



SEPSIS COORDINATOR NETWORK
Resources and Guidance for Improved Outcomes

Sepsis Screening and Nurse Driven Protocols



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Founding Sponsor:



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SEPSIS ALLIANCE

**Sepsis Awareness
hits 65%, but few
know the signs.**

- Nation's leading sepsis organization, working in all 50 states
- Focus on:
 - Public awareness
 - Provider education
 - Survivor support
 - Advocacy

It's About TIME™, a national initiative



When it comes to sepsis, remember
IT'S ABOUT TIME™ Watch for:

T	I	M	E
TEMPERATURE higher or lower than normal	INFECTION may have signs and symptoms of an infection	MENTAL DECLINE confused, sleepy, difficult to rouse	EXTREMELY ILL "I feel like I might die," severe pain or discomfort

Watch for a combination of these symptoms. If you suspect sepsis, see a doctor urgently, CALL 911 or go to a hospital and say, "I AM CONCERNED ABOUT SEPSIS."

America's Got Talent Runner-up Angelica Hale Takes on the Life-Threatening Condition That Nearly Killed Her

JULY 10, 2018 - 10:05 AM - 0 COMMENTS

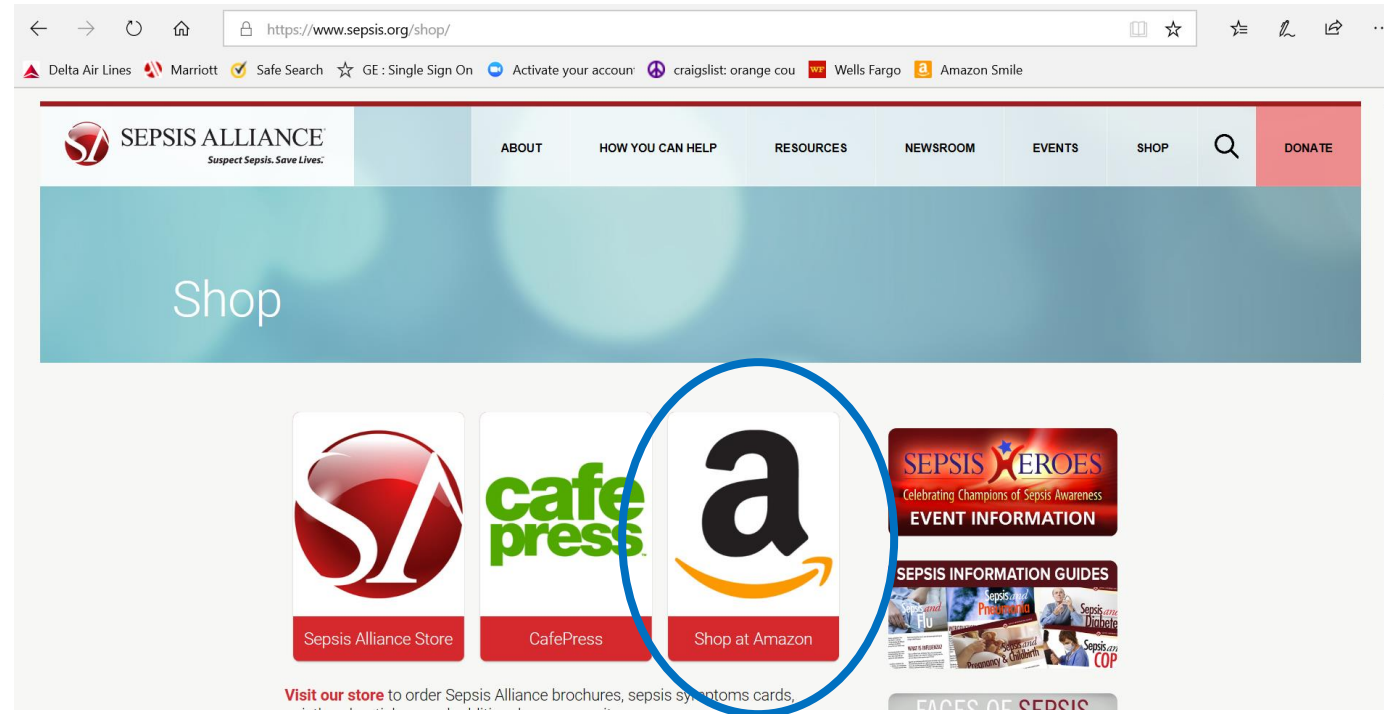


Angelica Hale (Credit: Sepsis Alliance)

www.SepsisItsAboutTime.org

Did you know?

www.sepsis.org/shop



Best option: Amazon link on Sepsis Alliance website

- Donation range of 4% - 8.5% on total monthly qualifying purchases

Amazon Smile program with Sepsis Alliance as your qualifying charity only 0.5% of qualifying purchases benefit Sepsis Alliance



Sepsis Screening and Nurse Driven Protocols

Emergency Room and Inpatient


Cairn Ruhumuliza MSN RN CPHQ

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Objectives

- Discuss the significance of early detection of and intervention for Sepsis
- Identify the similarities and differences between Emergency Room and Inpatient screenings and nurse driven protocols



Evidence behind Screenings

Cairn Ruhumuliza MSN RN CPHQ

FRAMING THE PROBLEM



1.6 million cases of sepsis each year in the U.S



#1 cause of death in U.S. hospitals



#1 driver of readmission to a hospital



Globally > 19 million people develop sepsis annually



258,000 deaths annually in US- more than breast cancer, prostate cancer & AIDS – combined



#1 cost of hospitalization - \$24 Billion per year



More than 80% of sepsis cases originate in the community



Up to 50% of sepsis survivors suffer from Post-Sepsis Syndrome (PSS)



