Nursing Home (NH) 7-Week Sepsis Sprint | Session 5

Sepsis Sprint: On Your Mark, Get Set, Go!

Sepsis Prevention and Screening in NHs

Health Services Advisory Group (HSAG)

Reminder

- Designed for each session to build upon the previous session(s) to provide a comprehensive strategy for advancing your sepsis prevention program.
- The educational component in each session was designed for you to use to educate your team and staff about sepsis.
- Each session is recorded and available on demand for you to use in your training sessions.

Goals

1. Identify the key components of a sepsis prevention program.
2. Review the sepsis screening process.
3. Review the HSAG sepsis prevention bundle and associated resources.

Sepsis Algorithm

Sepsis Algorithm for Adults

Suspected infection *and* 2 or more SIRS criteria

Suspected infection	SIRS criteria
Fever/chills	Temp ≥100.0 or ≤96.8
Currently on antibiotics	Pulse ≥100
Cough/SOBS	BP <100 or >40 mmHg from baseline
Cellulitis/wound drainage	Resp. rate >20/SpO2 <90%
Weakness	Altered mental status

SIRS = Systemic Inflammatory Response Syndrome

NO → **Negative screen for sepsis**

YES → **Positive screen for sepsis** →

Prior to calling provider

- **Educate resident/family about status**
- **Review Advance Directives and options**

Notify provider

Transfer

- Prepare transfer sheet
- Call ambulance
- Call report to hospital
- *Report positive sepsis screen*

Stay in facility

If Advance Directives and/or resident's wishes are in agreement, consider some or all of following order options:

- Labs: CBC w/Diff, lactate level (if possible), UA/UC, blood cultures if able; from 2 sites, not from lines. *Send all labs ASAP.*

Establish IV access for the following:

- IV normal saline 0.9% @ 30ml/kg if BP <100
- Administer IV, IM or PO antibiotics
- Comfort care

Monitor for progression into *Multisystem Organ Dysfunction Syndrome*

Examples:

- Progression of symptoms despite treatment
- Urine output <400ml in 24 hours
- SBP <90 despite IV fluids
- Altered mental status

Consider transferring to another level of care - hospital, palliative, or hospice

Comfort care

- Pain control
- Analgesic for fever
- Reposition every 2-3 hrs
- Oral care every 2 hrs
- Offer fluids every 2 hrs
- Keep family informed
- Adjust care plan as needed

CBC=Complete blood count
UA/UC=Urinalysis/Urine Culture
BP=Blood pressure
IM=Intramuscular
IV=Intravenous
PO=Per Os/By Mouth

U.S. Dept. of Health & Human Services Partnership for Patients (HSS), Betsy Lehman Center for Patient Safety. *Seeing Sepsis algorithm for SNFs.* https://betsylehmancenterma.gov/assets/uploads/SepsisLTSS-SeeingSepsisAlgorithm.pdf

Screening for Sepsis

Infection Suspected If:

- Fever/chills
- Currently on antibiotics
- Cough/shortness of breath
- Cellulitis/wound drainage
- Weakness

HSS, Betsy Lehman Center for Patient Safety. *Seeing Sepsis algorithm for SNFs.* https://betsylehmancenterma.gov/assets/uploads/SepsisLTSS-SeeingSepsisAlgorithm.pdf

Check of Systemic Inflammatory Response Syndrome (SIRS):

