Asystole and PEA

ALS Protocol

· Start CPR (Compressions, Airway, Breathing)
· **Oxygen** 100%, SpO2
· Attach cardiac monitor/defibrillator

CPR 2 minutes

· Establish IV/IO access without interrupting CPR
· **Epinephrine** 1 mg IV/IO every 3-5 minutes (1)
· Advanced airway. ETCO2.

Consider termination of efforts if asystole/agonal rhythms continue after advanced airway placement and initial medications and no reversible causes are identified.

1 May give one dose of **Vasopressin** 40 units IV/IO to replace first or second dose of **Epinephrine**.

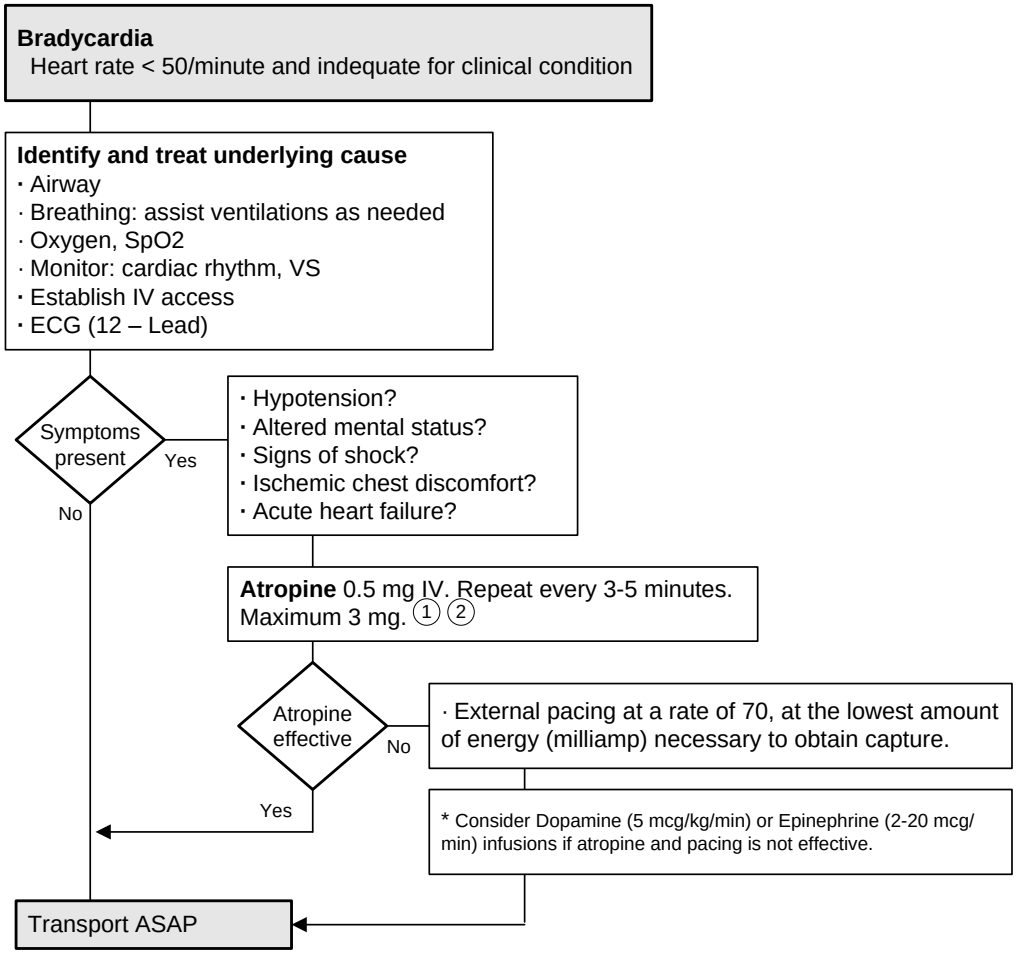
CPR
· **When intubation complete:** Rescuers no longer deliver “cycles” of CPR. Give continous chest compressions without pauses for breaths. Give 8–10 breaths/min.
· **Compressions:** at least 100/min, push hard (≥ 2 inches), allow full recoil, minimize interruptions.
· **Prior to advanced airway: 30 compressions, then 2 breaths.**
· **Do not interrupt CPR when giving medications.**

