

Sepsis Clinical Pathway - Emergency Department

Evidence Based Outcome Center

INCLUSION CRITERIA

- High Risk patient and any stated or recorded fever (>38 C/100.4 F) or hypothermia (<36 C/96.8F)

All ED Patients

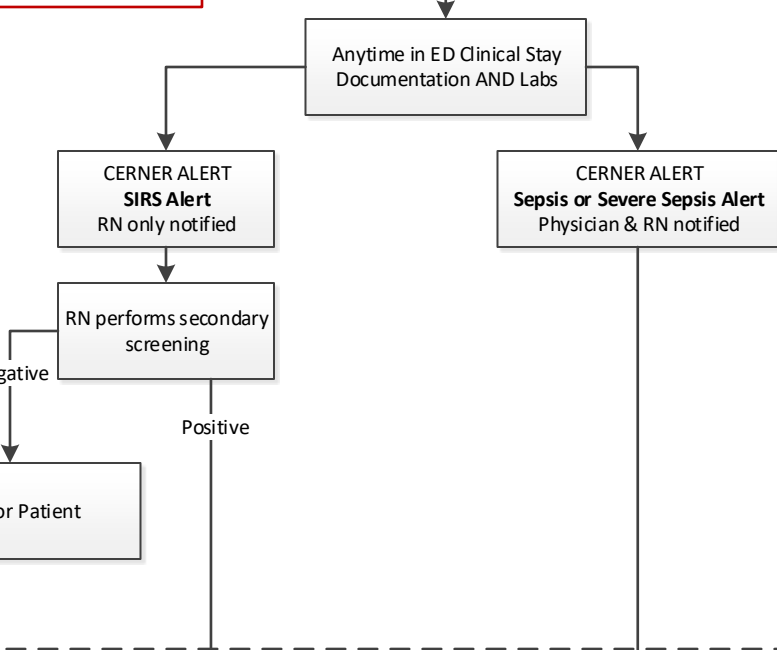
EXCLUSION CRITERIA

Neonate: < 60 days of age

AUTOMATIC SEPSIS	HIGH RISK CONDITIONS
<ul style="list-style-type: none"> Suspected neutropenia High dose steroid use Immunodeficiency Bone marrow or solid organ transplant Indwelling catheter Asplenia Sickle cell disease Oncology patient on chemo or off chemo < 3 months Biologics 	<ul style="list-style-type: none"> Malignancy Severe MR/CP Chronic steroid use Automatic Sepsis Conditions

SPECIAL CONSIDERATIONS FOR ONCOLOGY PATIENTS

- No rectal temperatures
- No peripheral blood cultures if CVL is accessed
- No urine catheterization
- No rectal medications, enemas, or suppositories
- No NSAIDs or ASA



Phase 0
0 Minutes

Physician AND RN Huddle in EMR

- Complete required documentation
- Assessment at the bedside

Phase 1
0-5 Minutes

Continue Routine Triage Process

No, Sepsis Protocol not triggered

Yes, Sepsis Protocol triggered

- Room patient in 1st available (if necessary)
- Quick look/Triage notifies Charge Nurse
- RN directly notify Attending/Fellow MD
- Monitor Vital Signs q5 min until MD clearance
- ILL Appearing:** O₂

Phase 2
5-15 Minutes

Antibiotic Therapy: (See Antibiotic Options for Cephalosporin Allergy)

Normal/Moderate Risk Immunologic: Ceftriaxone

High Risk Immunologic: Cefepime

Order Labs

- CBC with differential
- CMP
- Blood culture (Central Line-Oncology)
- Blood culture (peripheral)

Consider Labs

- PT, PTT, & INR (Coag panel)
- Urine Analysis (no cath)
- Urine Culture
- CSF
- VBG with lactate and lytes

Establish IV Access

- IV or central access (2 attempts then IV) (cold spray prn)
- Unstable OR ILL Appearing:** PIV access x2

Rapid Fluid Resuscitation

- 20 mL/kg Bolus started via push pull. MAX: 1L

Adrenal Insufficiency (Known or Suspected):

- Hydrocortisone 2 mg/kg | MAX: 100mg/dose

Phase 3
15-60 Minutes

ED MD Reassessment for hemodynamic improvement

Consult Primary Service OR Hospitalist

Stable

NO

Ongoing Resuscitation

- Administer 2nd and 3rd 20 mL/kg bolus (If necessary)
- Consider steroids for suspected adrenal insufficiency
- Consider Epinephrine Infusion: 0.02 mcg/kg/min

