

# FHCA 2019 Annual Conference & Trade Show

## CE Session #27 – Improving Rehospitalization Rates Through the Implementation of Sepsis Protocol

Tuesday, August 6 – 2:00 to 3:00 p.m.  
Celebration 3-4 – Clinical/Care Practices

### Upon completion of this presentation, the learner will be able to:

- Recognize evidence and practice-based sepsis protocols in nursing homes
- Identify opportunities and challenges of implementing a successful sepsis protocol in a nursing home
- Apply sepsis protocol in a nursing home as a strategy to improve rehospitalization rates

### Seminar Description:

With over 1.5 million cases of sepsis annually and approximately 250,000 Americans dying from sepsis every year, sepsis is the most common admitting diagnosis for residents who are transferred to hospitals from many nursing centers. Learn how one organization implemented a sepsis protocol in all their centers and how it improved their rehospitalization rates.

### Presenter Bio(s):

**Ram Rengel**, RN, BSN, MBA, MHA worked as an ICU and home health nurse prior to finding his passion in long term care and skilled nursing centers. He is experienced with infection prevention strategies, successful implementation of projects with proven results, surveillance and monitoring systems, and data analysis and quality metrics at the center and multiple health systems level. Ram is currently finishing his doctorate in nursing practice (DNP) at UCF.



# Improving Rehospitalization Rates through the Implementation of **SEPSIS** Protocol

*Presented by:*

**Ram Rengel,** RN BSN MBA MHA  
Regional Director of Clinical Services  
Clear Choice Health Care



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## Objectives

At the conclusion of this activity, the participant will be able to:

- Recognize evidence- and practice-based sepsis protocols in nursing homes
- Identify opportunities and challenges of implementing a successful sepsis protocol in nursing home
- Apply the sepsis protocol in nursing home as a strategy to improve rehospitalization rates

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## Overview

- Over 1.5 million cases of sepsis every year; sepsis kills approximately 250,000 Americans a year.
- Sepsis is the most common admitting diagnosis for patients that are transferred to hospitals from many skilled nursing facilities.
- According to CDC and Agency for Healthcare Research and Quality (AHRQ):
  - Lung infection such as pneumonia (35%)
  - Kidney or urinary tract infection (25%)
  - Gut, stomach, or intestine infection (11%)
  - Skin infection (11%)

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## Overview

- More than 60% of patients who develop severe sepsis in the United States are over 65 years of age.
- Mortality rates for sepsis increase as age increases, with in-hospital mortality ranging from 16.6% to 46.1%.
- At a cost of \$30 billion, sepsis was the most expensive condition in the U.S. healthcare system in 2018.

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## Overview

- Transfers of nursing home residents to hospitals that were specifically related to sepsis cost Medicare \$3 billion, with 13.4% of all hospitalizations from nursing homes involving sepsis as primary diagnosis.
- Sepsis represented 21% of all hospital Medicare reimbursements for patients admitted from nursing home, with an average hospital reimbursement of \$17,430.
- Early treatment decreases mortality in patients with sepsis.

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## Goals of Sepsis Program

- Recognize and Treat Early and Aggressively
- ❖ **Early recognition and treatment is how we save lives!**  
*When talking to the doctor about a change in status, do not be afraid to state "is this patient going septic?" It may help the doctor to think sepsis and save the patient's life.*
- Decrease Cases Progressing to Severe Sepsis
- Decrease Morbidity and Mortality

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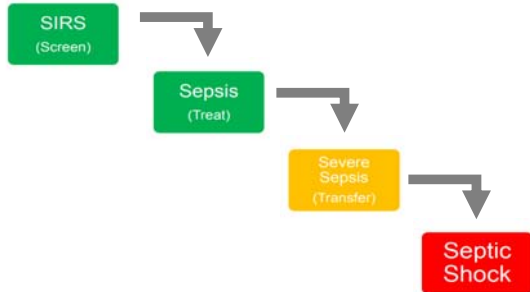
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## Progression of Sepsis




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## SIRS – Systemic Inflammatory Response Syndrome

- Widespread inflammatory response to microbial invasion and cell injury
- May or may not be due to infection\*
- Sign and Symptoms:
  - Fever or hypothermia, tachycardia, tachypnea
  - Leukocytosis (increased WBC than normal range)
  - Leukopenia (decreased WBC than normal range)
- Screening - use of Stop and Watch tool, communication among aides, nurses and therapists, family, other staff members