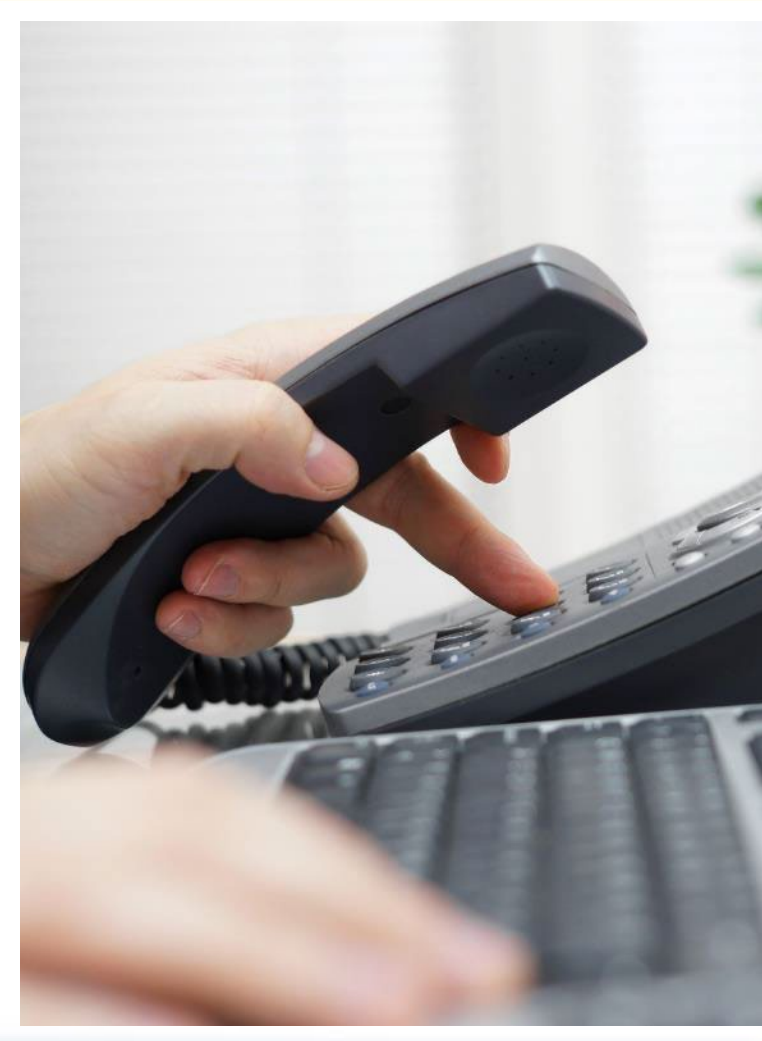
- Temperature ≥ 100°F or ≤ 96.8°F
- Heart rate ≥ 100 beats/minute
- Systolic blood pressure < 100 mmHG or > 40 mmHG from baseline
- Respiratory rate > 20 breaths/minute, oxygen saturation < 90%
- Altered mental status

≥ Greater than or equal to
≤ Less than or equal to

HSS, Betsy Lehman Center for Patient Safety. *Seeing Sepsis algorithm for SNFs.* https://betsylehmancenterma.gov/assets/uploads/SepsisLTSS-SeeingSepsisAlgorithm.pdf

Next Step

- Resident has suspected infection, **and** 2 or more SIRS criteria are checked
- Resident has screened positive for sepsis
- Nurse to notify physician
- Prior to calling provider
  - Educate resident/family about status
  - Review advance directives and options



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Transfer to Hospital

- Follow facility's process
- Prepare transfer sheet
- Call ambulance
- Call report to hospital
- Report positive sepsis screen

Remember to always communicate with the resident

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Stay in Facility

- If advance directives and/or resident's/family's wishes are in agreement, consider some or all of the following order options:
  - Labs: CBC w/Diff, lactate level, urinalysis, urine culture and sensitivity, blood cultures
  - Intravenous (IV) fluids if possible
    - Normal saline 0.9% @30ml/kg if BP < 100
    - Administer IV, IM, or PO antibiotics
    - Comfort care

HSS, Betsy Lehman Center for Patient Safety. *Seeing Sepsis algorithm for SNFs.* https://betsylehmancenterma.gov/assets/uploads/SepsisLTSS-SeeingSepsisAlgorithm.pdf

Monitor for Progression of Sepsis

- Multisystem organ dysfunction syndrome
  - Progression of symptoms despite treatment
  - Urine output < 400ml in 24 hours
  - SBP < 90 despite IV fluids
  - Altered mental status
- Consider transferring to another level of care
  - Palliative
  - Hospice

SBP=Spontaneous Bacterial Peritonitis
HSS, Betsy Lehman Center for Patient Safety. *Seeing Sepsis algorithm for SNFs.* https://betsylehmancenterma.gov/assets/uploads/SepsisLTSS-SeeingSepsisAlgorithm.pdf

Comfort Care

- Pain control
- Analgesic for fever
- Reposition every 2–3 hours
- Oral care every 2 hours
- Offer fluids every 2 hours
- Keep family informed
  - Supportive measures
- Adjust care plan as needed