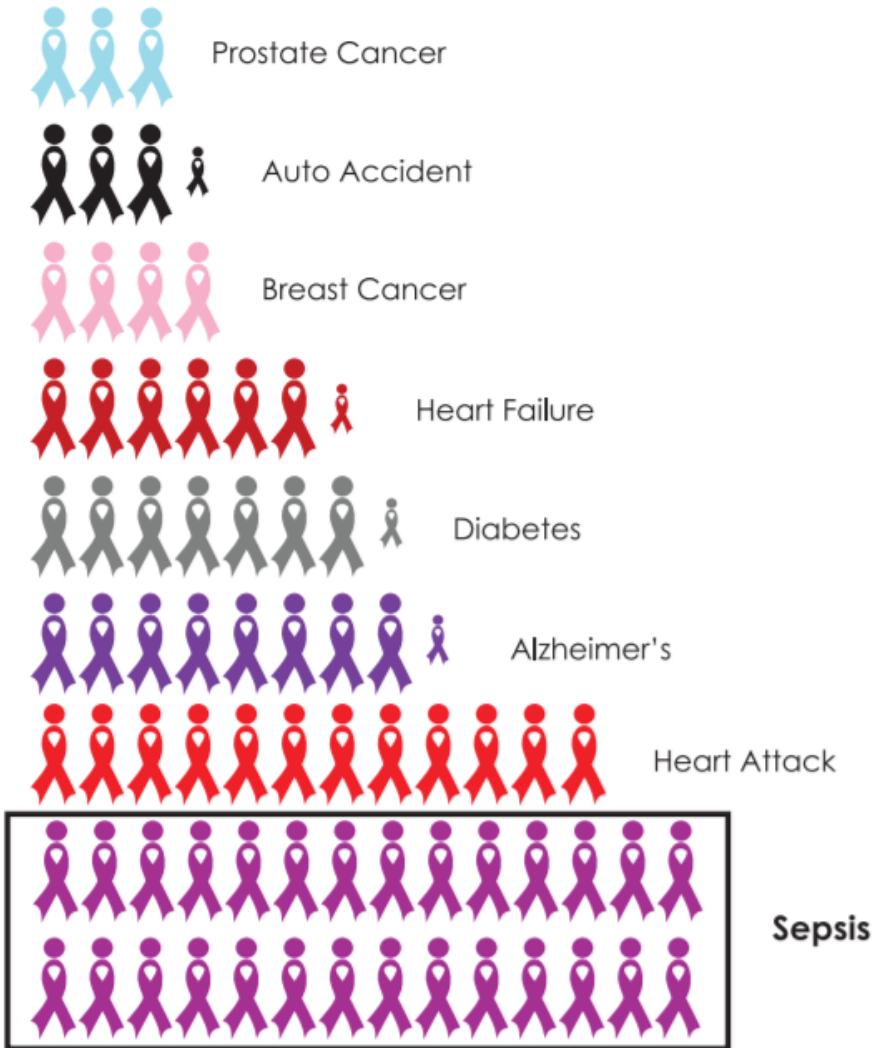
Approximately 14 million survive to hospital discharge

- Half of patients recover
- 1/3 die during the following year
- 1/6th have severe persistent impairments (about 840,000 people)

IT IS BELIEVED THESE NUMBERS ARE GROSSLY UNDERREPRESENTED

Source: Sepsis Alliance and Global Sepsis Alliance

LEADING CAUSES OF DEATH



Sepsis Kills More People Than Any Other Medical Condition

SEPSIS IS A LEADING CAUSE OF DEATH

10,000 Deaths/Year in the US

Source: Coalition for Sepsis Survival

Easy to Manage if Recognized Early



“As the physicians say it happens in hectic fever, that in the beginning of the malady it is easy to cure but difficult to detect, but in the course of time, not having been either detected or treated in the beginning, it becomes easy to detect but difficult to cure”

Niccolò Machiavelli, [The Prince](#), 1532

Or in other words.....

It's tough to identify sepsis early, but easy to treat.

Once sepsis is advanced, it's easy to identify but hard to treat

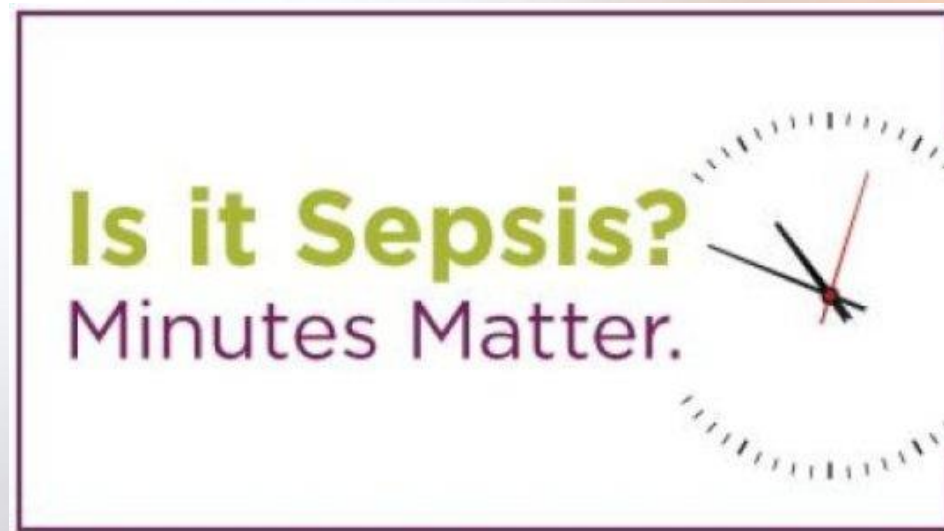
Paramount in the management of patients with sepsis is the concept that sepsis is a medical emergency



Identifying Sepsis

“The challenges in reliably identifying severe sepsis on clinical presentation remain the greatest barrier to implementing any guidelines, institutional protocols or toolkits developed to reduce mortality.”

- Chamberlain, D. J. et al (2015) Identification of the severe sepsis patient in triage. *EMJ.* 32(9): 690-697.



