Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline

Sepsis/Shock (Pediatric)

Shock Criteria

2 or more of the following:

- Temp <96.8 or >100.4
- Abnormal WBC count (<5 or >15)
- Abnormal HR
- Abnormal RR

AND

Signs of End-Organ Involvement:

Altered mental status
Delayed cap refill
Cold/mottled extremities
Weak pulses
Difference between central and peripheral pulses
Significantly decreased UOP
Hypotension
Bounding/brisk pulses with rapid cap refill

Patient meets criteria for severe sepsis/shock → Contact pediatric hospitalist. Page RT. → Consult PICU by direct line: (907) 297-8809. Request medevac.

Place on CR monitor. Bedside glucose.
Start supplemental oxygen. Prepare BVM.
Get access: IV/IO x2.
Bolus: NS 20 mL/kg x2 over ≤ 10 minutes.
Reassess volume status after each bolus.

Use the Pediatric Critical Care Guide and ED Peds Critical Care PowerPlan for all medication dosing.

Order empiric antibiotics STAT.

Labs: blood culture, electrolytes, CBC, lactate, ionized calcium, procalcitonin.

Is patient maintaining airway without support?

- No → Intubate per Intubation Guideline.
- Yes

If not improving, give third bolus of NS 20 mL/kg.
Correct hypoglycemia.
Correct significant hypocalcemia.

Is there continuing hypotension, poor pulses, change in mental status, or delayed cap refill?

- Yes → Start vasopressor and consider methylprednisolone for fluid-refractory shock in consultation with the PICU.
  - Continue to reassess and give boluses of NS 20 mL/kg unless patient develops rales, respiratory distress, hepatomegaly, or a gallop.
    - If shock persists, consider a second pressor, calcium chloride, etc. in consultation with PICU.
- No → Monitor closely per Continuing Management Box while awaiting medevac.

Village Management

- Consult pediatric hospitalist.
- Aggressive hydration: IV or PO.
- Supplemental oxygen via nasal cannula.
- Monitor glucose.
- Treat hypoglycemia with Insta-Glucose tubes buccally – NOT rectally.
- Ceftriaxone 100 mg/kg IM.
- Activate medevac.
- Consider VTC.

Continuing Management

- VS (including BP) at least Q15min.
- Blood glucose Q30 min.
- Maintenance IVF with D5 + NS.
- Consider Foley.

Goals

- Cap refill <2 sec
- Normal BP for age
- Normal pulses
- Warm extremities
- UOP > 1 mL/kg/hour
- Normal mental status

See Wiki RMT Section for more detailed recommendations.

See **this resource** for a helpful table comparing the presentation and findings in sepsis, acute COVID, and MIS-C.

Empiric Antibiotic Choice

≤28 days
Ampicillin 75 mg/kg AND gentamicin 5 mg/kg. If concern for meningitis, give cefepime 50 mg/kg IV.
If concerned about HSV or neurologic impairment, add acyclovir 20 mg/kg.

>28 days
Ceftriaxone 100 mg/kg (max 2000 mg)
AND vancomycin 20 mg/kg (max 2000 mg)

If CVL in place, immunocompromised, or significant Hx antibiotics in past 30 days
Cefepime 50 mg/kg (max 2000 mg)
AND vancomycin 20 mg/kg (max 2000 mg)

If allergic to PCN
Meropenem 15 mg/kg (max 500 mg)
AND vancomycin 20 mg/kg (max 2000 mg)

If suspecting Staph or Strep
Consider adding clindamycin 13 mg/kg IV for anti-toxin effect.

Vital Signs for Age
(Source: Harriet Lane Handbook)

Age	Heart Rate (beats/min)	Respiratory Rate (breaths/min)	Blood Pressure (mm Hg)	Mean Arterial BP (mm Hg)
0-3 months	110-160	30-60	65-85 / 45-55	50th percentile: 55 + (age x 1.5)
3-6 months	100-150	30-45	70-90 / 50-65	
6-12 months	90-130	25-40	80-100 / 55-65	
1-3 years	80-125	20-30	90-105 / 55-70	5th percentile: 40 + (age x 1.5)
3-6 years	70-115	20-25	95-110 / 60-75	
6-12 years	60-100	14-22	100-120 / 60-75	
>12 years	60-100	12-18	100-120 / 70-80	

This guideline is designed for the general use of most patients but may need to be adapted to meet the special needs of a specific patient as determined by the medical practitioner.
Approved by MSEC 2/1/22.
Click here to see the supplemental resources for this guideline.
If comments about this guideline, please contact Amy_Carson-Strnad@ykhc.org.