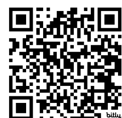
Sepsis: ED, Inpatient

Associated Power Plans: EDP Sepsis, Sepsis Inpatient CPG

Evidence Based Practice



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Inclusion Criteria:
- Infant or child with suspected sepsis, sepsis or septic shock

Considerations:
For febrile (≥ 38 °C) full-term infants aged 8 to 60 days, refer to the *Febrile Infant Without an Evident Source of Infection Clinical Practice Guideline*

Sepsis: Organ dysfunction caused by an exaggerated immune response to infection

Septic Shock: Subset of sepsis involving cardiovascular dysfunction and organ failure

Acutely ill infant or child at risk for sepsis or septic shock

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Systematic Screening for Sepsis/Septic Shock
or
EMR alert by Care Area
ED Alert **Inpatient Alert**

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Sepsis Huddle
Is there suspicion for shock or sepsis-associated organ dysfunction?

- Low → **Low Suspicion for Sepsis**: Suspected infection or non-infectious syndrome without evidence of shock or concern for sepsis-associated organ dysfunction → *Sepsis Pathway not presently indicated*
- Suspected Sepsis → Suspected Sepsis column
- Sepsis, Severe Sepsis → Septic Shock column

	Suspected Sepsis Suspected Infection, no evidence of shock	**Septic Shock or Sepsis-Associated Organ Dysfunction**
Evaluation	• Complete expedited work-up • Obtain IV access • Laboratory considerations	• Complete expedited work-up • Obtain IV access, IV Escalation Plan • Order labs
Treatment	• **Initiate IVF Resuscitation**: *LR or NS 10-20 mL/kg* • **Antibiotics**: *Administer within 180 minutes of sepsis alert if concern persists* ***-or-*** *within 60 minutes of arrival or sepsis alert for children with sickle cell disease or oncology diagnoses.*	• **Initiate IVF Resuscitation**: *LR or NS 10-20 mL/kg as indicated* • **Antibiotics**: *Administer within* ***60 minutes*** *of sepsis alert*
Reassessment	• Assess mental status, work of breathing, perfusion, and vital signs every 30-60 minutes *If developing signs of shock, escalate care*	• Assess mental status, work of breathing, perfusion, and vital signs every 15 minutes

IVF Resuscitation and Antibiotics
- LR and ceftriaxone are incompatible
- If administered together, there is risk of precipitation in the tubing
- If only one IV, contact the provider to discuss prioritization

Laboratory Studies

Antibiotics

Fluid Choice and Blood Products

Intubation and Sedation Medications

Respiratory Support

Family Education

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Intervention Cycle
1. Monitor Response & Vital Sign Targets
2. If continued signs of compensated shock or hypotensive shock, continue IV fluid boluses 10-20 mL/kg
3. Correct electrolyte abnormalities (calcium, glucose)
4. Identify foci of infection and implement source control measures

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≥ 40 mL/kg IVF given & needs additional resuscitation?

- No → Consider care de-escalation
- Yes → Order vasopressors and continue fluid resuscitation while waiting for vasopressors to arrive → Assess for risk of adrenal insufficiency & administer stress dose **hydrocortisone,** 1-2 mg/kg if present. → Fluid Refractory Shock

Consider the following interventions for infection source control:
- CT/US imaging of the abdomen
- CT of head, sinus
- CT of the chest, pleural US, chest x-ray
- Echocardiogram, vascular US
- US/MRI to evaluate for septic hip; osteomyelitis
- Pelvic exam
- Lumbar puncture
- Infectious Diseases consult
- Surgical consult
- ENT consult

ED or Inpatient provider discuss with PICU/NICU provider on call to determine placement for admittance

Vasoactive Medications*
Ordering and starting vasopressors through peripheral access may be necessary while awaiting transfer to ICU

Fluid Refractory Shock
Shock persists despite 40-60 mL/kg fluid resuscitation

Vasoactive Medications to Address Fluid Refractory Shock*

Epinephrine Dosing:	**Norepinephrine Dosing:**
• Starting dose 0.05 mcg/kg/min • Titrate by 0.02 - 0.05 mcg/kg/min • Maximum dosing 0.2 mcg/kg/min	• Starting dose 0.05 mcg/kg/min • Titrate by 0.02 - 0.05 mcg/kg/min • Maximum dosing 0.2 mcg/kg/min

Epinephrine or norepinephrine may be administered through peripheral access if central line access is not available

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Admit to PICU or NICU

Contact: EvidenceBasedPractice @cmh.edu

Link to synopsis and references

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This care process model/clinical practice guideline is meant as a guide for the healthcare provider, does not establish a standard of care, and is not a substitute for medical judgment which should be applied based upon the individual circumstances and clinical condition of the patient.