Identifying Infection

- Onset of clinical S/S of host response (fever, chills, etc.)
 - Biological response (white blood cells, biomarkers)
 - Presence of signs of infection (dysuria, purulent wounds, chest infiltrates) – source specific
 - Proven microbiological invasion (positive cultures)
- Note: 2004 Survey - 86% of physicians indicated that symptoms of sepsis can easily be misattributed to other conditions. 45% felt they sometimes missed a diagnosis of sepsis. (Poeze, 2004)

Does timing matter for the earliest and most basic elements of sepsis care?

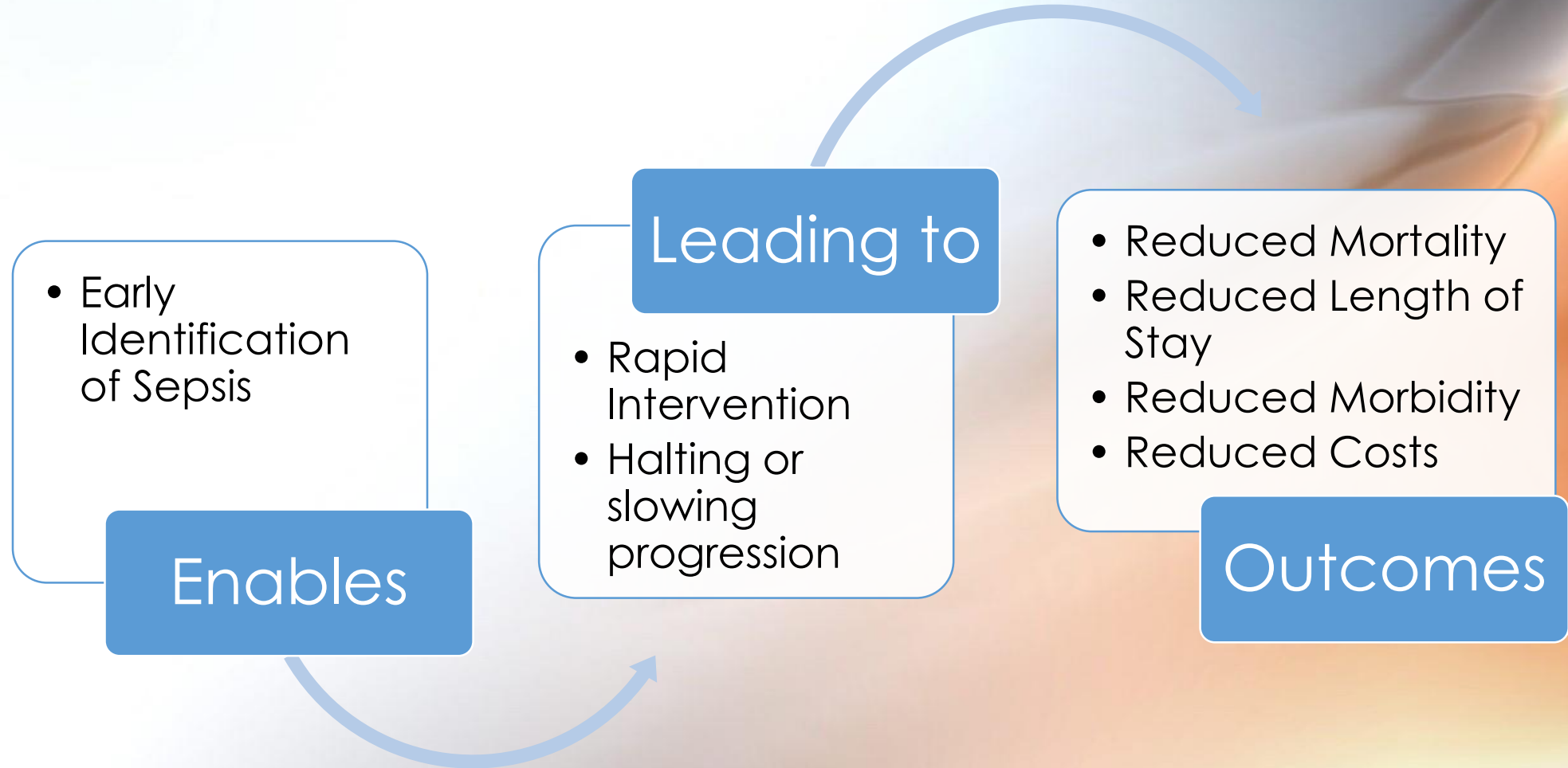
1. Rapid AB administration reduces pathogen burden, modifies host response, could reduce incidence of subsequent organ dysfunction
2. Early measurement of lactate could identify heretofore unrecognized sepsis
3. There are broad variations in identification of sepsis, even when presented with similar cases

