Ephraim McDowell Health Sepsis Alert

Christina Witt, RN

Sepsis Nurse Navigator

Ephraim McDowell Health

Ephraim McDowell Health System

- Our hospital system is made up of three major facilities and several outlying clinics spanning across a 6 county area in Central Kentucky.

- Our Main hospital- Ephraim McDowell Regional Medical Center
  - Level 3 Trauma Center
  - Licensed for 200 beds

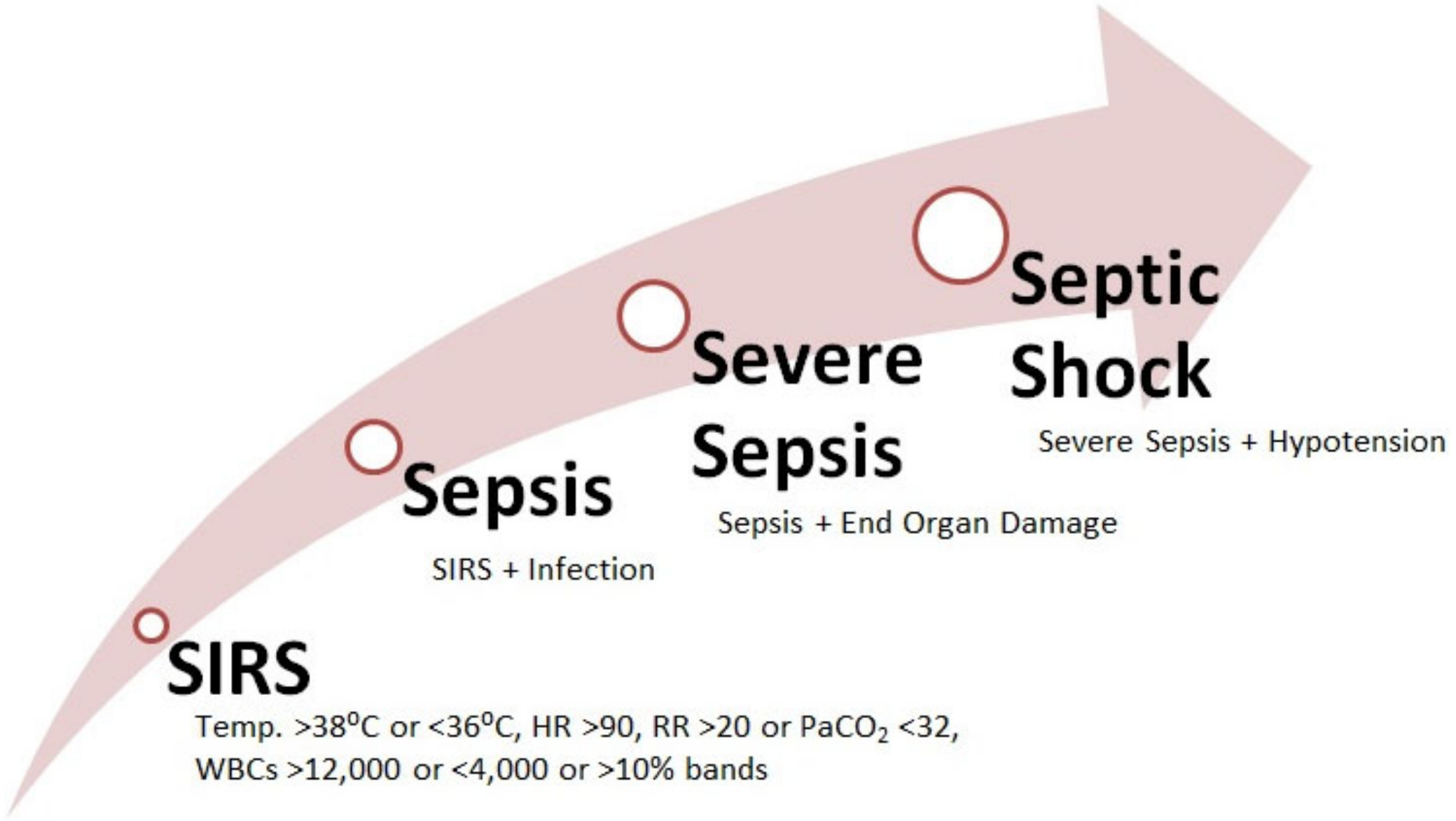
Our Critical Access Hospitals

Fort Logan Hospital- Stanford, KY

Licensed for 25 beds

James B. Haggin Hospital- Harrodsburg, KY

Licensed for 25 beds


SIRS
Temp. >38°C or <36°C, HR >90, RR >20 or PaCO2 <32,
WBCs >12,000 or <4,000 or >10% bands
Sepsis
SIRS + Infection
Severe Sepsis
Sepsis + End Organ Damage
Septic Shock
Severe Sepsis + Hypotension