Antibiotic Therapy Antibiotics:

ADD Vancomycin (If necessary)

YES

Patient received 3rd Bolus OR Requires PICU care

YES

Notify/Consult ICU

Phase 4
60-120 Minutes

Monitor in ED 30 minutes after antibiotic completed

Admit

YES

ADMIT to Inpatient Management Pathway

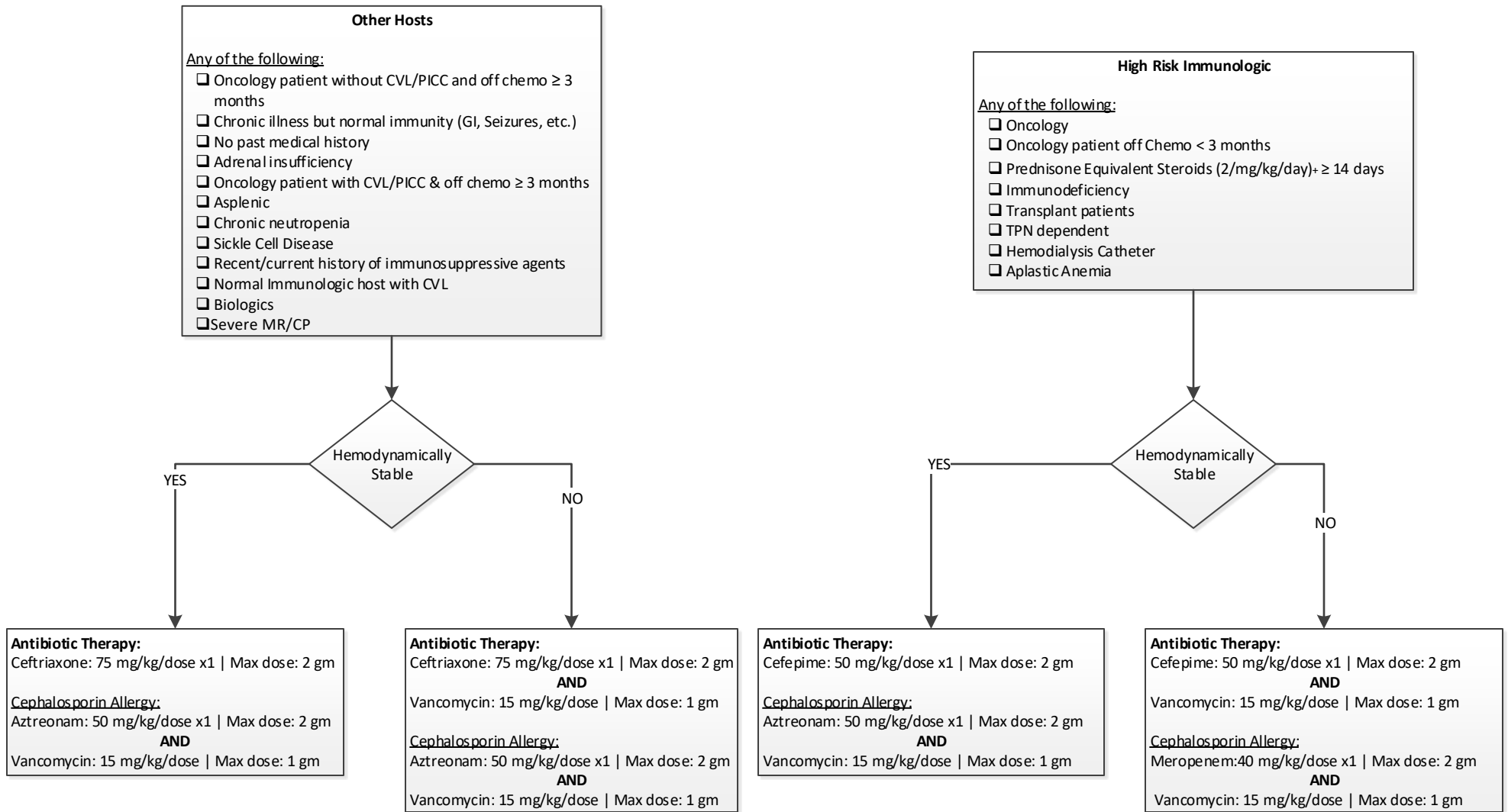
NO

- Bolus complete
- Monitor in ED for 30 minutes after antibiotic completed
- Oncology s/p Cefepime & discharged home may need dose of ceftriaxone 75 mg/kg

