

RECOGNIZE

POSITIVE SEPSIS SCREEN

Positive if two of the following are present within a 6 hour timeframe:

- Fever or hypothermia** $\leq 36^{\circ}\text{C}$ (96.8F) or $\geq 38^{\circ}\text{C}$ (100.4F)
- Hypotension** SBP ≤ 90 mmHg or MAP < 65 mmHg
- Tachycardia** HR ≥ 120 bpm
- Tachypnea** RR ≥ 30 rpm
- Hypoxemia** SpO₂ $< 95\%$
- Leukocytosis or Leukopenia** WBC $> 15\text{k/mm}^3$ or $< 4\text{k/mm}^3$ within a 24 hour timeframe.

SUSPECTED SEPSIS

Positive sepsis screen PLUS suspected source of infection
OR no other explanation for abnormal vital signs

SEPSIS is confirmed if there is evidence of End Organ Injury (EOI) (only one required)*

- Hypotension:** SBP < 85 mmHg OR MAP < 65 mmHg OR SBP decreased > 40 mmHg (despite adequate fluid resuscitation)
- Hypoxia:** mechanical or non-invasive ventilation (i.e., CPAP or BiPAP), or PaO₂/FiO₂ < 300
- Altered Mental Status:** Appears toxic, confused, agitated, unresponsive
- Liver Injury:** Total bilirubin > 2 mg/dL
- Acute Kidney Injury:** Creatinine ≥ 1.2 mg/dL OR doubling of baseline creatinine OR urine output $< 60\text{mL}/2$ hours despite adequate fluid resuscitation
- Coagulopathy:** Platelets $< 100,000$ OR INR > 1.5 OR aPTT > 60 sec
- Elevated Lactate:** $> 2\text{mmol/L}$ ($> 4\text{mmol/L}$ in labor or within 1 hour postpartum)

***SERIOUS INFECTION** is suspected if there is NO evidence of EOI.
Patient remains at high risk for developing sepsis. Antibiotics should be tailored to infection, vitals repeated every 30 minutes, and patient should be re-evaluated regularly. Protocol should be re-initiated if there is a change in status.

SEPTIC SHOCK

Mean Arterial Pressure (MAP)
less than 65 mmHg despite adequate fluid resuscitation

RESPOND

Within 15 min

Initial Response to POSITIVE SEPSIS SCREEN

- ☐ Activate MEWS
- ☐ Call Charge Nurse
- ☐ Vital signs every 15 minutes
- ☐ Physician Evaluation
- ☐ Fetal Evaluation
- ☐ TEAM HUDDLE to review plan for work up and management
(Send Voalte message or call Pharmacist – state suspected sepsis, antibiotics ordered, and Time Zero)

Within 1 Hour
of time zero

Presumptive Sepsis Evaluation and Management if SUSPECTED SEPSIS

Use the PFW Sepsis – Initial Order Set

- ☐ Obtain peripheral IV x2
 - ☐ Obtain CBC, CMP, DIC panel
 - ☐ Blood culture x2
 - ☐ Urine culture
 - ☐ Lactic Acid
- ☐ Initiate IV Fluid bolus 1-2 Liters within the first hour
- ☐ Start source directed antibiotics (see back of page) using Order Set
- ☐ Order imaging as appropriate

Within 3 Hours

Following Diagnosis of SEPSIS

- ☐ TEAM HUDDLE to review status and plan
- ☐ Continue source directed antibiotics
- ☐ Vital signs q30 minutes
- ☐ Calculate Sepsis in Obstetrics Score (See back of page)
- ☐ Strict Intake/Output
- ☐ Control maternal temperature
 - ☐ Antipyretics
 - ☐ Cooling blankets
- ☐ Complete IV fluid resuscitation total of 30 mL/kg (ideal body weight)
- ☐ Repeat lactate every 2-4 hours (if elevated or concern for worsening infection)
- ☐ Avoid hyperglycemia $> 180\text{mg/dL}$
- ☐ VTE Prophylaxis
- ☐ Fetal monitoring plan
- ☐ Consider MFM Consult
- ☐ Consider Critical Care Consult if SOS Score ≥ 6
- ☐ Consider antenatal corticosteroids in preterm viable pregnancies
- ☐ For community settings, consider transfer to higher level of care

If SEPTIC SHOCK

- ☐ Re-Activate MEWS
- ☐ Consult Critical Care
- ☐ Initiate vasopressors
 - ☐ First line Norepinephrine
 - ☐ IF MAP inadequate on Norepinephrine add Vasopressin
- ☐ Consider invasive BP monitoring

TIME ZERO: _____
(Defined as time when first sepsis screen is positive)

Suspected Source: _____

Initial Blood Pressure: _____

Blood Pressure after fluids: _____

End Organ Injury Criteria Met: Yes or No

EOI type: _____

First Lactate: _____

Second Lactate: _____

Type of Antibiotic(s) Ordered and Admin Time:

#1: _____

#2: _____

#3: _____

Sepsis in Obstetrics Score: _____

Transfer Out Initiated at Time: _____

Transfer Out Completed at Time: _____

MFM Consult Time: _____

ICU Consult Time: _____

Vasopressor Initiation: _____

Place Patient Label

Source Directed Antibiotics for Common Infections[#]

Please use the PFW Sepsis– Initial Order Set to facilitate rapid IV antibiotic administration