ED TRIAGE ASSESSMENT: THE FIRST STEP TO IDENTIFYING A SEPSIS PATIENT

The ED triage RN will do the sepsis screen on all incoming patients

- All ED triage RNs will assess incoming patients for SIRS criteria including vitals, initial complaints and recent illnesses or exposures

If anything flags as a potential for SIRS, look for signs/symptoms of infection

- Using the Triage and Sepsis screen RNs will assess for possible infection risks such as fever, wounds, cough, phlegm, SOA, AMS, pain, or central lines and catheters already in place.

Notify MD, may be asked to initiate ED Sepsis Triage Standing Orders

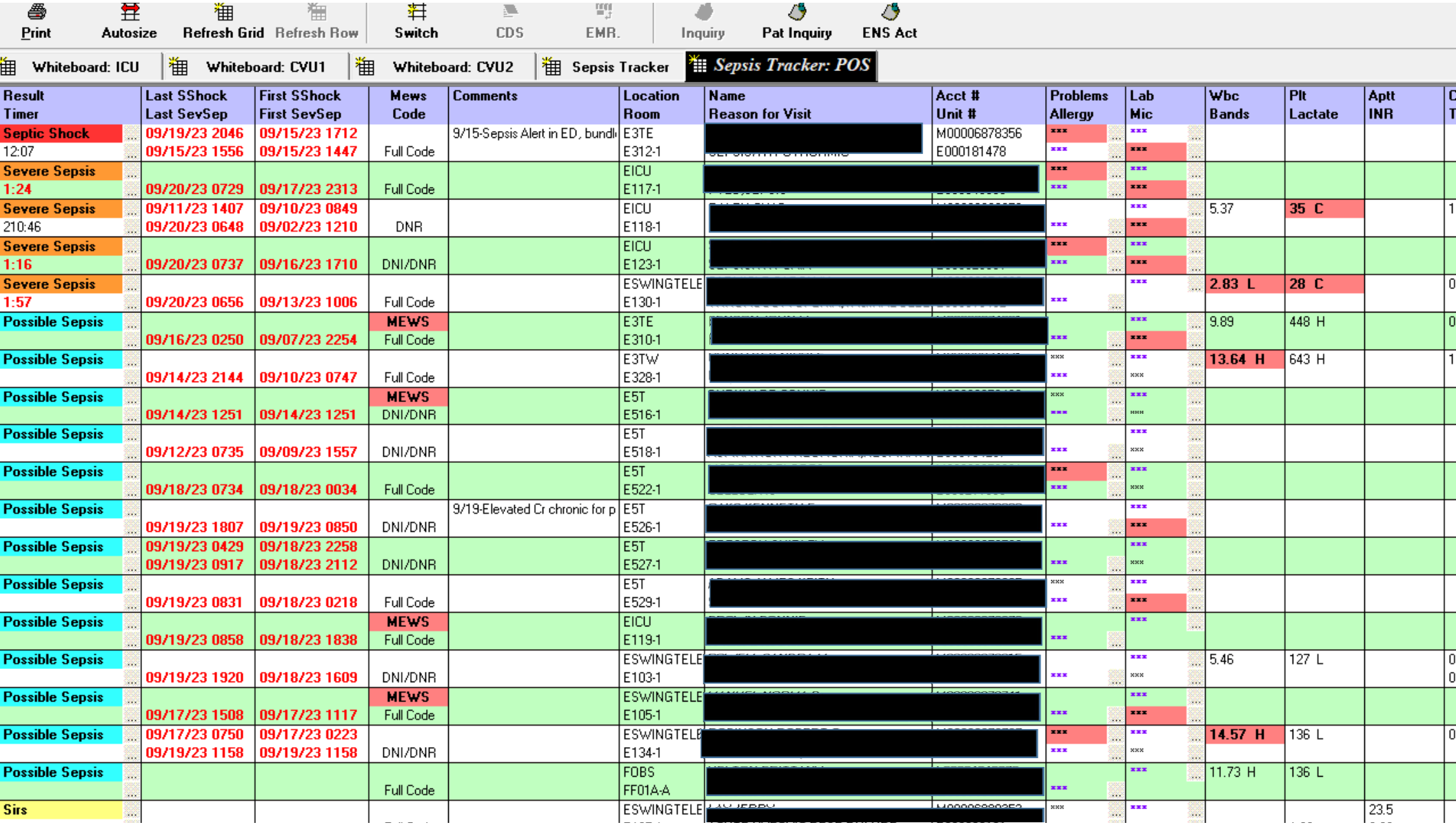
- Once SIRS criteria and possible source of infection have been identified, the RN MUST alert the provider to their findings. If the provider is tied up in an emergency, there is a set of standing orders for Sepsis Triage that has been developed for the RN to enter if needed until the provider can assess the patient.