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Sepsis Prevention

Sepsis Prevention Program—Key Components

- Identify team members
- Provide education on Sepsis Prevention Bundle
- Implement Sepsis Prevention Bundle
  - Action Plan
  - Risk Assessment
  - Risk/Action Tool
  - SBAR Tool

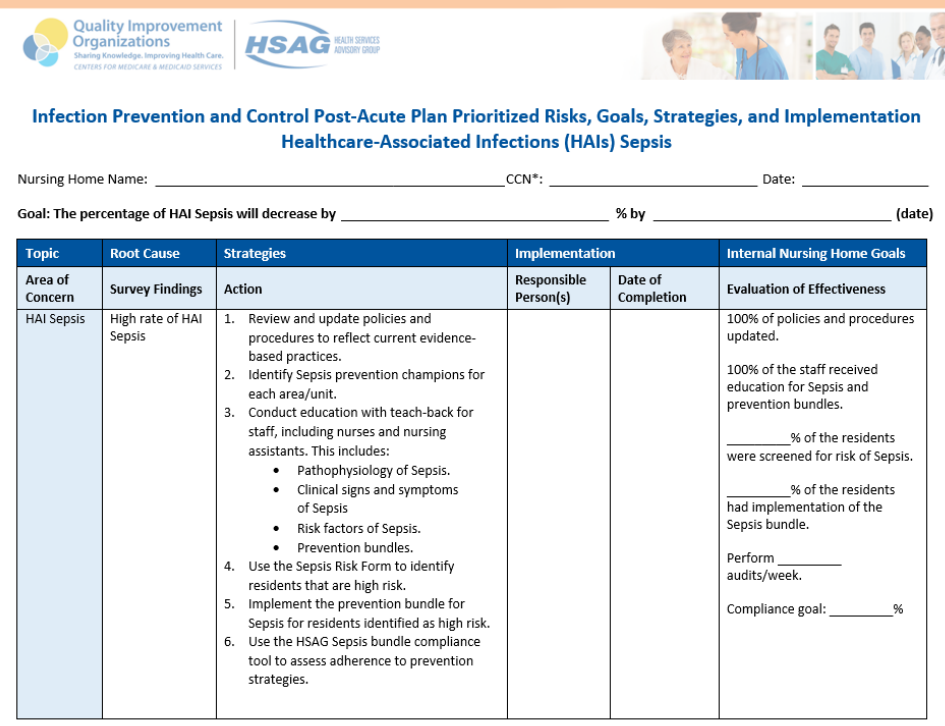
SBAR = Situation, Background, Assessment, Recommendation

Sepsis Prevention

- Proper hand hygiene
- Vaccinations
- Personal protective equipment
- Pneumonia/Urinary Tract Infection Bundle
- Standard precautions

Sepsis Tools/Sepsis Prevention Bundle Tools

Sepsis Action Plan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Infection Prevention and Control Post-Acute Plan Prioritized Risks, Goals, Strategies, and Implementation Healthcare-Associated Infections (HAIs) Sepsis

Nursing Home Name: ______________________ CCN*: ______________ Date: __________

Goal: The percentage of HAI Sepsis will decrease by ______________ % by ______________ (date)

Topic	Root Cause	Strategies	Implementation		Internal Nursing Home Goals
Area of Concern	Survey Findings	Action	Responsible Person(s)	Date of Completion	Evaluation of Effectiveness
HAI Sepsis	High rate of HAI Sepsis	1. Review and update policies and procedures to reflect current evidence-based practices. 2. Identify Sepsis prevention champions for each area/unit. 3. Conduct education with teach-back for staff, including nurses and nursing assistants. This includes: • Pathophysiology of Sepsis. • Clinical signs and symptoms of Sepsis • Risk factors of Sepsis. • Prevention bundles. 4. Use the Sepsis Risk Form to identify residents that are high risk. 5. Implement the prevention bundle for Sepsis for residents identified as high risk. 6. Use the HSAG Sepsis bundle compliance tool to assess adherence to prevention strategies.			100% of policies and procedures updated. 100% of the staff received education for Sepsis and prevention bundles. ________% of the residents were screened for risk of Sepsis. ________% of the residents had implementation of the Sepsis bundle. Perform ________ audits/week. Compliance goal: ________%

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Why Is an Action Plan Important?

