Emergency Department Sepsis Pathway

Fever or clinical scenario consistent with infection

Suspect sepsis?

Not Sepsis

Consider myocarditis, PE, other mimickers

Yes

Which criteria does patient meet?

Sepsis STAT Criteria: Fever/hypothermia/suspected infection and any of the following:
- Hypotension
- Altered mentation
- New need for positive pressure ventilation
- Lactate greater or equal to 4 mmol/L
- Acute kidney injury
- New coagulopathy (DIC, thrombocytopenia)
- New liver dysfunction
- Acute need for resuscitation room

Activate Sepsis STAT

- Verbal or paging notification per site protocol
- In NOC, begin request for transport to Anschutz immediately, or at any point when a need for a higher level of care develops
- Use ED Sepsis STAT order set
- CR monitor, vital signs per order set

IV Access x2

- 2 peripheral IVs with largest gauge possible; antecubital preferred
- 2nd peripheral IV recommended for ports
- Double lumen large central lines do not require additional access
- If no access within 15 minutes, consider I/O or other options for escalation

Use Order Set to Order:
- Cultures, CBC, lactate, VBG, CMP, DIC Panel, additional labs PRN

Rapid IV Bolus, Rapid Reassess, Repeat PRN

- Administer boluses of 10-20 ml/kg of isotonic crystalloid (use a push-pull, pressure bag or Level 1)
- Immediate clinical reassessment of volume/perfusion; repeat bolus until clinical euvolemia achieved (usually 30-60 ml/kg)

Administer Complete Antibiotics Coverage Immediately

- Rapid, immediate antibiotics per antibiogram and order set

Advanced Resuscitation

- Oxygen/ventilation support as needed
- Start vasopressors within first 60 minutes of hypotension if hypotension does not resolve
  - Dopamine/Norepinephrine/Epinephrine are all acceptable first-line vasopressors if available in less than 10 minutes
  - Dopamine is acceptable and rapidly available in most locations
  - Norepinephrine/Epinephrine as first or second-line vasoactive agent should be guided by assessment of the patient’s hemodynamics
- Consider steroids for adrenal insufficiency or meningitis
- Source control: consider need for drainage or removal of source of infection (e.g. abscess, hardware); consult surgical services PRN

Sepsis Yellow Criteria: Fever/hypothermia/suspected infection and any of the following:
- Immunosuppression/immunocompromise (e.g. oncology patients, organ transplant patients, patients on immunomodulators)
- Central venous catheter
- Clinically concerning symptoms: changes to capillary refill, peripheral pulse quality, concerning rashes, orthostasis

Activate Sepsis Yellow

- Verbal or paging notification per site protocol
- In NOC, consider requesting transport to Anschutz immediately, or at any point when a need for a higher level of care develops
- Use ED Sepsis Yellow order set
- CR monitor, vital signs per order set

PIV or Central Line Access Immediately

- If no access after 15 minutes, consider options for escalation

Use Order Set to Order:
- Cultures, CBC, lactate, additional labs PRN

Consider or Push Fluids

- Begin bolus of IV isotonic crystalloid if patient is hypovolemic
- Upgrade to STAT if bolus rate faster than 1 hour desired (more personnel required for non-pump administration)

Antibiotics

- Timely Administration of Appropriate Antibiotics
  - Immediate antibiotics are not required for all Sepsis Yellow patients but will be appropriate for most patients
  - Follow disease and subspecialty-specific antibiotic recommendations where appropriate (e.g. fever/neutropenia)
  - The sepsis orderset and sepsis stat antibiogram provide guidance for first-line antibiotics depending on the clinically-suspected source, but full stat antibiotic coverage may not be required for all yellow patients

Disposition Planning

- NOC: Complete transfer, if needed
- Ensure all antibiotics administered
- Review lab results
  - Identify organ dysfunction; address as appropriate
  - If lactate greater than 2 mmol/L, recheck in 2 hours
  - Correct any electrolyte, glucose derangements
  - Re-assess hemodynamic stability
  - If acute organ dysfunction present/unresolved, consider ICU admission

ED Disposition
ED Sepsis STAT Patient

- Serious cephalosporin/penicillin allergy?
  - Yes: Levofloxacin
  - No: Ceftriaxone

- Immunocompromised or central line?
  - Yes: Ceftriaxone CNS/Non-CNS dosing per clinical suspicion
  - No: Vancomycin

Vancomycin

- Suspect anaerobe? (e.g. sinus, abdominal source, Lemierre’s)
  - Yes: Metronidazole
  - No: Clindamycin

Clindamycin

- Suspect toxin-mediated infection? (e.g. toxic shock, skin/soft tissue source)
  - Yes: Initial antibiotic algorithm complete
  - No:

Additional Considerations:
- Check prior +cultures. For patients with history of resistant pathogens, add coverage based on historic susceptibilities.
- For patients on broad-spectrum antimicrobials, consider yeast coverage in consultation with subspecialty services.
- For patients with suspected meningitis, consider dexamethasone immediately before or shortly after first antibiotic dose.
- Consider ID consultation for allergies, history of resistance, yeast coverage or other complicating factors. Primary service should be consulted as soon as feasible.
- Ongoing care team should review and continue antibiotics as indicated.
- For CNS coverage, ceftriaxone may require dosing every 12 hours rather than every 24 hours. Please discuss at handoff.
Emergency Department Sepsis Pathway

APPROVED BY
Pharmacy & Therapeutics Committee – April 5, 2018

<table>
<thead>
<tr>
<th>MANUAL/DEPARTMENT</th>
<th>Clinical Pathways/Quality</th>
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<tr>
<td>ORIGINATION DATE</td>
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</tr>
<tr>
<td>LAST DATE OF REVIEW OR REVISION</td>
<td>April 29, 2019 (Colorado Springs alignment)</td>
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| COLORADO SPRINGS REVIEW BY | Michael DiStefano, MD  
Chief Medical Officer, Children’s Hospital Colorado – Colorado Springs |
| APPROVED BY | Lalit Bajaj, MD, MPH  
Medical Director, Clinical Effectiveness |

REVIEW | REVISION SCHEDULE
Scheduled for full review on April 5, 2022

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