Pneumonia

Community Acquired

- ☐ Ceftriaxone 2g IV q24H **AND** Azithromycin 500mg IV q24H x3 days

High Risk PCN Allergy

- ☐ Aztreonam 2g IV q8H **AND** Azithromycin 500mg IV q24H x3 days

Hospital Acquired (develops 48 hours or more after hospital admission)

- ☐ Cefepime 2g IV q8H **AND** Vancomycin 15 mg/kg IV q12H[^]

Pyelonephritis

- ☐ Ceftriaxone 2g IV q24H

OR

- ☐ Meropenem 1g IV q8H (if risk factors for drug resistant organism)

High Risk PCN Allergy

- ☐ Aztreonam 2g q8H

Chorioamnionitis

- ☐ Ceftriaxone 2g IV q24H **AND** Metronidazole IV 500mg q8H

High Risk PCN Allergy

- ☐ Clindamycin 900mg IV q8H **AND** Gentamicin 5mg/kg IV q24H*

OR

- ☐ Vancomycin 15mg/kg IV q12H[^] **AND** Gentamicin 5mg/kg IV q24H* (use if GBS unknown, GBS pos without sensitivities or GBS resistant to Clinda)

Postpartum Endometritis

- ☐ Vaginal: Ceftriaxone 2g IV q24H **AND** Metronidazole IV 500mg q8H

- ☐ Cesarean: Piperacillin-Tazobactam 4.5g IV q6H **AND** Vancomycin 15mg/kg q12H (this is considered an organ/space SSI)

High Risk PCN Allergy

- ☐ Clindamycin 900mg IV q8H **AND** Gentamicin 5mg/kg IV q24H*

OR

- ☐ Vancomycin 15mg/kg IV q12H[^] **AND** Gentamicin 5mg/kg IV q24H* (use if GBS unknown, GBS pos without sensitivities or GBS resistant to Clinda)

Cesarean Surgical Site Infection (SSI)

- ☐ Superficial: Ceftriaxone 2g IV q24H **AND** Metronidazole IV 500mg q8H
- ☐ Deep OR Organ/Space: Piperacillin-Tazobactam 4.5g IV q6H **AND** Vancomycin 15mg/kg q12H

High Risk PCN Allergy

- ☐ Clindamycin 900mg IV q8H **AND** Gentamicin 5mg/kg IV q24H*

OR

- ☐ Vancomycin 15mg/kg IV q12H[^] **AND** Gentamicin 5mg/kg IV q24H* (use if GBS unknown, GBS pos without sensitivities or GBS resistant to Clinda)

Septic Ab

- ☐ Piperacillin-Tazobactam 4.5g IV q6H **AND**

- ☐ Doxycycline 100mg IV/PO q12H

High Risk PCN Allergy

- ☐ Cefepime 2g IV Q8H **AND** Metronidazole 500mg IV q8H **AND**

- ☐ Doxycycline 100mg IV/PO q12H

Skin and Soft Tissue Infections

- ☐ Cefepime 2g IV q8H **AND** Vancomycin 15 mg/kg IV q12H[^] **AND**

- ☐ ± Clindamycin 900mg IV q8H (add if concern for Necrotizing infection)

Mastitis/Breast Abscess

- ☐ Cefepime 2g IV q8H **AND** Vancomycin 15 mg/kg IV q12H[^]

Intraabdominal infection

- ☐ Ceftriaxone 2g IV q24H **AND** Metronidazole 500mg IV q12H

Unknown Source

- ☐ Piperacillin-Tazobactam 4.5g IV q6H **OR** Cefepime IV 1g q6H **OR** Meropenem 1g IV q8H

AND

- ☐ Vancomycin 15 mg/kg IV q12H[^]

[#]This includes the most commonly encountered infections and clinical scenarios. Additional recommendations for specific clinical scenarios can be found in the PFW Septic Shock Initial Order Set. If the antibiotic choice remains unclear, consultation with a Critical Care or Infectious Disease specialist is recommended.

*Gentamicin and Vancomycin should be used with caution and pharmacy consultation if the patient has renal dysfunction.

[^]Vancomycin trough should be 15-20 mcg/mL for all infections

Sepsis in Obstetrics Score

Circle the score for each variable and add each column total for a full SOS score

Variable	High Abnormal Range				Normal	Low Abnormal Range			
Score	+4	+3	+2	+1	0	+1	+2	+3	+4
Temp (C/F)	>40.9/ >105.6	39-40.9/ 102.2-105.6		38.5-38.9/ 101.3-102.0	36-38.4/ 96.8-101.1	34-35.9/ 93.2-96.6	32-33.9/ 89.6-93.0	30-31.9/ 86.0-89.4	<30/ <86.0
Systolic BP (mmHg)					>90		70-90		<70
Heart Rate (bpm)	> 179	150-179	130-149	120-129	=119				
Resp Rate (rpm)	> 49	35-39		25-34	12-24	10-11	6-9		=5
SpO2 (%)					=92%	90-91%		85-89%	<85%
WBC (/μL)	>39.9		25-39.9	17-24.9	5.7-16.9	3-5.6	1-2.9		<1
% Immature Granulocytes*		=3%		<3%					
Lactic Aid			=4		<4				
Column Total									
TOTAL									
SOS = 6 indicates increased maternal morbidity and mortality associated with sepsis. ICU Consult is recommended.									
*TCH does not report an immature neutrophil count, which was used by the Albright et al as an item in the S.O.S. A cutoff of Immature Granulocytes of =3% is recommended based on literature review.									

Place Patient Label Here