Consider potentially reversible causes:

· Hypovolemia	· Toxins
· Hypoxia	· Tamponade, cardiac
· Hydrogen ion (acidosis)	· Tension pneumothorax
· Hyperkalemia/hypokalemia	· Thrombosis (coronary)
· Hypothermia	· Thrombosis (pulmonary)

Bradycardia

ALS Protocol



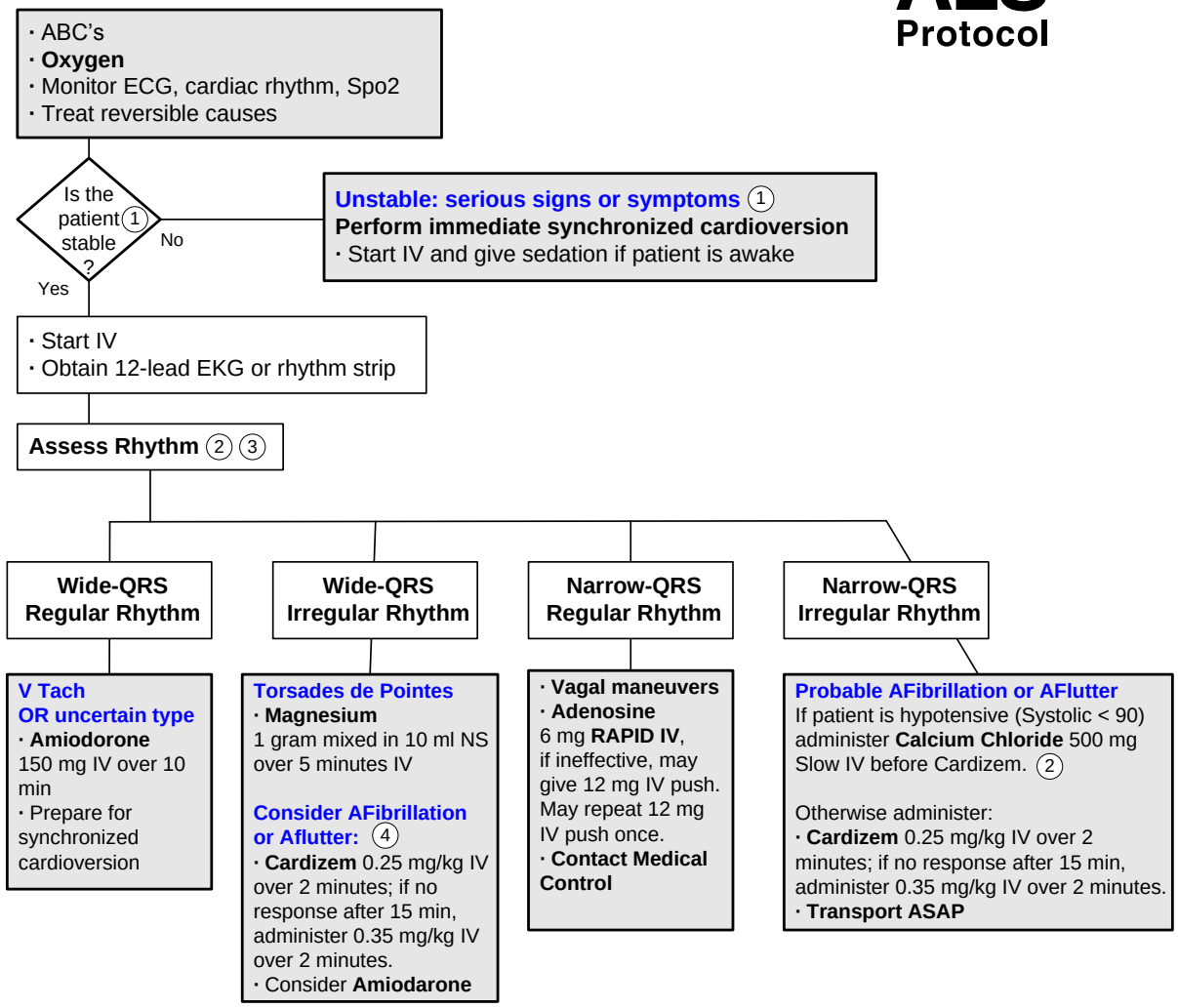
1 Transplanted hearts will not respond to atropine.
2 Indicated for SB, 1st degree, 2nd degree type one only.