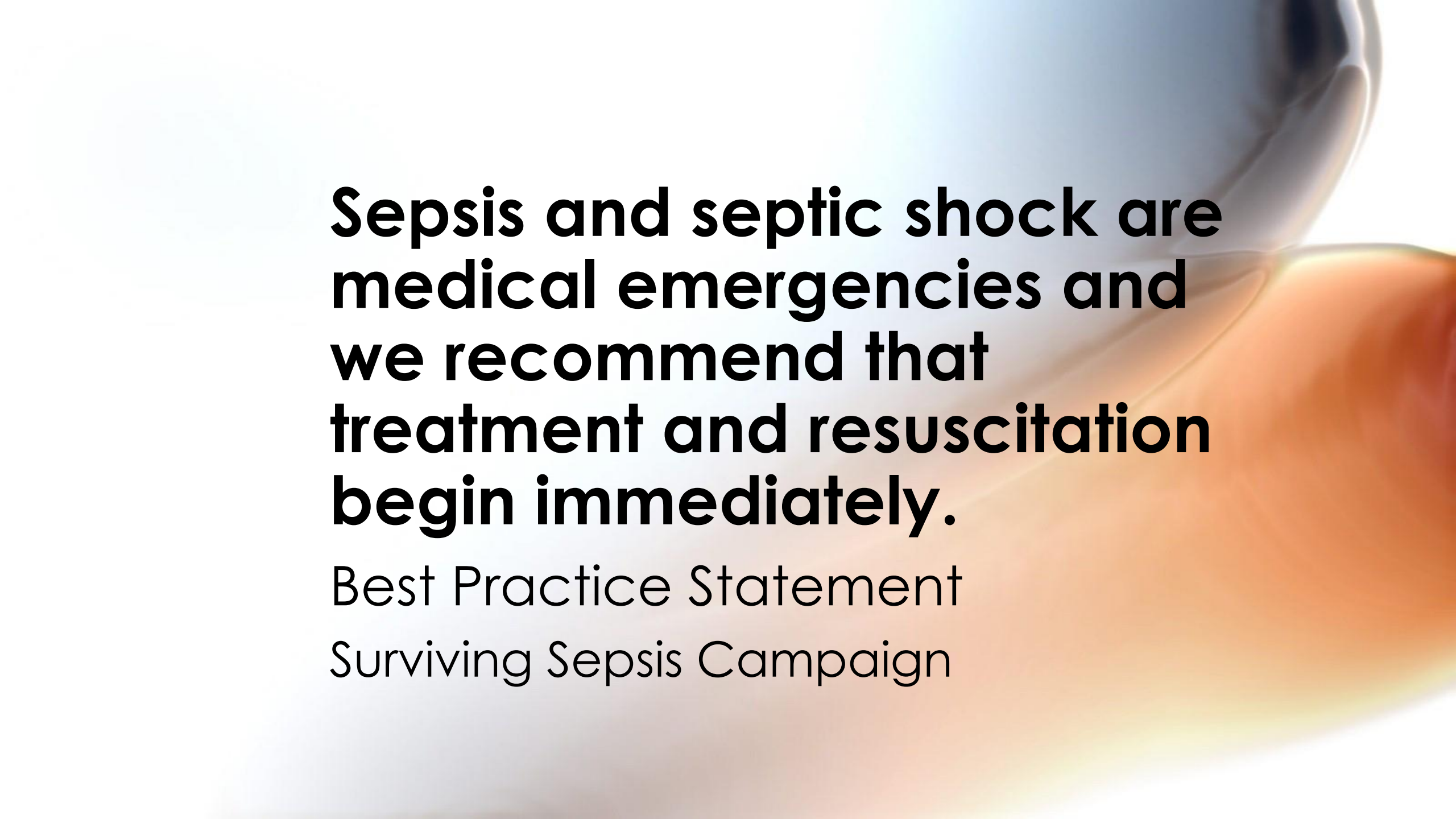


Some Key Citations

- Ferrer – (2014) Antibiotic administration and mortality.
 - Almost 18,000 participants (retrospective) –
 - Delay of Antibiotic resulted in increased risk of mortality for every hour of delay (1- 6 hours)
- Vincent Liu & Colleagues – (2017)
 - Timing of AB and Hospital mortality
 - 9% increase in odds of mortality for each elapsed hour between presentation and AB administration.
 - Antibiotic given within 1st hour had greatest benefit
- Lynn, 2018 – as 3 hour bundle compliance increased, mortality decreased

Follow The Logic





**Sepsis and septic shock are
medical emergencies and
we recommend that
treatment and resuscitation
begin immediately.**

Best Practice Statement
Surviving Sepsis Campaign

Best Practice Statements (SSC)

- Strong but ungraded statements
- Use defined criteria

Criteria for Best Practice Statements

Is the statement clear and actionable?

Is the message necessary?

Is the net benefit (or harm) unequivocal?

Is the evidence difficult to collect and summarize?

Is the rationale explicit?

Is the statement better if formally GRADEd?

Current and Future Trends for Identification and Management of Sepsis

- Big data
- Electronic Medical Records using automated algorithms
- Machine Learning
- Predictive Modeling
- Clinical Support Systems – early recognition and stratification
- Personalized and Precision Medicine
- New usage of Biomarkers

SCREENING FOR SEPSIS AND PERFORMANCE IMPROVEMENT

We recommend that hospitals and hospital systems have a performance improvement program for sepsis including sepsis screening for acutely ill, high-risk patients. (BPS)