The Sepsis Smartboard

- The Sepsis Smartboard is the newest piece of technology that has been implemented with Ephraim McDowell Health in regards to sepsis care for our patients
- Each unit will be getting a Sepsis Smartboard in each nurse's station for staff to utilize
- The Smartboard will monitor all of the possible sepsis criteria in the background and will be linked to an alert system to notify staff when a patient meets criteria for severe sepsis and septic shock
- The patient can be quickly analyzed by nursing to see what criteria is being met by the patient and take action

What does the Smartboard Monitor?

- The Smartboard will monitor all pertinent criteria for severe sepsis and septic shock.
- It analyzes vital signs, and lab results, as well as looking for positive cultures or antibiotic use (to confirm infectious process)
- It also looks for a provider diagnosis of sepsis, severe sepsis or septic shock
- It checks that all criteria are met within the 6 hour time frame
- It categorizes all patients between SIRS, Possible Sepsis, Severe Sepsis and Septic Shock
- Each category is color-coded and easy to read
- Severe sepsis and septic shock are what we are focused on at this time


Print
Autosize
Refresh Grid
Refresh Row
Switch
CDS
EMR.
Inquiry
Pat Inquiry
ENS Act
Whiteboard: ICU
Whiteboard: CVU1
Whiteboard: CVU2
Sepsis Tracker
Sepsis Tracker: POS
Result Timer
Last SShock Last SevSep
First SShock First SevSep
Mews Code
Comments
Location Room
Name Reason for Visit
Acct # Unit #
Problems Allergy
Lab Mic
Wbc Bands
Plt Lactate
Aptt INR
Septic Shock 12:07
09/19/23 2046 09/15/23 1712
09/15/23 1556 09/15/23 1447
Full Code
9/15-Sepsis Alert in ED, bundl
E3TE E312-1
M00006878356 E000181478
Severe Sepsis 1:24
09/20/23 0729 09/17/23 2313
Full Code
EICU E117-1
Severe Sepsis 210:46
09/11/23 1407 09/10/23 0849
09/20/23 0648 09/02/23 1210
DNR
EICU E118-1
5.37
35 C
Severe Sepsis 1:16
09/20/23 0737 09/16/23 1710
DNI/DNR
EICU E123-1
Severe Sepsis 1:57
09/20/23 0656 09/13/23 1006
Full Code
ESWINGTELE E130-1
2.83 L
28 C
Possible Sepsis
09/16/23 0250 09/07/23 2254
MEWS
Full Code
E3TE E310-1
9.89
448 H
Possible Sepsis
09/14/23 2144 09/10/23 0747
Full Code
E3TW E328-1
13.64 H
643 H
Possible Sepsis
09/14/23 1251 09/14/23 1251
MEWS
DNI/DNR
E5T E516-1
Possible Sepsis
09/12/23 0735 09/09/23 1557
DNI/DNR
E5T E518-1
Possible Sepsis
09/18/23 0734 09/18/23 0034
Full Code
E5T E522-1
Possible Sepsis
09/19/23 1807 09/19/23 0850
DNI/DNR
9/19-Elevated Cr chronic for p
E5T E526-1
Possible Sepsis
09/19/23 0429 09/18/23 2258
09/19/23 0917 09/18/23 2112
DNI/DNR
E5T E527-1
Possible Sepsis
09/19/23 0831 09/18/23 0218
Full Code
E5T E529-1
Possible Sepsis
09/19/23 0858 09/18/23 1838
MEWS
Full Code
EICU E119-1
Possible Sepsis
09/19/23 1920 09/18/23 1609
DNI/DNR
ESWINGTELE E103-1
5.46
127 L
Possible Sepsis
09/17/23 1508 09/17/23 1117
MEWS
Full Code
ESWINGTELE E105-1
Possible Sepsis
09/17/23 0750 09/17/23 0223
09/19/23 1158 09/19/23 1158
DNI/DNR
ESWINGTELE E134-1
14.57 H
136 L
Possible Sepsis
Full Code
FOBS FF01A-A
11.73 H
136 L
Sirs
ESWINGTELE
23.5

Smartboard Considerations

- The Smartboard is only as accurate as the information we feed into it
- If vitals are charted for the patient that are not accurate, the Smartboard has no way of knowing that
- **For example:** a patient's BP gets put into the system as 75/45. The Smartboard analyzes it and sees that the patient also has a HR 98, WBC 15.67. The nurses gets the notification and goes to bedside to assess the patient. They find the BP cuff was off or not properly placed when the reading was taken. The nurse retakes the BP and finds it to be 120/75 and they record this in the chart.

