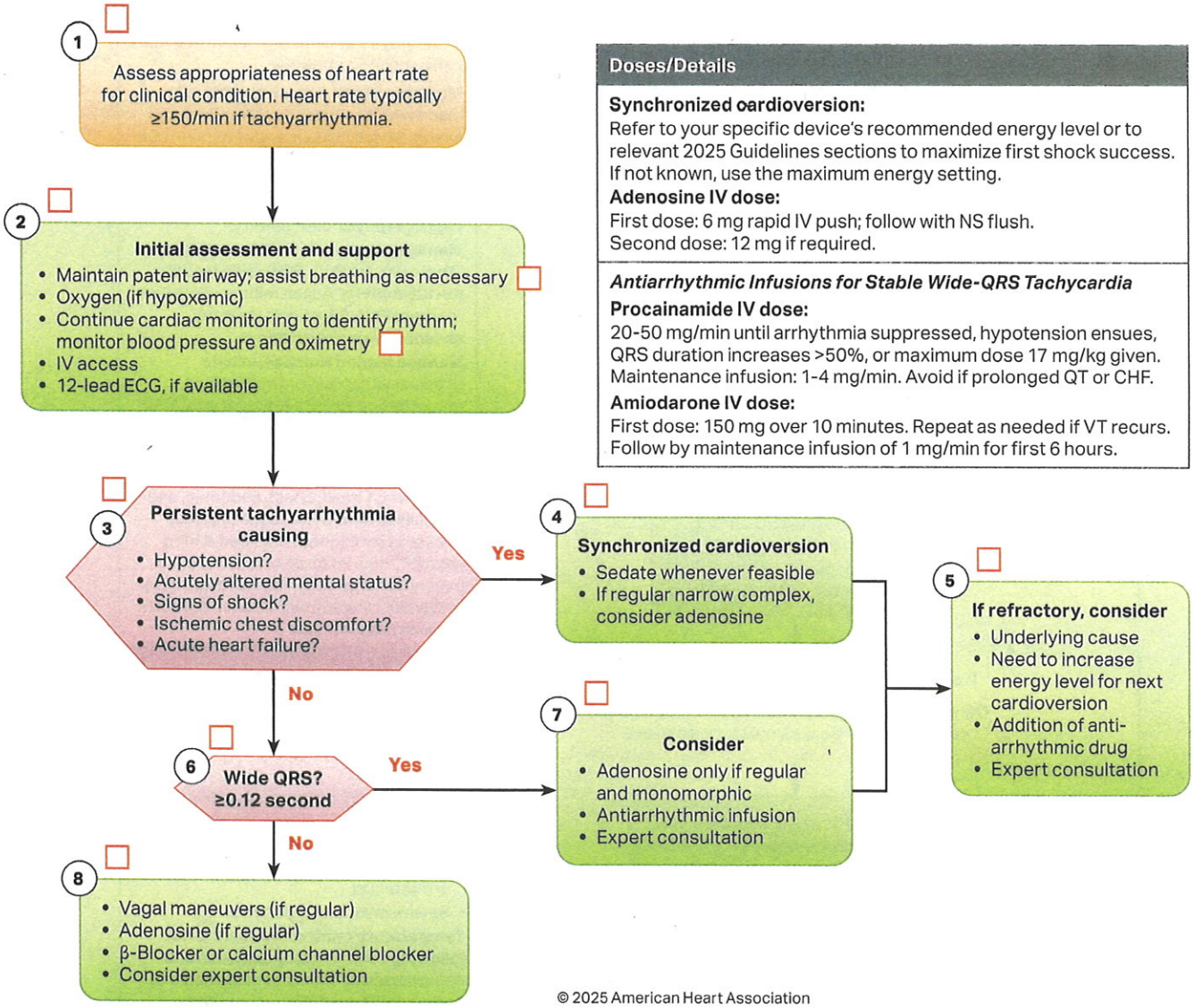


Doses/Details
Atropine IV dose: First dose: 1 mg bolus. Repeat every 3-5 minutes. Maximum total dose: 3 mg. **Dopamine IV infusion:** Usual infusion rate is 5-20 mcg/kg per minute. Titrate to patient response; taper slowly. **Epinephrine IV infusion:** 2-10 mcg per minute infusion. Titrate to patient response.

Possible Causes
• Myocardial ischemia/infarction • Drugs/toxicologic (eg, calcium-channel blockers, β-blockers, digoxin) • Hypoxia • Electrolyte abnormality (eg, hyperkalemia)

Adult Tachyarrhythmia With a Pulse Learning Station Checklist

Adult Tachyarrhythmia With a Pulse Algorithm



Doses/Details
Synchronized cardioversion: Refer to your specific device's recommended energy level or to relevant 2025 Guidelines sections to maximize first shock success. If not known, use the maximum energy setting. **Adenosine IV dose:** First dose: 6 mg rapid IV push; follow with NS flush. Second dose: 12 mg if required.
Antiarrhythmic Infusions for Stable Wide-QRS Tachycardia **Procainamide IV dose:** 20-50 mg/min until arrhythmia suppressed, hypotension ensues, QRS duration increases >50%, or maximum dose 17 mg/kg given. Maintenance infusion: 1-4 mg/min. Avoid if prolonged QT or CHF. **Amiodarone IV dose:** First dose: 150 mg over 10 minutes. Repeat as needed if VT recurs. Follow by maintenance infusion of 1 mg/min for first 6 hours.