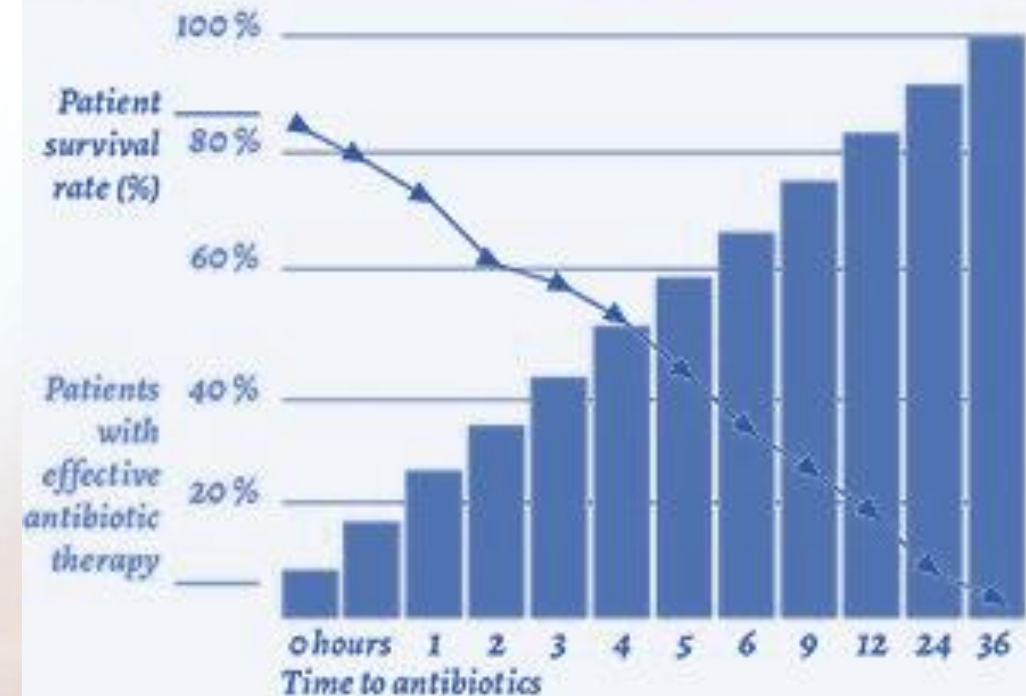
Surviving Sepsis Campaign, 2018

Bottom Line


TIME IS TISSUE

- Screening for sepsis must be part of the nurses' daily routine in order to positively influence outcomes
- If we don't screen, we will miss patients that may have benefited from the interventions

Sepsis is a medical emergency



GSA
GLOBAL SEPSIS ALLIANCE



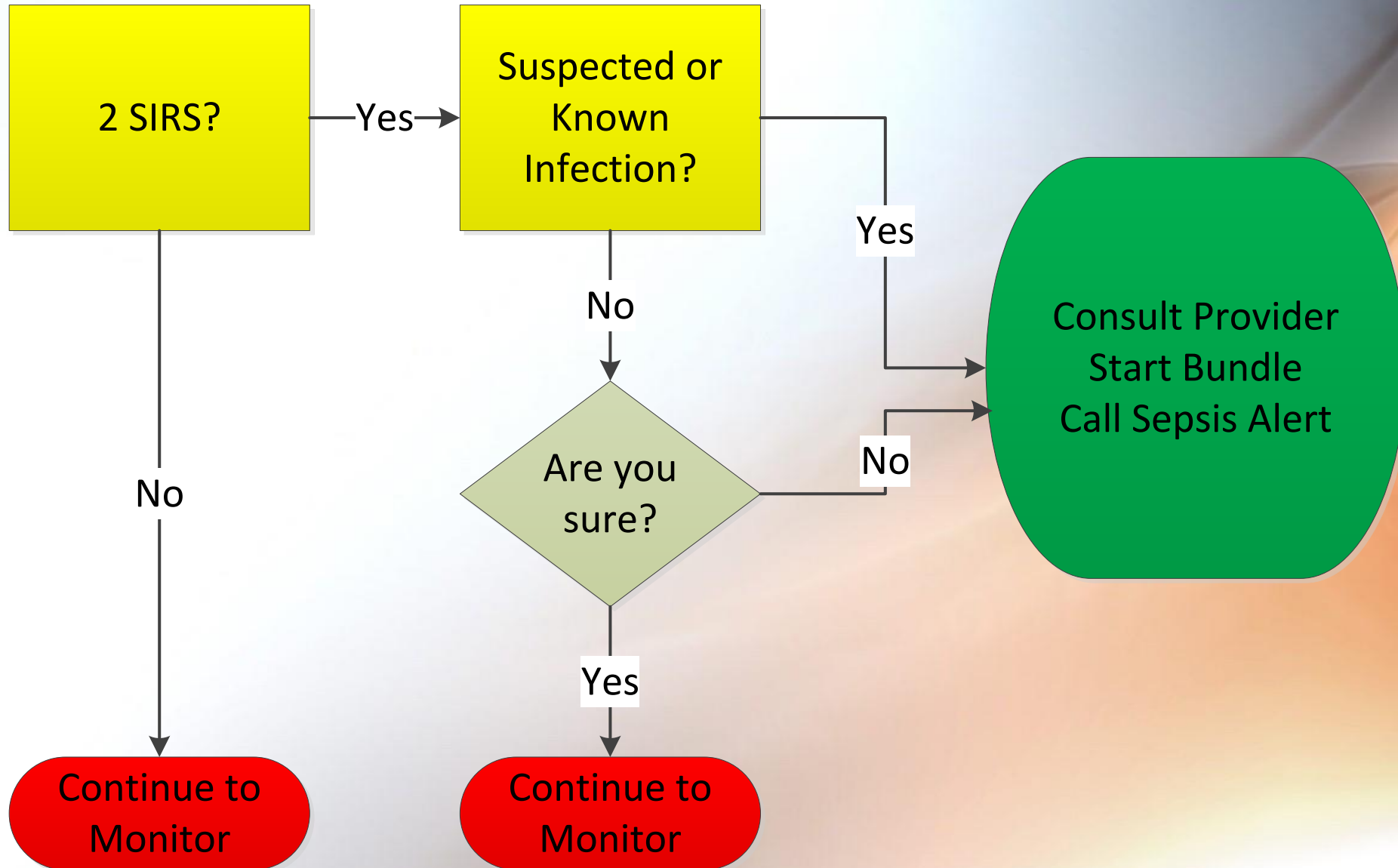
Emergency Room Screenings and Nurse Initiated Orders

Liane Popkin MSN RN


Goals for Emergency Room Screening

- Identify all sepsis continuum patients before they progress to worsening severe sepsis and septic shock
- Patients to receive early intervention to decrease mortality
 - Timely 3 Hour bundle elements – With the goal of Door to antibiotics of <1 hour


Algorithm



What Does it Look Like?

Triage Data ADULT  [Flowsheets](#)

[+ New Reading](#)

06/28/18
1039


Distress Level
Distress Level

History of Present Illness
History of Present Illness
Patient presents complaining of shortness of breath for the past month with back pain and lower extremity swelling. Patient also complaining of intermittent fevers with a productive cough.

EMS Data

Trauma Data

Stroke Data

Vital Signs

Temp	! 100.9 (38.3)
Temp Source	Oral
BP	133/77
MAP (Mean Arterial Pressure)	95.67 (calculated)
Pulse	! 122
Respirations	18
SpO2	93 %
O2 (l/min)	
O2 Delivery	RA-room air
Additional vital signs?	