Consider potentially reversible causes:

· Hypovolemia	· Toxins
· Hypoxia	· Tamponade, cardiac
· Hydrogen ion (acidosis)	· Tension pneumothorax
· Hyperkalemia/hypokalemia	· Thrombosis (coronary)
· Hypothermia	· Thrombosis (pulmonary)

Tachycardia with Pulses

ALS Protocol



1 Serious signs and symptoms include: altered mental status, chest pain, hypotension. NOTE: rate-related symptoms uncommon if heart rate < 150 bpm.

2 Contact Medical Control if you have any questions or need expert advise. **If patient becomes unstable at any time perform immediate synchronized cardioversion.**

3 Wide-QRS = > 0.12 seconds. Narrow-QRS = < 0.12 seconds.

4 If Afib plus WPW avoid using Diltiazem and/or Adenosine. Consider Amiodarone 150 mg over 10 minutes.

Ventricular Fibrillation and Pulseless Ventricular Tachycardia

ALS Protocol

· Start CPR (Compressions, Airway, Breathing)
· **Oxygen** 100%, SpO2
· Attach cardiac monitor/defibrillator

Give one shock (1)
Resume CPR immediately for 2 minutes
Establish IV/IO access without interrupting CPR

Give one shock (1)
Resume CPR immediately for 2 minutes

· **Epinephrine** 1 mg IV/IO every 3-5 minutes (2)
· Advanced airway, continuous capnography

Give one shock (1)
Resume CPR immediately for 2 minutes

Amiodarone 300 mg IV/IO, may repeat at 150 mg, or
Lidocaine 1.5 mg/kg IV/IO

· Resume CPR immediately for 2 minutes
· **Give one shock**
· Consider **Magnesium Sulfate** 1-2 g IV/IO for **torsades de pointes**
· Continue CPR and shocks as needed

1 Biphasic: 120-200 J (device-specific), Monophasic 200 J.
2 Vasopressin IV/IO dose: 40 units, one time only, can replace first or second dose of **Epinephrine**.