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## Sepsis

- When SIRS is caused by infection
- Patient has infection plus systemic signs of infection
- Systemic inflammation in response to infection

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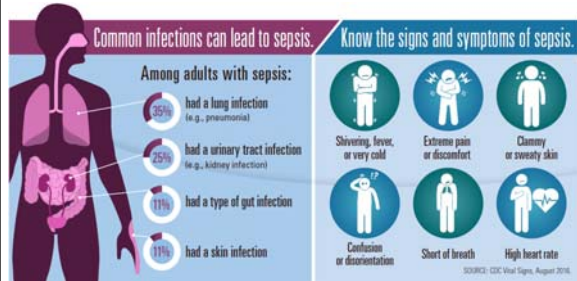
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## Sepsis: Signs and Symptoms




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## Severe Sepsis

- Sepsis that leads to:
  - Acute organ dysfunction
  - Tissue hypoperfusion (normal Lactate level 0.5-1 mmol/L)
    - Lactate > 2.0 mmol/L
  - Sepsis induced hypotension
    - SBP < 90 or MAP < 65 or SBP decrease >40 from baseline

$$\text{MAP} = \frac{\text{SBP} + (\text{DBP} \times 2)}{3}$$

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## Septic Shock

- Severe sepsis with hypotension despite adequate volume resuscitation
- Acute circulatory failure, hypo-perfusion
- Patients with sepsis who require vasopressor (norepi, epi or dobutamine) support despite adequate fluid replacement are in septic shock
- Lactate > 4.0 mmol/L regardless of BP
- Needs to get to the ED/ICU STAT
- Untreated septic shock is 100% fatal; treated septic shock has about a 50% mortality

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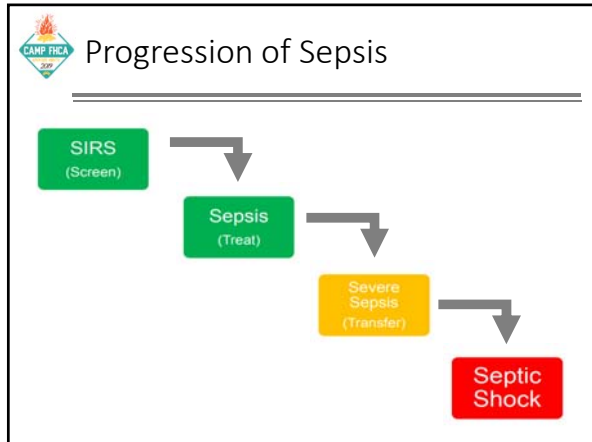
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**SCREEN**  
**Suspected Infection and 2 or more SIRS Criteria**

<p><b>Suspected Infection</b>          Fever/chills          Currently on antibiotics          Cough/SOB          Cellulitis/Wound drainage          Weakness</p>	<p><b>SIRS Criteria</b>          Temp <math>\geq 100.0</math> or <math>\leq 96.8</math>          Pulse <math>\geq 100</math>          BP <math>&lt; 100</math> or <math>&gt; 40</math> mmHg from baseline          Resp Rate <math>&gt; 20</math> or SpO<sub>2</sub> <math>&lt; 90\%</math>          Altered mental status</p>
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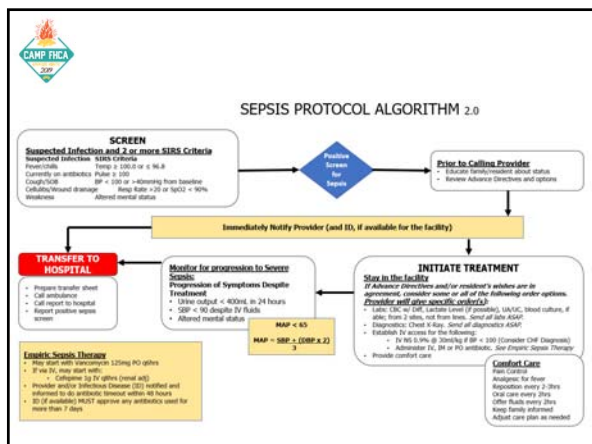
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## Risk Factors for Sepsis

- Sepsis is more common or dangerous in people who:
  - Are very young or very old
  - Have compromised immune systems
  - Are already very sick
  - Recent surgery
  - Have invasive devices such as intravenous catheters
  - Taking antibiotics for infection

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## Case Study: Mr. C

- A 72 year old man with new painful urination and flank pain
- VS: T – 99.9F; HR – 85; RR – 24; BP – 116/72
- Hx: recent hip surgery for a fall, foley catheter removed 2 days ago
- Meds: metoprolol 50mg for HTN, levothyroxine 125mcg for hypothyroidism
- Evaluation: alert and oriented; heart sounds S1S2; warm, dry skin; pulses, 3+
- Risk Factors? Older adult, chronic illness
- Criteria for sepsis met? What’s the next step?

