

Part 12: Pediatric Advanced Life Support

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Evidence for the use of restrictive volume of intravenous fluid resuscitation, compared with unrestrictive volume, by presenting illness and outcome.

	Studies	Survival to Hospital Discharge	Need for Transfusion or Diuretics	Need for Rescue Fluid	Mechanical Ventilation or Vasopressor	Time to Resolution of Shock	Total IV Fluids
Severe sepsis/ septic shock	Santhanam 2008; Carcillo 1991	No Benefit	No Benefit	No Studies Available	No Benefit	No Benefit	No Studies Available
Severe malaria	Maitland 2005; Maitland 2005	No Benefit	No Benefit	Harm	No Studies Available	No Benefit	No Benefit
Severe febrile illness with some but not all signs of shock	Maitland 2011; Maitland 2013	Benefit	No Benefit	No Studies Available	No Studies Available	Harm	No Benefit

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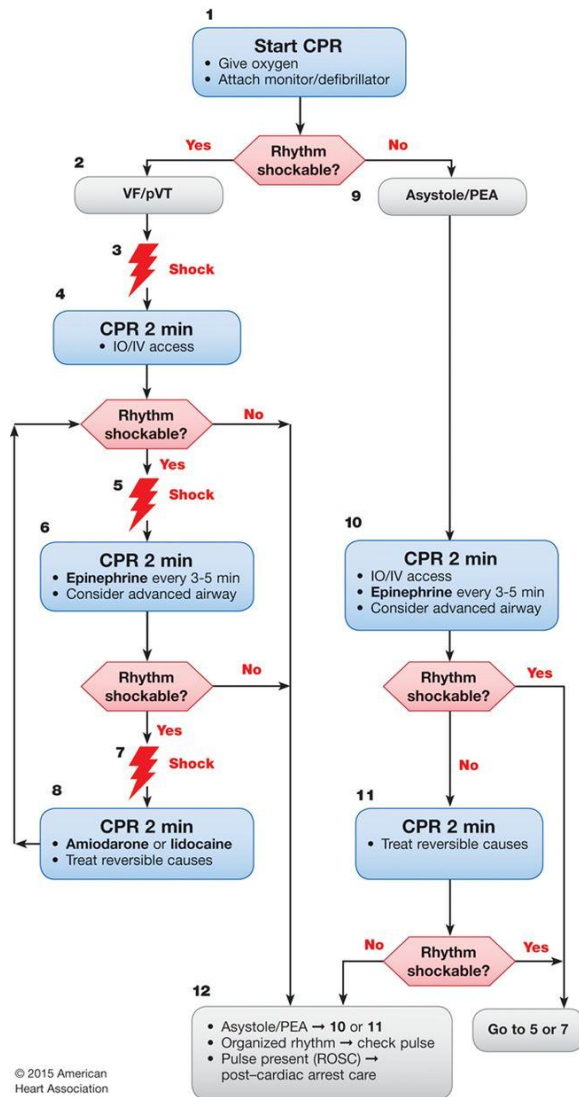
Evidence for the use of noncrystalloid intravenous fluid resuscitation, compared with crystalloid, by presenting illness and outcome.

	Studies	Survival to Hospital Discharge	Need for Other Treatment	Need for Rescue Fluid	Mechanical Ventilation or Vasopressor	Time to Resolution of Shock	Total IV Fluids	Hospital Duration of Stay
Severe sepsis/ septic shock	Upadhyay 2005	No Benefit	No Benefit	No Studies Available	No Benefit	No Benefit	No Studies Available	No Studies Available
Severe malaria	Maitland 2003; Maitland 2005	No Studies Available	No Benefit	No Studies Available	No Studies Available	No Benefit	No Studies Available	No Studies Available
Dengue shock	Cifra 2003; Dung 1999; Ngo 2001; Wills 2005	No Benefit	No Benefit	No Benefit	No Studies Available	Benefit	No Benefit	No Benefit
Severe febrile illness with some but not all signs of shock	Maitland 2011	No Benefit	No Benefit	No Benefit	No Studies Available	No Benefit	No Benefit	No Studies Available

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Pediatric Cardiac Arrest Algorithm—2015 Update.

Pediatric Cardiac Arrest Algorithm—2015 Update



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CPR Quality
<ul style="list-style-type: none"> • Push hard ($\geq\frac{1}{2}$ of anteroposterior diameter of chest) and fast (100-120/min) and allow complete chest recoil. • Minimize interruptions in compressions. • Avoid excessive ventilation. • Rotate compressor every 2 minutes, or sooner if fatigued. • If no advanced airway, 15:2 compression-ventilation ratio.
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
<ul style="list-style-type: none"> • 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. • Lidocaine IO/IV dose: Initial: 1 mg/kg loading dose. Maintenance: 20-50 mcg/kg per minute infusion (repeat bolus dose if infusion initiated >15 minutes after initial bolus therapy).
Advanced Airway
<ul style="list-style-type: none"> • 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 seconds (10 breaths/min) with continuous chest compressions
Return of Spontaneous Circulation (ROSC)
<ul style="list-style-type: none"> • Pulse and blood pressure • Spontaneous arterial pressure waves with intra-arterial monitoring
Reversible Causes
<ul style="list-style-type: none"> • Hypovolemia • Hypoxia • Hydrogen ion (acidosis) • Hypoglycemia • Hypo-/hyperkalemia • Hypothermia • Tension pneumothorax • Tamponade, cardiac • Toxins • Thrombosis, pulmonary • Thrombosis, coronary

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