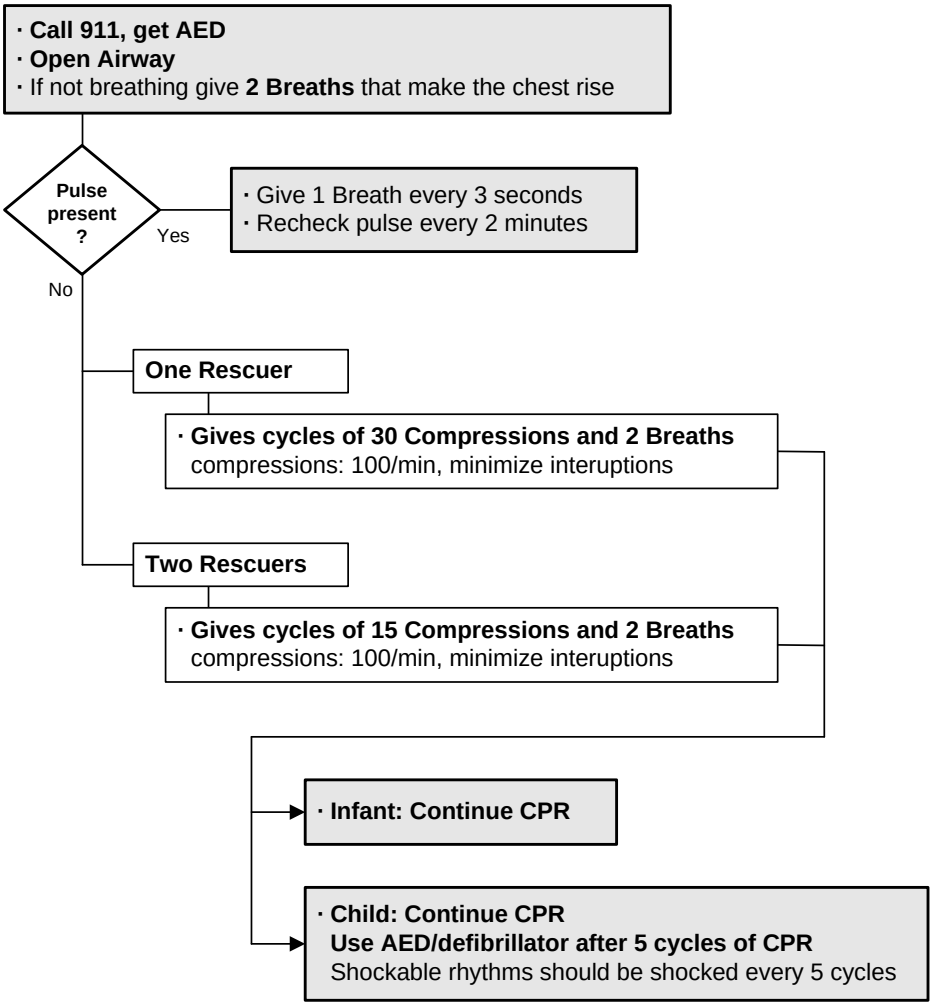
CPR
· **When advanced airway complete:** Rescuers no longer deliver "cycles" of CPR. Give continous chest compressions without pauses for breaths. Give 8–10 breaths/min.
· **Compressions:** at least 100/min, push hard (≥ 2 inches), allow full recoil, minimize interruptions.
· **Prior to advanced airway: 30 compressions, then 2 breaths.**
· **Do not interrupt CPR when giving medications.**

Consider potentially reversible causes:

· Hypovolemia	· Toxins
· Hypoxia	· Tamponade, cardiac
· Hydrogen ion (acidosis)	· Tension pneumothorax
· Hyperkalemia/hypokalemia	· Thrombosis (coronary)
· Hypothermia	· Thrombosis (pulmonary)