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## Case Study: Mrs. P

- An 80 year old woman with new onset altered mental status
- VS: T – 101.2F; HR – 110; RR – 28; BP – 92/50
- Hx: bedbound, very thin and fragile, DM and RA
- Meds: metformin 1,000mg daily, adalimumab (Humira) 80mg inj
- Evaluation: chills; warm, dry skin; weak pulses, 1-2+; stage 2 sacral decubitus; blood glucose = 175
- Risk Factors? Older adult, chronic illness, taking immunosuppressant, wound present
- Criteria for sepsis met? What’s the next step?

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## Sepsis Prevention

- Sepsis is always caused by an infection, most often by a bacteria. That means preventing infection is one of the best ways to prevent sepsis.
- Avoiding close contact with individuals who have contagious illnesses may help reduce the risk of acquiring infections.
- Practicing good hand hygiene and regularly washing hands with soap and water may help reduce the risk of acquiring infections.

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## Sepsis Prevention

- Know the symptoms, especially patients who are at risk. Receiving quick medical care for septic care is important to prevent death.
- Get vaccinated. They may include vaccines for influenza, pneumococcus, and meningitis – all infections that can cause sepsis.

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## CDC Website – Trove of Information

<https://www.cdc.gov/sepsis/index.html>

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**CAMP FICA** Sepsis Protocol - Implementation

**BET AHEAD OF SEPSIS** KNOW THE RISKS. SPOT THE SIGNS. ACT FAST. YOUR PATIENT'S LIFE DEPENDS ON YOU!

Infections put your patients at risk for a life-threatening condition called sepsis. Sepsis is the body's extreme response to infection. If the underlying and initial cause remains, sepsis can rapidly lead to tissue damage, organ failure, and death. Sepsis happens when an infection in your patient's skin, lungs, urinary tract or elsewhere overgrows a vital infection throughout the body.

Anyone can get an infection, and almost any infection can lead to sepsis.

- 1 PREVENT INFECTIONS**  
Be an advocate for your patients and take steps to prevent infections.
- 2 PRACTICE GOOD HYGIENE**  
Remember to clean your hands and avoid contact with items on wheels and control air quality.
- 3 KNOW THE SYMPTOMS**  
Symptoms of sepsis can include any one or a combination of these:
- 4 ACT FAST**  
Sepsis is a medical emergency. Time matters. Early recognition and treatment save lives.

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**CAMP FICA** Surviving Sepsis Campaign

Surviving Sepsis Campaign

ABOUT SSC | **GUIDELINES** | NEWS & EVENTS | NETWORKS & PARTNERSHIPS | CONTACT

**Guidelines**

The fourth edition of Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016 are linked below. The 9th edition is in development. ESCM and SCCM have announced that the 9th edition update will be completed in collaboration with the QUACK group (Guidelines in Intensive Care, Development and Evaluation) affiliated with The Research Institute of St. Joseph's Healthcare and McMaster University, Hamilton, Canada.

Surviving Sepsis Campaign: International Guidelines for Management of Sepsis and Septic Shock: 2016  
Critical Care Medicine  
Intensive Care Medicine

**Related Materials**

2016 Surviving Sepsis Campaign Guidelines Presentation

Clinical Practice and Administrative Guidelines: Frequently Asked Questions (FAQs) for Public Panel Members

A User's Guide to the 2016 Surviving Sepsis Guidelines  
Critical Care Medicine  
Intensive Care Medicine

Surviving Sepsis Guidelines: A Continuous Move Toward Better Care of Patients With Sepsis  
JAMA | Vancouver

<http://www.survivingsepsis.org/Guidelines/Pages/default.aspx>

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**CAMP FICA** Sepsis Protocol - Implementation

**Source Control**

- We recommend that a specific anatomic diagnosis of infection requiring emergent source control be identified or excluded as rapidly as possible in patients with sepsis or septic shock, and that any required source control intervention be implemented as soon as medically/logistically practical after the diagnosis is made. (Best Practice Statement).

