Yukon-Kuskokwim HEALTH CORPORATION

Clinical Guideline

Sepsis (Adult)

Sepsis:
Suspected infection plus systemic inflammatory response.
Can use SIRS or qSOFA.
General signs:
- Temp > 100.4° or < 96.8° F
- HR > 100
- RR > 22
- Systolic BP < 100
- WBC > 12,000 or < 4,000

Severe Sepsis:
Sepsis plus evidence of end-organ damage. Can include:
- Hypotension (SBP < 90, MAP < 65, baseline drop in SBP > 40)
- Cool extremities, delayed cap refill
- Altered mental status (GCS < 15)
- Poor urine output
- New need for respiratory support (high flow oxygen, NIPPV)
- Lab indicators can include:
  - Lactate > 2
  - INR > 1.5, platelets < 100,000
  - Creat > 0.5 over baseline value
  - Bilirubin > 4

Septic Shock:
Severe sepsis persisting/worsening despite initial resuscitative measures.

COULD THIS PATIENT BE SEPTIC?

Initial Supportive Measures

- IV, O_2 if needed, monitors.
- Keep patient warm, supine if possible.
- Consult ER/Emergency RMT physician early.
- Treat fever with acetaminophen.

Concurrent Resuscitation

- IV fluids. Unless clinically fluid overloaded, at least 500 mL IVF.
- Empiric antibiotics. See medications.
- Source control.

and Evaluation

- Complete but expeditious H&P.
- Labs including CBC/diff, CMP, CRP, lactate, procalcitonin, PT/INR, blood cultures, VBG/ABG, UA.
- Imaging as indicated.

Ongoing Reassessment

Monitor multiple parameters to assess response to treatment and/or need for escalation of care:
- Vital signs, shock index (HR/SBP > 0.7 is concerning).
- Urine output (< 0.5 mL/kg/hour over 2 hours is inadequate).
- Clinical exam (mental status, cap refill).
- Lab parameters (lactate, blood gas, electrolytes).
- Bedside US for IVC.

Persistent evidence of end-organ damage despite initial interventions?

Yes

In Bethel:
- Start pressors (see medications).
- Move toward central line placement, but ok to start first pressor peripherally.
- Consult ICU and move toward transfer.

In Village/SRC:
- Activate medevac if not done already.
- Consult ED physician for further management, including ongoing fluids, antibiotics, and pressors if available in SRC.

No

Continue close monitoring.

In Bethel:
- Move toward definitive care (YK admission or transfer).

In Village/SRC:
- Discuss route of transfer with Emergency RMT Physician (commercial/charter vs medevac).

IV Fluids in Sepsis

Historical consensus was every septic patient needed 30 mL/kg IVF as quickly as possible. There is not good evidence that this improves mortality. Likewise, fluid resuscitation guided by lactate alone is not associated with improved mortality. There is evidence of harm in over-fluid resuscitating patients, and in delay to initiating pressors if appropriate.

General Fluid Management Recommendations

- If hypovolemic, give fluids.
- If euvolemic, don't give excessive fluids.
- If progressive respiratory distress and pulmonary edema, stop fluids.
- Give smaller boluses 500-1000 mL and assess response.
- If CHF/renal failure/volume overload, fluids are not wrong but low threshold to consult ICU for assistance.

Intubation in Sepsis

- Higher risk for periintubation arrest due to hypotension, acidosis, etc.
- Strive for fluid resuscitation and/or pressors before intubation.
- Consider lower dose of induction agent (consult pharmacy or ICU).
- Vent settings: TV 6 mL/kg IBW, plateau pressures < 30.

Medications Outside Bethel

Village formulary:
- Ceftriaxone 1-2 grams IM (for most cases)
- Metronidazole 500 mg PO (abdominal source, necrotizing SSTI, other need for anaerobic coverage)
- Azithromycin 500 mg PO (CAP)
- Clindamycin 900 mg PO (for anaerobic coverage, toxins in necrotizing infections)

SRC formulary:
- Ceftriaxone 1-2g IV/IM (for most cases)
- Levofloxacin 750mg IV (for pseudomonas coverage)
- Clindamycin 900 mg IV (for anaerobic coverage, toxins in necrotizing infections)
- Vancomycin 25 mg/kg or 2.5 g max IV (for MRSA)
- Pressors: epinephrine – consult pharmacist if considering.

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 Clinical Guideline Committee 3/13/23.
Click here to see the supplemental resources for this guideline.
If comments about this guideline, please contact clinical_guidelines@ykhc.org.