Basic Life Support

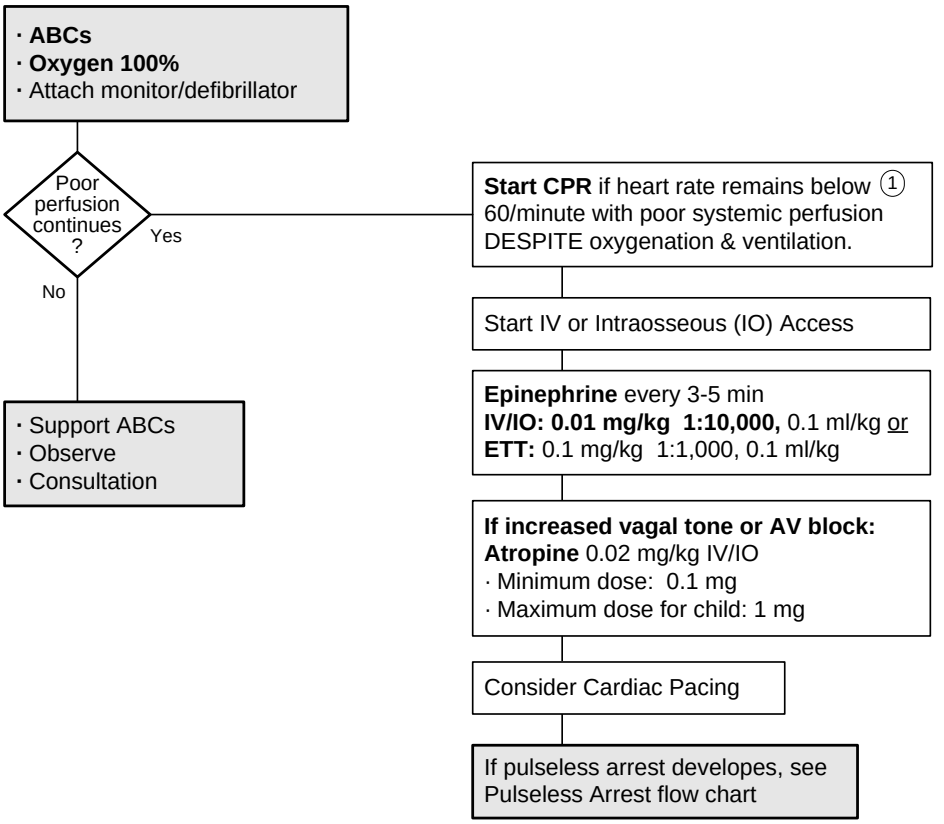
ALS Protocol



CPR · Child: Continue CPR, use AED after 5 cycles of CPR
· **When intubation complete:** rescuers no longer deliver "cycles" of CPR. Give continuous chest compressions without pauses for breaths. Give 8-10 breaths/minute. Check rhythm every 2 minutes.
· **Compressions:** 100/min, ensure full chest recoil, minimize interruptions.