- Step-by-step plan to achieve a goal.
- Tool to design, assign, and track implementation of an initiative.

16. Action Planning

Quality Series: Action Planning

Action Planning Slides (PDF)

Action Planning Recording

Action Planning Tools to Download

- Action Plan Template (Word)
- Action Plan Template (PDF)

https://www.hsag.com/hqic/quality-series/

Risk Factor Assessment

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Sepsis Risk Factors

Sepsis is the body's extreme response to an infection. It happens when an infection you already have triggers a chain reaction throughout your body and can be a life-threatening medical emergency. If a resident has had an infection and one or more of the risks below, the Sepsis Bundle | Risk Factors and Action Tool may be implemented.

☑	Risk
☐	**Compromised Immune System** • Unable to fight infections
☐	**Residents With Chronic Conditions** • Chronic kidney disease • Chronic liver disease • Renal disease • Pulmonary disease • Diabetes
☐	**Cancer** • Weaker immune system
☐	**Previous Use of Antibiotics or Corticosteroids** • Weaker immune system
☐	**> 65 Years of Age** • Residents who are 65 years old and older are at high risk due to presence of bacteria and weaker immune system
☐	**Functional Limitations**
☐	**Recurrent Hospitalizations**
☐	**Opioid Addiction/Large Dose of Loperamide** • Results in constipation and impaction • Can result in the intestines absorbing the bacteria from the impacted material • The impaction can also lead to perforation within the digestive tract, causing bacteria to spread in the body
☐	**Neglecting Signs of Infection**

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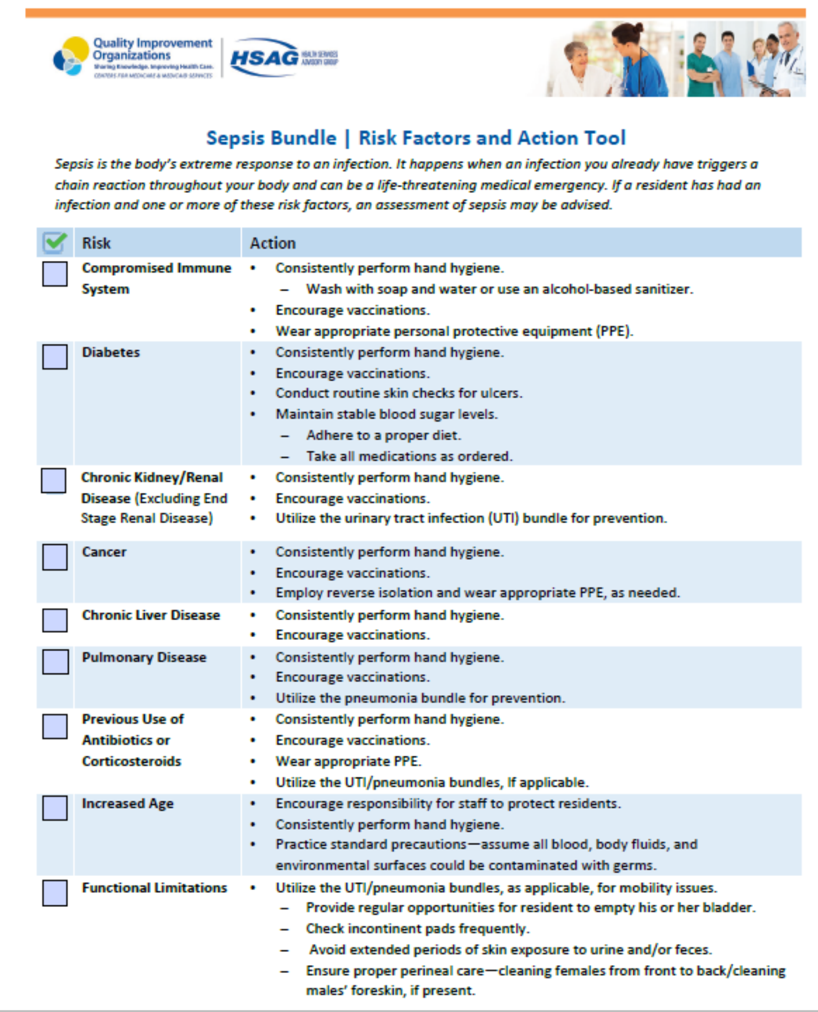
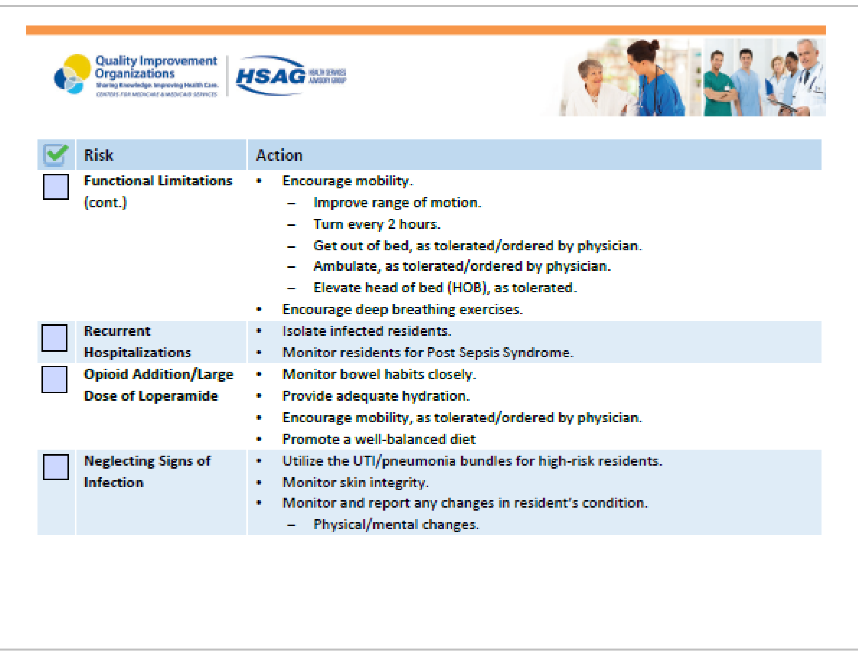
Sepsis Bundle Risk Factors and Action Tool