LEVEL 1 and LEVEL 2 SEPSIS ALERT

The sepsis alert system works just like the trauma and stroke alerts. Level 2 will be called for severe sepsis. Level 1, which is considered more life threatening, will be called for septic shock.

STANDING ORDER

Generic substitutions may occur on medications dispersed - unless order specifies "Do Not Substitute."

Height:_____ **Weight: _____**

Allergies

Inpatient Sepsis: Standing Orders

Standing orders to be started after positive sepsis screen for adult patients inpatients

Suspected Sepsis

- ☒ Place a saline lock large bore IV (18 gauge or greater preferred
- ☒ CBC
- ☒ CMP
- ☒ Procalcitonin
- ☒ Lactate STAT
- ☒ Venous blood gas STAT
- ☒ Draw 2 sets of blood cultures
- ☒ Portable Chest X-ray
- ☒ UA (cath) and C&S if indicated
- ☒ Blood Pressure q15 minutes
- ☒ PT/INR
- ☒ APTT
- ☒ Height and Weight Documentation
- ☒ SARS-FLUAB-RSV Panel PCR
- ☒ FSBG x 1 stat
- ☒ Continuous telemetry

Nurse Signature: _____ Order Date & Time:_____

Nurse Signature: _____ Order Date & Time:_____

Patient Name: _____ M#_____

Sepsis Alert Level 2 (Severe Sepsis)

- Sepsis Alert Called
  - Time: _____
- Remind Provider to order the Inpatient Sepsis Standing order set
  - Time: _____
- Initial Lactate Collected
  - Time: _____
  - Result: _____
- Repeat Lactate Collected
  - Time: _____
  - Result: _____
- Blood Cultures Collected **(BEFORE ABX)**
  - Set 1 time: _____
  - Set 2 time: _____
- Antibiotics Administered
  - Time: _____
- Vital Signs Documented in Meditech Q15 Minutes

** IF initial hypotension occurs (2 blood pressures with SBP <90 OR MAP <65 within 3 hours of each other) the SEP-1 bundle requires fluid resuscitation even if it is only severe sepsis ** **NOTIFY PROVIDER**

- Pt wt. in Kg: _____
- Fluid bolus based on actual body weight 30ml/kg
  - Time: _____
  - Amount: _____

OR

- Fluid bolus based on ideal body weight (must have BMI >30)
  - Time: _____
  - Amount: _____

OR

- Less than 30ml/kg
  - Remind provider they need to document reason, amount to give instead of 30ml/kg, and order that amount.

****NOT A PART OF THE MEDICAL RECORD****

Sepsis Alert Level 1 (Septic Shock)

- Sepsis Alert Called
  - Time: _____
- Remind Provider to order ED.SEPSIS2 order set
  - Time: _____
- Initial Lactate Collected
  - Time: _____
  - Result: _____
- Repeat Lactate Collected
  - Time: _____
  - Result: _____
- Blood Cultures Collected **(BEFORE ABX)**
  - Set 1 time: _____
  - Set 2 time: _____
- Antibiotics Administered
  - Time: _____
- Vital Signs Documented in Meditech Q15 Minutes
- Fluid Resuscitation required **even if no hypotension present**:
  - Pt wt. in Kg: _____
  - Fluid bolus based on actual body weight 30ml/kg
    - Time: _____
    - Amount: _____

OR

  - Fluid bolus based on ideal body weight (must have BMI >30)
    - Time: _____
    - Amount: _____

OR

  - Less than 30ml/kg
    - Provider must document reason, amount to give instead of 30ml/kg, and order that amount.
- Document at least 2 blood pressures within one hour of fluid bolus completion.
  - Time: _____
  - Time: _____
- Vasopressor administered if 2 hypotensive blood pressures (SBP <90 OR MAP <65) occur within one hour of fluid completion. **NOTIFY PROVIDER**
  - Time: _____
- Remind Provider to complete and document repeat volume status and tissue perfusion assessment after fluids are started but within 6 hours.
  - Time: _____

Sepsis Alert Level 2 (Severe Sepsis)

SIRS = **Two** of the following within 6 hours of each other

- HR>90
- Temperature >100.9 OR <96.8
- Respiration >20/min
- WBC >12,000 OR <4,000 OR >10% band