Bradycardia with poor perfusion
Pediatric Advanced Life Support

ALS Protocol

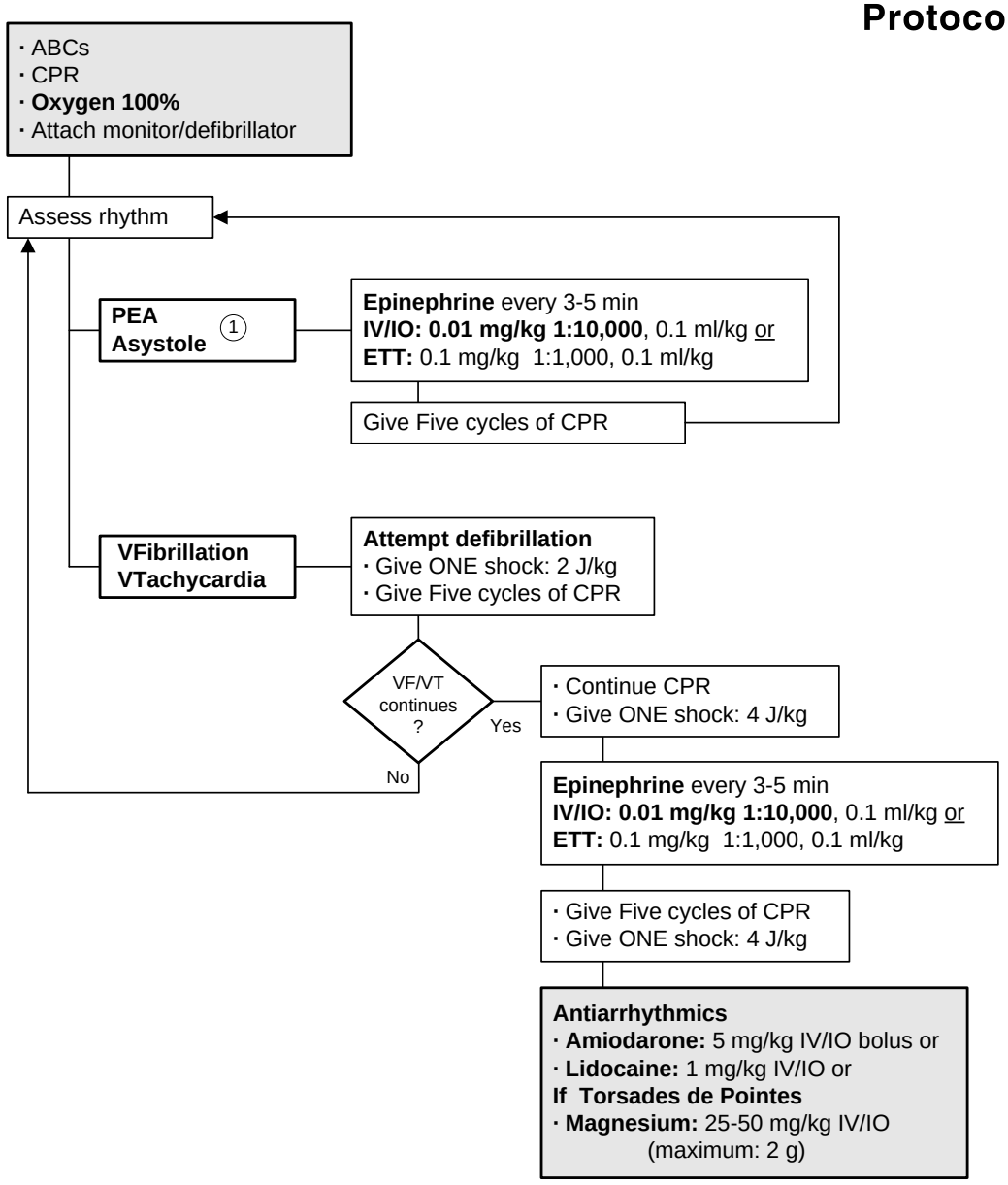


CPR
· **When intubation complete:** rescuers no longer deliver "cycles" of CPR. Give continous chest compressions without pauses for breaths. Give 8-10 breaths/minute. Check rhythm every 2 minutes.
· **Compressions:** 100/min, ensure full chest recoil, minimize interruptions.
· **One cycle = 30 compressions then 2 breaths.**
· **Do not interrupt CPR when giving medications.**

1 Hypotension, hypovolemia, hypothermia, electrolytes, tamponade, tension pneumothorax, toxins, (overdose), thromboembolism. Be certain you are providing adequate oxygenation and ventilation.