Sepsis Bundle | Risk Factors and Action Tool

Sepsis is the body's extreme response to an infection. It happens when an infection you already have triggers a chain reaction throughout your body and can be a life-threatening medical emergency. If a resident has had an infection and one or more of these risk factors, an assessment of sepsis may be advised.

☑	Risk	Action
☐	**Compromised Immune System**	• Consistently perform hand hygiene. – Wash with soap and water or use an alcohol-based sanitizer. • Encourage vaccinations. • Wear appropriate personal protective equipment (PPE).
☐	**Diabetes**	• Consistently perform hand hygiene. • Encourage vaccinations. • Conduct routine skin checks for ulcers. • Maintain stable blood sugar levels. – Adhere to a proper diet. – Take all medications as ordered.
☐	**Chronic Kidney/Renal Disease** (Excluding End Stage Renal Disease)	• Consistently perform hand hygiene. • Encourage vaccinations. • Utilize the urinary tract infection (UTI) bundle for prevention.
☐	**Cancer**	• Consistently perform hand hygiene. • Encourage vaccinations. • Employ reverse isolation and wear appropriate PPE, as needed.
☐	**Chronic Liver Disease**	• Consistently perform hand hygiene. • Encourage vaccinations.
☐	**Pulmonary Disease**	• Consistently perform hand hygiene. • Encourage vaccinations. • Utilize the pneumonia bundle for prevention.
☐	**Previous Use of Antibiotics or Corticosteroids**	• Consistently perform hand hygiene. • Encourage vaccinations. • Wear appropriate PPE. • Utilize the UTI/pneumonia bundles, If applicable.
☐	**Increased Age**	• Encourage responsibility for staff to protect residents. • Consistently perform hand hygiene. • Practice standard precautions—assume all blood, body fluids, and environmental surfaces could be contaminated with germs.
☐	**Functional Limitations**	• Utilize the UTI/pneumonia bundles, as applicable, for mobility issues. – Provide regular opportunities for resident to empty his or her bladder. – Check incontinent pads frequently. – Avoid extended periods of skin exposure to urine and/or feces. – Ensure proper perineal care—cleaning females from front to back/cleaning males' foreskin, if present.