**Antibiotics**

- We recommend that administration of IV antimicrobials be initiated as soon as possible after recognition and within 1 h for both sepsis and septic shock. (strong recommendation, moderate quality of evidence).
- We recommend empiric broad-spectrum therapy with one or more antimicrobials to cover all likely pathogens. (strong recommendation, moderate quality of evidence).

**Initial Resuscitation**

- We recommend that in the resuscitation from sepsis-induced hypoperfusion, at least 30ml/kg of intravenous crystalloid fluid be given within the first 3 hours. (Strong recommendation, low quality of evidence)
- We recommend that following initial fluid resuscitation, additional fluids be guided by frequent reassessment of hemodynamic status. (I)

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## Antibiotic Stewardship

### Nursing Home

- 40%-75% of antibiotics are excessively broad spectrum, continued too long, or prescribed incorrectly<sup>(1)</sup>

### CDC—Core Elements of Antibiotic Stewardship Programs<sup>(2)</sup>

- Implement policies that support optimal antibiotic use.
- Utilize specific interventions that can be divided into three categories: broad, pharmacy driven and infection and syndrome specific.

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## Minnesota Hospital Association – 100/100/100 Campaign

**seeing sepsis**  
Early detection saves lives.

**Long Term Care Early Sepsis Identification Saves Lives**

Sepsis, a rapid onset of organ dysfunction caused by an overinflaming immune response to infection, is a deadly threat to residents.

MHA coordinated Seeing Sepsis, a program to decrease the incidence of sepsis.

Currently the national mortality rate is 16%. If this was reduced 10% to 45%, 28,802 to 14,470 lives would be saved. This is for all patients, not just long term care.

**100 seeing sepsis**

- Is their temperature above 100?
- Is their heart rate above 100?
- Is their blood pressure below 100?

And does the resident just not look right? Tell the nurse, screen for sepsis and notify the physician immediately.

<https://www.mnhospitals.org/Portals/0/Documents/ptsafety/SeeingSepsisLTC/1.%20Seeing%20Sepsis%20-%20LTC%20Poster.pdf>

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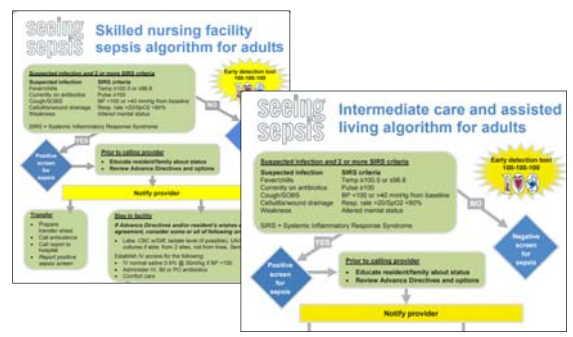
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## Sepsis Protocol - Implementation




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# Sepsis Protocol - Implementation

**Clear Choice Health Care**

**PATIENT Care PORTAL**  
What's Going On? - What to Do Next? | Sign/Symptom of Patient

- Certified Nursing Assistant (CNA) Skills Review
- Licensed Nurse (RN, LPN) Skills Review
- Antibiotic Stewardship
- Core Element 1: Leadership Commitment
- Core Element 2: Accountability
- Core Element 3: Drug Expertise
- InterAct 4.0: Quality Improvement and Communication Tools
- Quality Improvement Tool for Review of Acute Care Transfers
- Quality Improvement Summary & Worksheet
- Stop and Watch Early Warning Tool
- SBAR Communication Tool
- InterAct 4.0: Change in Condition File Cards and Care Paths
- Documentation

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# Sepsis Protocol - Implementation

**STOP and WATCH - Early Warning Tool**  
If you have identified a change while caring for or observing a resident, please circle the change and notify a nurse.