What Does it Look Like?

Triage

Narrators | Triage | Disposition | Data Validate | Tx Team | References | Enter/Edit Results | PCP | Print A/V/S

Allergies (0): No Known Allergies | Home Meds (0): None

TRIAGE

- ED Arrival Info
- Chief Complaint
- Allergies
- Privacy Encounter
- Triage Data**
- OB/Gyn Status
- Prior to Admit Meds
- History
- Triage Plan
- Infections
- Req Info

HOME MEDS

- Home Meds

ORDERS

- Order Sets
- Orders
- Release Orders

Have you had Surgery in the last 30 days ?

Have you had Surgery in the last 30 days ?

Provider Name

Recent Travel Screening

Traveled in the last 30 days?

Exposure Screening Section

Have you been exposed to anyone who was ill in the last 30 days?

Do you suspect Infection

Do you suspect infection ?

Patient Currently in Pain



What constitutes a positive screening

2 SIRS + Suspected/Known Source of Infection



⚠ PATIENT MAY BE SEPTIC

PATIENT MAY BE SEPTIC

Last Filed Values:

Temp: (!) 102 °F (38.9 °C)

Respirations: (!) 90

Last (3) Results in 48 hours :

No results for input(s): WBC, BAND, PCO2, ISPCO2, VECPCO, CPCO2, SCPCO2, VCPCO in the last 48 hours.

***This BPA appears upon evaluation of established criteria. The above data is informational only and may or may not be the triggering criteria.*

For more information on Sepsis Please follow this link. [Sepsis and SIRS](#)

Open Order Set

Do Not Open

ED Sepsis Preview

⚠ Acknowledge Reason _____

Need to Evaluate Patient

No Sign/Symptoms of Sepsis

Sepsis Possible: Consult Provider

Consulted Provider: Continue to Monitor

Already being Treated

Not primary nurse caring for patient

Interventions

- 3 Hour Bundle – Goal of Door to ABX < 1 Hour
- Radiology to bedside for a portable chest

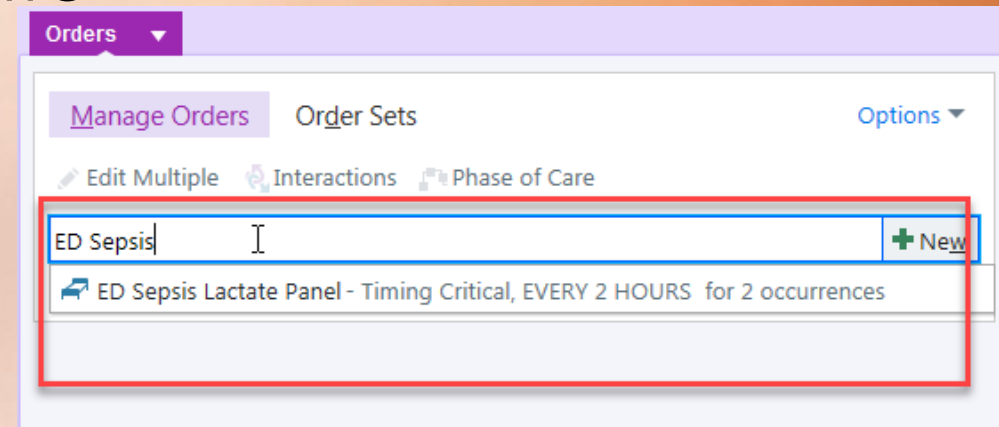
Nurse Interventions

- All monitors → Heart and BP
 - Set BP to q15min
 - Apply NICOM and trend SVI
- Accurate Temporal Temperature
 - If you are suspicious it is not correct, get rectal.
- IV Fluids in Room Prepared to be hung – NS or LR

GRAB THE GREEN SEPSIS WORKSHEET
THIS FOLLOWS THE PATIENT

Nurse Interventions

- Ideal situation is to have 2 people in the room.
- 2 IVs
 - Rainbow + 2 Blood Cultures [Draw and Hold] + Lactate → SEND ALL LAB WORK WITH ORANGE SHEET CIRCLING SEPSIS
 - RN to order **ED Sepsis Lactate Panel**
- If patient has Urine Specimen Ordered and patient is unable to cleanly urinate RN to order and obtain Straight Cath Urine





I have antibiotics ordered and haven't gotten my second set of blood cultures – THE ER CONUNDRUM

Although best practice is to get both sets of Blood Cultures prior to antibiotics, we understand that there are cases where you may not have both sets prior to antibiotics being ordered...

If this is the case administer antibiotics and work on trying to get the second set right after administration.

Goal is to increase the likelihood of catching the bug so that we avoid CNSS.

HANG ANTIBIOTICS

- Give the broad spectrum first → The one that runs the fastest

A close-up, artistic photograph of a glass containing an orange-colored liquid, possibly juice or a beverage. The glass is partially filled, and the liquid is in sharp focus, showing a vibrant orange hue. The background is a soft, out-of-focus gradient of light colors, creating a clean and modern aesthetic.