☑	Risk	Action
☐	**Functional Limitations** (cont.)	• Encourage mobility. – Improve range of motion. – Turn every 2 hours. – Get out of bed, as tolerated/ordered by physician. – Ambulate, as tolerated/ordered by physician. – Elevate head of bed (HOB), as tolerated. • Encourage deep breathing exercises.
☐	**Recurrent Hospitalizations**	• Isolate infected residents. • Monitor residents for Post Sepsis Syndrome.
☐	**Opioid Addition/Large Dose of Loperamide**	• Monitor bowel habits closely. • Provide adequate hydration. • Encourage mobility, as tolerated/ordered by physician. • Promote a well-balanced diet
☐	**Neglecting Signs of Infection**	• Utilize the UTI/pneumonia bundles for high-risk residents. • Monitor skin integrity. • Monitor and report any changes in resident's condition. – Physical/mental changes.

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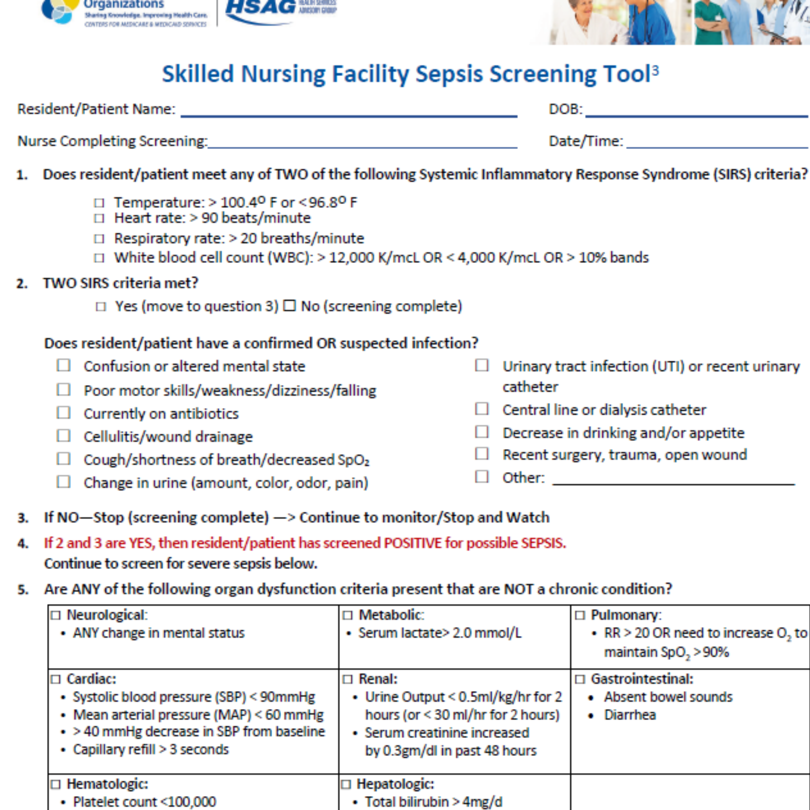
Sepsis Screening—SBAR



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Skilled Nursing Facility Sepsis Screening Tool[3]

Resident/Patient Name: ____________________ DOB: ____________

Nurse Completing Screening: ____________________ Date/Time: ____________

1. Does resident/patient meet any of TWO of the following Systemic Inflammatory Response Syndrome (SIRS) criteria?
   - ☐ Temperature: > 100.4º F or < 96.8º F
   - ☐ Heart rate: > 90 beats/minute
   - ☐ Respiratory rate: > 20 breaths/minute
   - ☐ White blood cell count (WBC): > 12,000 K/mcL OR < 4,000 K/mcL OR > 10% bands
2. TWO SIRS criteria met?
   - ☐ Yes (move to question 3) ☐ No (screening complete)

Does resident/patient have a confirmed OR suspected infection?