**INTERACT**

Resident Name:	Room #:	Date & Time:
<b>S</b> Seems different than usual <b>T</b> Talks or communicates less <b>O</b> Overall, needs more help <b>P</b> Pain - new or worsening; Participated less in activities  <b>a</b> Ate less <b>n</b> No bowel movement in 3 days; or diarrhea <b>d</b> Drank less  <b>W</b> Weight change <b>A</b> Agitated or nervous more than usual <b>T</b> Tired, weak, confused or drowsy <b>C</b> Change in skin color or condition <b>H</b> Help with walking, transferring, toileting more than usual	Your Name:	
	Reported to:	
	Response:	

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# Sepsis Protocol - Implementation

**SBAR Communication Form**  
and Progress Note for RNs/LPN/LVNs

**INTERACT**  
Version 4.0 Tool

**Before Calling the Physician / NP / PA / other Healthcare Provider**

- Evaluate the resident/patient. Complete relevant aspects of the SBAR template.
- Check Vital Signs (if applicable) and/or vital heart rate, temperature, respiratory rate, O2 saturation.
- Review Resident's current problem(s), signs, medications, other orders.
- Review an INTERACT Care Path or Acute Change in Condition File Card, if indicated.
- Have relevant information available before reporting.
- If a medical record, vital signs, labwork, or other tests such as C/ABG and other care binding orders, allow time to review.

**SITUATION**

The change in condition, symptoms, or signs observed and evaluated is:

This occurred on \_\_\_\_\_ at \_\_\_\_\_. Since this started it has gotten:  Worse  Better

Things that make the condition or symptom worse are \_\_\_\_\_

Things that make the condition or symptom better are \_\_\_\_\_

This condition, concern, or sign has occurred/started:  Yes  No

Treatment for this approach if applicable: \_\_\_\_\_

Other relevant information: \_\_\_\_\_

**BACKGROUND**

**Nurse Call Script: Positive Sepsis Screen**

"Dr. \_\_\_\_\_, this is (your name). I'm the nurse taking care of (patient name) in Room \_\_\_\_\_.

"I've just completed a sepsis screen of the patient, and I suspect the patient may have an infection (state location), and meets the SIRS criteria of (list the criteria met). Per protocol, I have done the following (state interventions)."

"The patient is already on (name of antibiotics). Would you like to continue or modify? Would you like to give a bolus?"

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**CAMP FHCA** Sepsis Protocol - Implementation

**SEPSIS Protocol: Early Recognition and Treatment**

**SEPSIS PROTOCOL ALGORITHM 1.0**

**Know the signs and symptoms of sepsis:**

- Shivering, fever, or very cold
- Extreme pain or discomfort
- Change or rusty skin
- Confusion or disorientation
- Short of breath
- High heart rate

**SEPSIS**  
Early Recognition and Treatment in the Skilled Nursing Facility

**Report Any Change of Condition in Patient's Room/Bedside**

**Clear Choice Health Care**

**SEPSIS**  
Early Recognition and Treatment in the Skilled Nursing Facility

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**CAMP FHCA** QAPI & Sepsis

**PROGRAM LEADER**  
Medical Director

- Collaboration and Education
- Ensure timely follow-up of patients on protocol and appropriate antibiotic use
- Data analysis and collection; tracking and trending
- Review and improvement of program at set intervals (e.g., monthly QAPI)

**CO-LEADER**  
Infectious Disease

- Expert infectious and antibiotic skill set
- Access and ability to interpret bacterial resistance data
- Selection of broad spectrum antibiotic when etiology of infection is unknown
- Review of individual cases to ensure best practices are followed concerning antibiotic usage

**NURSING:**  
DON, ADON, SDC, UM, Nurses, CNAs

- Education and in-servicing
- Protocol implementation
- Feedback and evaluation

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**CAMP FHCA** Sepsis Protocol Implementation: Results

**Three-hour bundle compliance and mortality in patients with severe sepsis.**

**Observed Rate**

**3 Hour Bundle Observed Rate**

**Severe Sepsis Mortality Rate**

Lynn, N. B., Gupta, C., Vaaler, M., Held, J., & Leon, L. (2018). Severe sepsis 3-hour bundle compliance and mortality. *Am Jour Infection Control*, 46(2018), 1299-1300.

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## Challenges vs Opportunities

- Physicians/Doctors; NPs/PAs (weekends, nights)
- In-House Staff (i.e., nurses)
- Laboratory
- Pharmacy
- Family
- Quality Measures
- Collaboration, Sharing of Best Practices
- Hospital Referrals, Effective Partnership
- Community Reputation

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## Improving Rehospitalization Rates through the Implementation of **SEPSIS** Protocol

*Questions?*

**Ram Rengel,** RN BSN MBA MHA  
rrengel@clearchoicehc.com



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