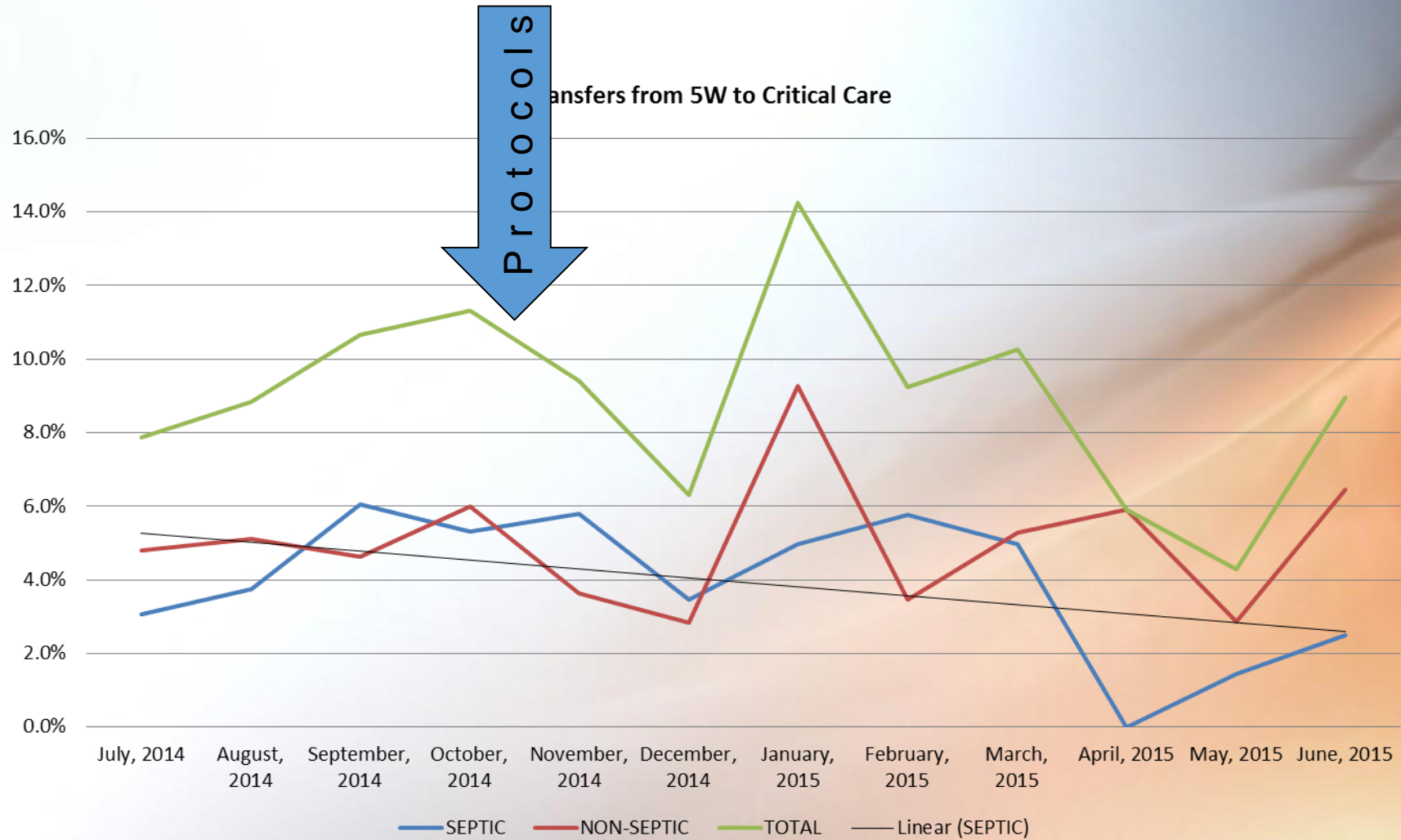
Inpatient Screening

Amy Sprague DNP RN ACNS-BC CCRN

Goals:

- Our goals for establishing a team approach to sepsis is to help identify septic patients on the floor before they have a chance to progress into severe sepsis or septic shock.
- Patients may be able to receive early intervention and remain on their floor.
- Timely and appropriate application of the 3 Hour Bundle elements which include:
 - Measure a lactate.
 - Obtain blood cultures prior to antibiotics.
 - Give broad spectrum antibiotics.
 - Give 30ml/kg of fluid.

Results: Decrease in sepsis transfers to critical care



Protocols for the bedside nurse:

- Nurses will screen all of their patients for SIRS within 2 hours of the start of their shift. Each change in care giver will screen also within 2 hours of the start of their shift.
- This screen should be based on recent vital signs. ie. No greater than 2 hours old.
- If the patient does not have a CBC or the CBC is > 24 hours old and the nurse feels there is a need, or the nurse sees a change in the patient's condition, or a change in any of the other SIRS criteria the nurse may draw a CBC with Manual Diff and a Lactate.

Protocols for the bedside nurse:

- The nurse should also complete the severe sepsis screening tool. (Built into EPIC).
- The nurse may call the Rapid Response Team nurse at any time during this process for assistance.
- If the lactate is >4 mmol or there is hypotension start a 500 ml bolus of **Normal Saline**, draw the following labs and cultures, and call the RRT nurse for assistance with continued fluid boluses:

Protocols for the bedside nurse:

- Labs: Draw 2 sets of blood cultures **drawn before antibiotics initiated.** If you have antibiotics ordered GIVE THEM, do not wait to obtain the blood cultures beyond 1 attempt to draw them.
- Lactate, if not already completed. Repeat the lactate in 5 hours.
- CBC, if not already completed above, with MANUAL DIFF (This change is due to not seeing the bands with the automated diff.)
- BMP
- Procalcitonin
- UA stat with reflex to culture.
- IF respiratory symptoms order portable Chest x-ray.
- IF Diarrhea send for CDiff toxin/antigen.
- Communicate any protocol's/positive findings and patient status to the provider ASAP.

Protocols for the bedside nurse:

- Call the **Rapid Response Nurse** for assistance and further evaluation. Together you can call the physician and update him or her on your findings.

The ICU Nurse:

- In addition to the bedside nurse protocols, the ICU nurse can:
- Use **pressure bags and multiple IV sites** to deliver the 30ml/kg of fluid for the 3 hour bundle for sepsis.
- Fluid volume resuscitate to a MAP of 65 mmHg or >.
- After appropriate fluid volume resuscitation (30ml/kg) if there is refractory hypotension **consider pressor support and hemodynamic monitoring (for example with Esophageal Doppler monitor).**
- **Repeat the lactate in less than 5 hours from the first SIRS criteria met.**

Goals of Therapy:

Maintenance:

- BP: MAP > 65 or SBP > 90
- SpO₂ > 92%
- Urine output > .5ml/kg/hr
- Vital Signs every 1 hour x 4 hours, then every 4 hours x 2, then once per shift or normal unit protocol
- Repeat lactate in 5 hours
- Anchor Foley to monitor urine output.