Pulseless Arrest
Pediatric Advanced Life Support

ALS Protocol



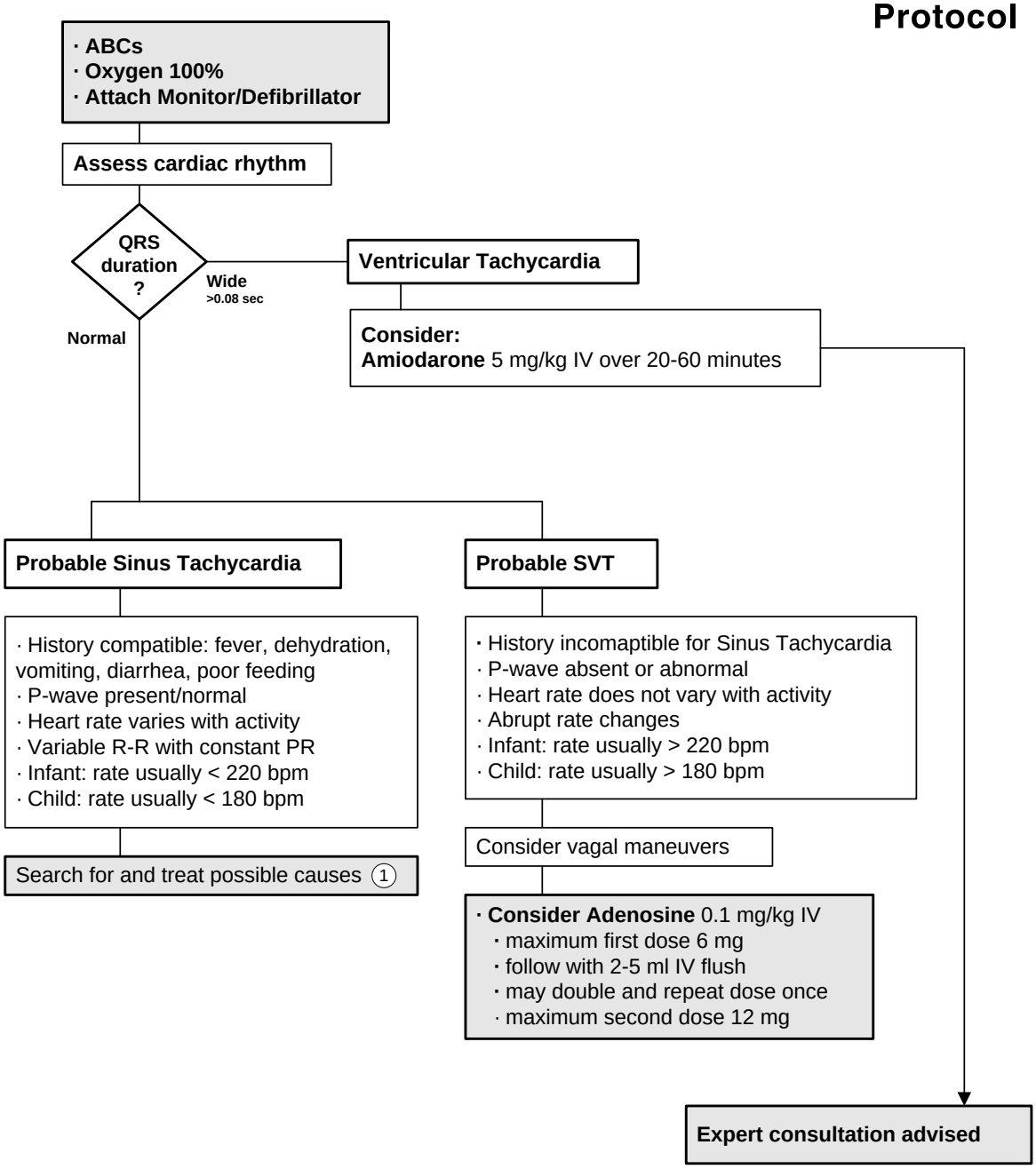
CPR
· **When intubation complete:** rescuers no longer deliver "cycles" of CPR. Give continous chest compressions without pauses for breaths. Give 8-10 breaths/minute. Check rhythm every 2 minutes.
· **Compressions:** 100/min, ensure full chest recoil, minimize interruptions.
· **One cycle = 30 compressions then 2 breaths.**
· **Do not interrupt CPR when giving medications.**

1 Search for causes: hypovolemia, hypoxia, acidosis, hypokalemia, hypoglycemia, hypothermia, toxins, cardiac tamponade, tension pneumothorax, PE, trauma.