ADMIT to ICU Management Pathway

DISCHARGE Home Follow-up in 24 hours

Patient Host Type & Antibiotic Options
Emergency Department
Evidence Based Outcome Center



Emergency Department Pathway

Patient Host Type & Antibiotic Options
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Host Type		Antimicrobial Therapy	
Any of the following:		Hemodynamically Stable	Hemodynamically Unstable
Other Hosts	Oncology patient without CVL and off chemo ≥ 3 months Chronic illness but normal immunity (GI, Seizures, etc) No past medical history Adrenal insufficiency Oncology patient with CVL & off chemo ≥ 3 months Asplenic Chronic neutropenia Sickle Cell Disease Recent/current history of immunosuppressive agents Normal Immunologic host with CVL Biologics Severe MR/CP	Ceftriaxone: 75 mg/kg/dose x1 Max dose: 2 gm	Ceftriaxone: 75 mg/kg/dose x1 Max dose: 2 gm AND Vancomycin: 15 mg/kg/dose Max dose: 1 gm
		Cephalosporin Allergy	
High Risk Immunologic	Oncology Oncology patient off Chemo < 3 months Prednisone Equivalent Steroids (2/mg/kg/day)+ ≥ 14 days Immunodeficiency Transplant patients TPN dependent Hemodialysis Catheter Aplastic Anemia	Aztreonam: 50 mg/kg/dose x1 Max dose: 2 gm	Aztreonam: 50 mg/kg/dose x1 Max dose: 2 gm AND Vancomycin: 15 mg/kg/dose Max dose: 1 gm
		Cephalosporin Allergy	
		Aztreonam: 50 mg/kg/dose x1 Max dose: 2 gm AND Vancomycin: 15 mg/kg/dose Max dose: 1 gm	Cefepime: 50 mg/kg/dose x1 Max dose: 2 gm AND Vancomycin: 15 mg/kg/dose Max dose: 1 gm

Emergency Department Pathway

Vital Signs:

VITAL SIGNS				
Age	Heart Rate	Resp Rate	Systolic BP	Temp (°C)
0 d – 1 m	>205	>60	< 60	<36 or >38
≥ 1 m – 3 m	>205	>60	< 70	<36 or >38
≥ 3 m – 1 y	>190	>60	< 70	<36 or >38.5
≥ 1 y – 2 y	>190	>40	< 70 + (age in yr x2)	<36 or >38.5
≥ 2 y – 4 y	>140	>40	< 70 + (age in yr x2)	<36 or >38.5
≥ 4 y – 6 y	>140	>34	< 70 + (age in yr x2)	<36 or >38.5
≥ 6 y – 10 y	>140	>30	< 70 + (age in yr x2)	<36 or >38.5
≥ 10 y – 13 y	>100	>30	< 90	<36 or >38.5
> 13 y	>100	>16	< 90	<36 or >38.5

Exam Abnormalities:

EXAM ABNORMALITIES			
	Cold Shock	Warm Shock	Non- Specific
Pulses (central vs. peripheral)	Decreased or weak	Bounding	
Capillary refill (central vs. peripheral)	≥ 3 sec	Flash (< 1 sec)	
Skin	Mottled, cool	Flushed, ruddy, erythroderma (other than face)	Petechiae below the nipple, any purpura
Mental Status			Decreased, irritability, confusion, <u>inappropriate</u> crying or drowsiness, poor interaction with parents, lethargy, diminished arousability, obtunded

Patty Click, RN
Marisol Fernandez, MD
Sarmistha Hauger, MD
Donald Murphey, MD
Katherine Merkel, PharmD
Denita Lyons, RN
Sujit Iyer, MD
Tina Chu
Allison Kinsey
Sharon Sabo, RN
Candace Lee, RN
Carmen Garudo, EBOC PM

EBOC Leadership:
Tory Meyer, MD
Nilda Garcia, MD
Meena Iyer, MD
Lynn Thoreson, DO
Amanda Puro, MD
Sujit Iyer, MD
Lynsey Vaughan, MD
Patty Click, RN

Updates:

2017: Removed Cystic Fibrosis patient from high risk immunologic patient type

2020: Added High Risk Conditions, Continue Shock Triage Tool, added Table 1 & 2, updated inclusion criteria, Phase 0 (team huddle)

2021: Modified algorithm to red/yellow for inclusion criteria, split risk factors to red/yellow for Automatic Sepsis vs. Shock Sepsis tool.

2023: Updates developed from the Sepsis Collaborative Project Effort.

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