- ☐ Confusion or altered mental state
- ☐ Poor motor skills/weakness/dizziness/falling
- ☐ Currently on antibiotics
- ☐ Cellulitis/wound drainage
- ☐ Cough/shortness of breath/decreased SpO_2
- ☐ Change in urine (amount, color, odor, pain)
- ☐ Urinary tract infection (UTI) or recent urinary catheter
- ☐ Central line or dialysis catheter
- ☐ Decrease in drinking and/or appetite
- ☐ Recent surgery, trauma, open wound
- ☐ Other: ____________

3. If NO—Stop (screening complete) —> Continue to monitor/Stop and Watch
4. If 2 and 3 are YES, then resident/patient has screened POSITIVE for possible SEPSIS. Continue to screen for severe sepsis below.
5. Are ANY of the following organ dysfunction criteria present that are NOT a chronic condition?

☐ Neurological: • ANY change in mental status	☐ Metabolic: • Serum lactate> 2.0 mmol/L	☐ Pulmonary: • RR > 20 OR need to increase O_2 to maintain SpO_2 > 90%
☐ Cardiac: • Systolic blood pressure (SBP) < 90mmHg • Mean arterial pressure (MAP) < 60 mmHg • > 40 mmHg decrease in SBP from baseline • Capillary refill > 3 seconds	☐ Renal: • Urine Output < 0.5ml/kg/hr for 2 hours (or < 30 ml/hr for 2 hours) • Serum creatinine increased by 0.3gm/dl in past 48 hours	☐ Gastrointestinal: • Absent bowel sounds • Diarrhea
☐ Hematologic: • Platelet count <100,000 • INR > 1.5 or PTT > 60 seconds	☐ Hepatologic: • Total bilirubin > 4mg/d	

6. If NO, then complete Sepsis SBAR, and call MD to inform of positive sepsis screening and implement sepsis guidelines. Continue to assess/monitor for severe sepsis.
7. If YES, the resident/patient has screened POSITIVE for SEVERE SEPSIS. Complete Sepsis SBAR and call MD to inform of positive severe sepsis screening and prepare for transfer to acute care setting.

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Skilled Nursing Facility (SNF) Situation-Background-Assessment-Recommendation (SBAR) for Sepsis[4]

Communicate immediately with attending provider when a resident/patient screens positive for sepsis.

SITUATION:

____________________ has screened positive for sepsis. He/she has met two or more of the following Systemic Inflammatory Response Syndrome (SIRS) criteria and has a confirmed or suspected source of infection.

Two or more SIRS criteria met (check all that apply):

- ☐ Temperature: > 100.4° F or < 96.8° F
- ☐ Heart rate: > 90 beats/minute
- ☐ Respiratory rate: > 20 breaths/minute
- ☐ White blood cell count (WBC): > 12,000 K/mcL OR < 4,000 K/mcL OR > 10% bands

Infection is confirmed or suspected (check all that apply):

- ☐ Confusion or altered mental state
- ☐ Poor motor skills/weakness/dizziness/falling
- ☐ Currently on antibiotics
- ☐ Cellulitis/wound drainage
- ☐ Cough/shortness of breath/decreased SpO_2
- ☐ Change in urine (amount, color, odor, pain)
- ☐ Urinary tract infection (UTI) or recent urinary catheter
- ☐ Central line or dialysis catheter
- ☐ Decrease in drinking and/or appetite
- ☐ Recent surgery, trauma, open wound
- ☐ Other: ____________

BACKGROUND:

Resident/patient was admitted to SNF with: ____________

Allergies: ____________

Pertinent lab values: ____________

Advance directives: ____________

ASSESSMENT:

Resident's/patient's mental status compared to baseline is: normal/abnormal

Temperature: ________ Pulse: ________ Respiration: ________ Blood Pressure: ________

SpO_2: ________ Urine output: ________ mL/hour or ________ mL over the last 8 hours

Most recent weight: ________ kg

RECOMMENDATIONS:

1. Request STAT orders for lactate level and blood cultures (x2).
2. Request orders for broad spectrum antibiotic(s) and 30mL/kg of normal saline or lactated ringers with rapid infusion.
3. Consider transfer to an acute care facility based on resident/patient presentation and response to interventions.
   a. Complete SNF to Emergency Department (ED) Transfer Form.