Sepsis = SIRS + known **OR** suspected source of infection

Severe Sepsis = Sepsis + at least **ONE** sign of organ dysfunction OR provider documentation of severe sepsis:

Signs of Organ Dysfunction include the following: (Only need 1)

- SBP <90, MAP <65, OR Drop of >40 points SBP (only 1 needed to meet criteria)
- Creatinine >2.0 OR UOP <0.5 ml/kg/hr for 2 hours
- Bilirubin >2 mg/dl (34.2 mmol/L)
- Platelet Count <100,000
- INR >1.5 or aPTT >60 secs
- Lactate >2 mmol/L (18.0 mg/dl)
- Acute Respiratory Failure AEB a new need for invasive or non-invasive mechanical ventilation

Sepsis Alert Level 1 (Septic Shock)

Septic Shock = Severe Sepsis + **ONE** of the following OR provider documentation of septic shock:

- Persistent Hypotension: 2 consecutive blood pressures SBP < 90 OR MAP <65 within the hour after fluids complete.
- Lactate level > OR = 4 mmol/L

PLEASE LIST ALL ASSOCIATES THAT RESPONDED TO THE ALERT:

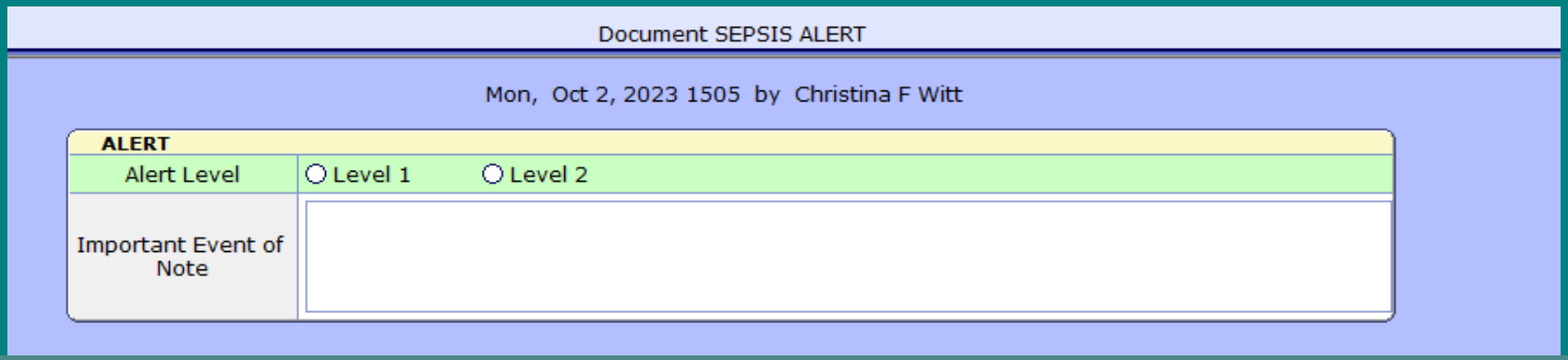
Y-Site Drug Compatibility in Antibiotics and Fluids Commonly Used for Sepsis

	Cefepime	Piperacillin/ Tazobactam	Vancomycin	Lactated Ringers Normal Saline
Cefepime			Compatible*	Compatible
Piperacillin/ Tazobactam			Compatible**	Compatible***
Vancomycin	Compatible*	Compatible**		Compatible

**All Zosyn products stocked contain EDTA

***Hosp Pharm. 2021. 56(4):228-234 - Y-site compatibility with LR

Sepsis Alert Intervention


Document SEPSIS ALERT

Mon, Oct 2, 2023 1505 by Christina F Witt

ALERT

Alert Level	○ Level 1 ○ Level 2
Important Event of Note	

- A box will pop up for the nurse to choose either a Level 1 or Level 2
- A Free text box is included for the nurse to document any important information about the alert they would want to pass on to other caregivers on the team
- Often times these pieces of information can save us from falling out the bundle because the documentation was thorough.

Examples of Important Documentation to Include:

- Patient refuses any part of treatment (labs being drawn, medications, fluids)
- Patient removes IV access (even if it is accidental)
- **Any loss of IV access**
- If unable to get access for labs or IV placement after multiple sticks, please document the time of the first attempt as best you can

- Provider declines to do blood cultures or antibiotics for any reason

When does the alert end?

- Once the patient has been stabilized and a plan of care is in progress (sepsis treatment bundle), if the patient is not in need of transfer to the ICU the alert will be complete.

- The Primary nurse needs to be sure all the proper documentation has been completed, and ensure the Sepsis Alert Checklist is completed and filed in the correct spot