Initial Resuscitation Algorithm for Children

Systematic Screening for Sepsis in Children

Within 1 hour of initial recognition of septic shock

SEPTIC SHOCK

Shock develops

SEPSIS SUSPECTED

Within 3 hours of initial suspicion of sepsis

Expedited diagnostic evaluation

Diagnostic evaluation supports sepsis-associated organ dysfunction

1. Obtain IV/IO access.
2. Collect blood culture.
3. Start empiric broad-spectrum antibiotics.
4. Measure lactate.
5. Administer fluid bolus(es) if shock is present.*
6. Start vasoactive agents if shock persists.*

Respiratory support
Assess for Pediatric Acute Respiratory Distress Syndrome

Infectious source control
Continuous reassessment
Fluid and vasoactive titration*
Advanced hemodynamic monitoring if shock persists

- +/- hydrocortisone for refractory shock**
- Avoid hypoglycemia
- Antimicrobial stewardship
- Nutritional support
- VA or VV ECLS for refractory shock or oxygenation/ventilation failure (after addressing other causes of shock and respiratory failure)

*See fluid and vasoactive algorithm. Note: Fluid bolus should be omitted from bundle if a) fluid overload is present or b) it is a low-resource setting without hypotension. Fluid in mL/kg should be dosed as ideal body weight.

**Hydrocortisone may produce benefit or harm.
Fluid and Vasoactive-Inotrope Management Algorithm For Children

**Healthcare Systems WITH Intensive Care**

**Healthcare Systems WITHOUT Intensive Care**

### Abnormal Perfusion with or without Hypotension
- If signs of fluid overload are absent, administer fluid bolus, 10-20 mL/kg.
- Repeat assessment of hemodynamic response to fluid and consider fluid boluses, 10-20 mL/kg, until shock resolves or signs of fluid overload develop.
- Assess cardiac function.
- Consider epinephrine if there is myocardial dysfunction or epinephrine/norepinephrine if shock persists after 40-60 mL/kg (or sooner if signs of fluid overload develop).

### Abnormal perfusion WITHOUT hypotension
- Do NOT give fluid bolus unless there are signs of dehydration with ongoing fluid losses (e.g., diarrhea).
- Start maintenance fluids.
- Monitor hemodynamics closely.
- Consider vasoactive-inotropic support (if available).

### Abnormal perfusion WITH hypotension *
- If signs of fluid overload are absent, administer fluid bolus, 10-20 mL/kg.
- Assess hemodynamic response to fluid and repeat fluid boluses, 10-20 mL/kg, until hypotension resolves or signs of fluid overload develop.
- Assess cardiac function (if available)
- Consider epinephrine/norepinephrine if hypotension persists after 40 mL/kg or sooner if signs of fluid overload develop.

### Fluid in mL/kg should be dosed as ideal body weight.

### Shock resolved, perfusion improved
- Do not give more fluid boluses.
- Consider maintenance fluids.
- Monitor for signs/symptoms of recurrent shock.

*Hypotension in healthcare systems WITHOUT intensive care is defined as either:
- SBP < 50 mm Hg in children aged < 12 months
- SBP < 60 mm Hg in children aged 1 to 5 years
- SBP < 70 mm Hg in children aged > 5 years

Presence of all 3 World Health Organization criteria: cold extremities, prolonged capillary refill > 3 seconds, weak/fast pulse

www.sccm.org/SurvivingSepsisCampaign/Guidelines/Pediatric-Patients

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