Tachycardia with adequate perfusion

Pediatric Advanced Life Support

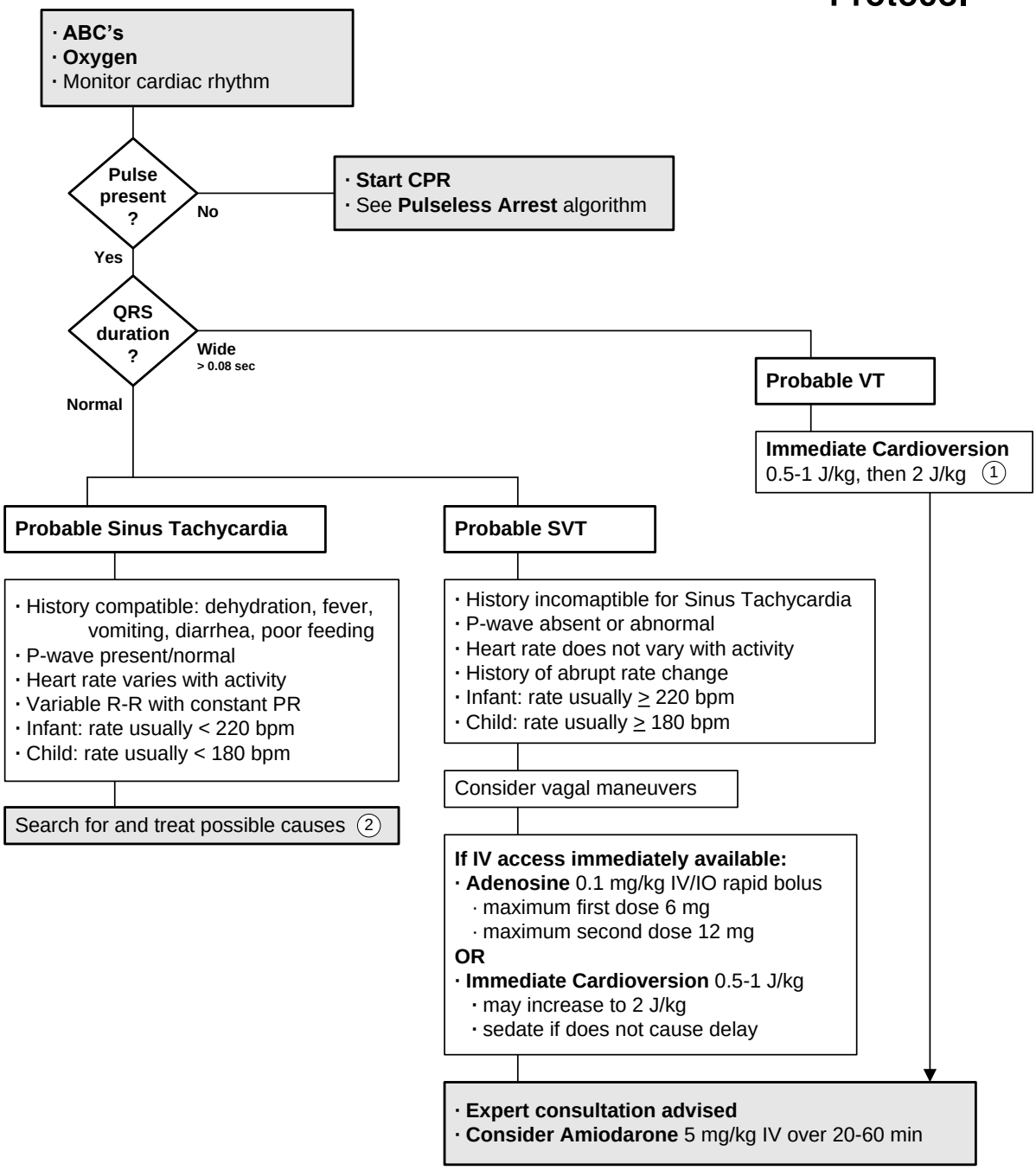
ALS Protocol



1 Search for causes: hypovolemia, hypoxia, acidosis, hypokalemia, hypoglycemia, hypothermia, toxins, cardiac tamponade, tension pneumothorax, PE, trauma.

Tachycardia with poor perfusion
Pediatric Advanced Life Support

ALS Protocol



1 Synchronized cardioversion: may use **Adenosine** and/or **sedation prior to cardioversion** yet these efforts should not delay cardioversion.
2 Search for causes: hypovolemia, hypoxia, acidosis, hypokalemia, hypoglycemia, hypothermia, toxins, cardiac tamponade, tension pneumothorax, PE, trauma.