[4] Dellinger RP, Levy MM, Rhodes A, et al. Surviving Sepsis Campaign: International guidelines for management of severe sepsis and septic shock: 2012. Critical Care medicine. 2013;41(2): 580-637.
Dinger M, Deutschman, CS Seymour CW, et al. The third international consensus definitions for sepsis and septic shock: 2016. JAMA. 2016;315(8): 801-810.doi:10.1001/jama.2016.0287.

https://www.hsag.com/nh/infection-prevention/#Sepsis

SBAR (cont.)

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SEPSIS SUSPECTED

Skilled Nursing Facility (SNF) to Emergency Department (ED) Transfer Handoff Form[5]

SNF/Facility: ______________________ Date: ______________________

SNF Contact Person: ______________________ **Time First Criteria Met:** ______________________

Patient Name: ______________________ DOB: ______________________

Advance Directive: ____

Comorbidities: ____

Check all that apply:

Two or more Systematic Inflammatory Response Syndrome (SIRS) criteria AND infection confirmed/suspected within a 6-hour window

Two or more SIRS criteria have been met:

- ☐ Temperature: > 100.4° F or < 96.8°F
- ☐ Heart Rate: > 90 beats/minute
- ☐ Respiratory Rate: > 20 breaths/minute
- ☐ White blood cell count (WBC): > 12,000 K/mcL OR < 4,000 K/mcL OR > 10% bands

Infection is confirmed or suspected:

- ☐ Confusion or altered mental state
- ☐ Poor motor skills/weakness/dizziness/falling
- ☐ Currently on antibiotics
- ☐ Cellulitis/wound drainage
- ☐ Cough/shortness of breath/decreased SpO_2
- ☐ Change in urine (amount, color, odor, pain)
- ☐ Urinary tract infection (UTI) or recent urinary catheter
- ☐ Central line or dialysis catheter
- ☐ Decrease in drinking and/or appetite
- ☐ Recent surgery, trauma, open wound
- ☐ Other: ______________________

Fluids and/or Antibiotics Started at SNF

FLUIDS	ANTIBIOTICS
Type of fluid:	Antibiotics given:
Time started:	Time given:
Amount given:	

Other pertinent information:

____

____

https://www.hsag.com/nh/infection-prevention/#Sepsis

Key Take-Aways

- ✓ Identifying the residents at risk will help you prioritize.
- ✓ Provide education to the staff on sepsis screening.
- ✓ Implementation of the sepsis prevention tools as soon as possible will be reflected by a decrease in sepsis cases.

Scenario

An 82-year-old is admitted to your facility from the hospital. The admission nurse uses the risk assessment tool and discovers the resident is at high risk for sepsis. The nurse obtains the resident's vital signs and observes that the resident becomes extremely short of breath when speaking short sentences. The resident's temperature is 96° F and respirations are 32 breaths/minute. What is the order of the next step the nurse should take?

A. Notify provider, complete SBAR, discuss resident's condition with resident/family
B. Discuss resident's condition with resident/family, complete SBAR, notify provider
C. Discuss resident's condition with resident/family, notify provider, complete SBAR

Actionable Item?

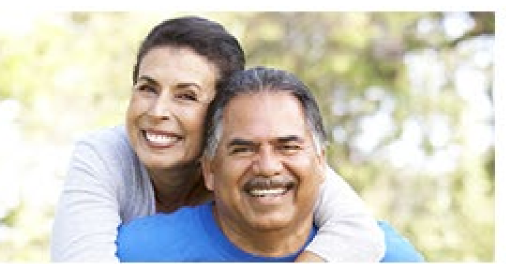
What will you do?

Before the next session, what is one thing you can commit to doing?

Questions?

Join Us For The Next Session

Session	Date
Sepsis Sprint Kick-Off: On Your Mark, Get Set, Go!	September 26, 2023
Sepsis, the Silent Killer: On Your Mark!	October 3, 2023
Hand Hygiene—Spread the Word Not the Germs: Get Set!	October 10, 2023
Don't Wait Until It's Too Late to Vaccinate: Get Set!	October 17, 2023
Sepsis Prevention and Screening in NHs: Get Set!	October 24, 2023
Post Sepsis Syndrome and Readmissions: Get Set!	October 31, 2023
Wrap Up: Go!	November 7, 2023



Thank you!

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