Rapid Response Team Nurse:

- The Rapid Response Team Nurse or any physician may initiate a Code Sepsis.
- The Rapid Nurse may initiate any of the above protocols as well as any protocols they have per the Rapid Response Team Adult Policy 440.63.
- The RRT nurse should begin by confirming the SIRS screen and the Severe Sepsis Screen completed in EPIC by the bedside nurse.
- If the screen and the previous labs indicate a new, presumed, or worsening infection the RRT nurse should initiate the page for a Code Sepsis Alert.

EPIC Screen Shot:

Flowsheets

File Selected Add Rows Add LDA Cascade Add Col Insert Col Hide Device Data Last Filed Reg Doc Graph Go to Date Values By Refresh Legend Cosign More

Vital Signs Vital Signs Complex Assessment Complex Assessment Intake/Output IV Assessment Pre-Procedural Checklist Daily Cares/Safety Vital Signs

Vital Signs Mode: Accordion Expanded View All 1m 5m 10m 15m 30m 1h 2h 4h 8h 24h Based On: 0700 Reset Now

	AICU					
	1/21/16					
	1503	1504	1505	1506	1507	1508
<input checked="" type="checkbox"/> O2 Device						
FiO2 (%)						
Exercise SaO2						
ETCO2 (mmHg)						
Integrated Pulmonary Index (IPI)						
\$Oxygen Daily						
Height and Weight						
Height						
Weight - Scale						
Scale Type						
Dry Weight						
Weight - Patient Stated						
Drug Calculation Weight						
Percent Weight Change						
Weight gain/loss (kg)						
BSA (sq m) (Mostellar/Pharmacy)						
BSA (sq m) (DuBois/Nursing)						
Dry Weight - BSA (sq m) (Dubois/Nursing)						
BMI (Calculated)						
Pre-Treatment Weight						
Post-Treatment Weight						
SIRS Screen						
Mental Status Altered from Baseline						
Temperature >100.9						
Temperature <96.8						
Respiratory Rate >20						
Heart Rate >90						
WBC >12,000						
WBC <4,000						
Bands >10%						
Hyperglycemia greater than 140 in absence						
Positive fluid balance >20mL/kg in 24 hours						
SIRS Screen Result						
<input checked="" type="checkbox"/> Is the SIRS screen result positive?						


Check All Uncheck All

No cell selected

A word cloud featuring the phrase "thank you" in numerous languages and scripts. The words are arranged in a roughly circular pattern, with "thank you" being the largest and most prominent. Other words include:

- danke
- 謝謝
- ngiyabonga
- teşekkür ederim
- спасибо
- Баярлалаа
- raahmat
- merci
- kia ora
- barka
- welalin
- tack
- spas
- vinaka
- спасиби
- blagodaram
- dank je
- misaotra
- matondo
- paldies
- grazzi
- mahalo
- tapadh leat
- хвала
- asante
- manana
- obrigada
- murakoze
- tenki
- chokramo
- mamnun
- moichackeram
- tau
- djere dieuf
- дякую
- go raibh maith agat
- sulpáy
- gracias
- gracias ago
- gracies
- chnorakaloutioun
- chokramo
- arigatō
- tak
- dakujem
- trugarez
- merci
- merce
- shukriya
- dhanyavadagalu
- diolch
- euχαριστώ
- xiexie
- 감사합니다
- raahmat
- terima kasih
- tanemirt
- rahmet
- najis tuke
- kam sah hamnida
- raahmat
- তোমাকে ধন্যবাদ
- obrigado
- sobodi
- děkuji
- dziękuję
- hvala
- mauruuru
- koszonóm
- nanni
- nandri
- kiitos
- dankie
- dhanyavadi
- gracie
- bayarlalaa
- enkosi
- bedankt
- faafetai lava
- maunua
- maunua

Q and A



SEPSIS ALLIANCE
Suspect Sepsis. Save Lives.

When it comes to sepsis, remember
IT'S ABOUT TIME™ Watch for:

T	I	M	E
TEMPERATURE higher or lower than normal	INFECTION may have signs and symptoms of an infection	MENTAL DECLINE confused, sleepy, difficult to rouse	EXTREMELY ILL "I feel like I might die," severe pain or discomfort

Watch for a combination of these symptoms. If you suspect sepsis, see a doctor urgently, CALL 911 or go to a hospital and say, "I AM CONCERNED ABOUT SEPSIS."

www.SepsisItsAboutTime.org



SEPSIS COORDINATOR NETWORK
Resources and Guidance for Improved Outcomes

Sponsor Innovation Webinar

November 19, 2019

2 pm ET/11 am PT

Maureen Spencer, M.Ed, BSN, RN, CIC, FAPIC

Director, Clinical Implementation - Accelerate Diagnostics

Nora O'Buck, RN-BSN, CCRN

Program Manager, Professional Education - Edwards Lifesciences

Pam Shirley, BSN RN, OCN, VA-BC

Clinical Nurse Educator - La Jolla Pharmaceutical

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SEPSIS COORDINATOR NETWORK

Resources and Guidance for Improved Outcomes

Sepsis Coordinator Network Mission:

To provide sepsis best-practice resources and guidance to sepsis coordinators and all health professionals across the country.

SCN activities support ongoing communication, education and network building among health professionals passionate about improved sepsis care.

Activities include:

- **Educational webinars** that highlight sepsis best practices in a variety of healthcare settings
- Active **discussion** and **peer support** via an online community
- **Training** and **education** opportunities
- **Resources drive** to find information on a range of topics, including core measures, clinical practice guidelines, patient screening and identification tools, education resources and more

JOIN NOW AT [SEPSISCOORDINATORNETWORK.ORG](https://sepsiscoordinatornetwork.org)

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