



Nursing Home (NH) Seven-Week Sepsis Sprint | Session 2

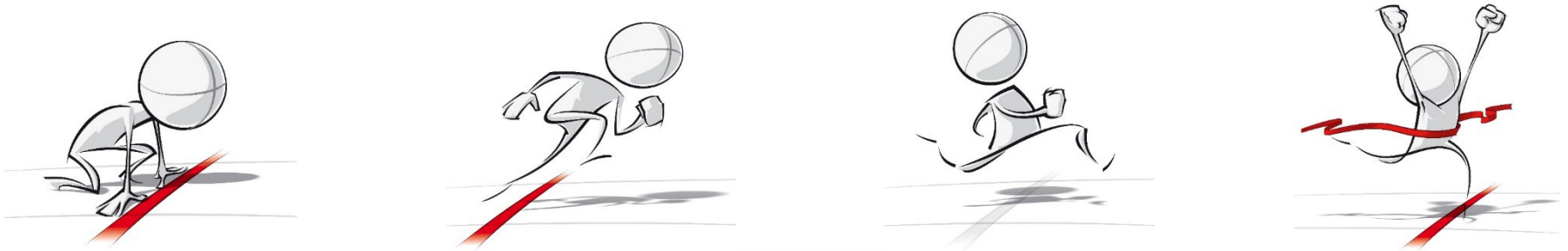
Sepsis Sprint: On Your Mark, Get Set, Go!

Sepsis The Silent Killer

Health Services Advisory Group

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 your 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. Review the leading causes of sepsis in nursing homes.
2. Discuss the pathophysiology of sepsis.
3. Identify the risk factors associated with sepsis in nursing home residents.

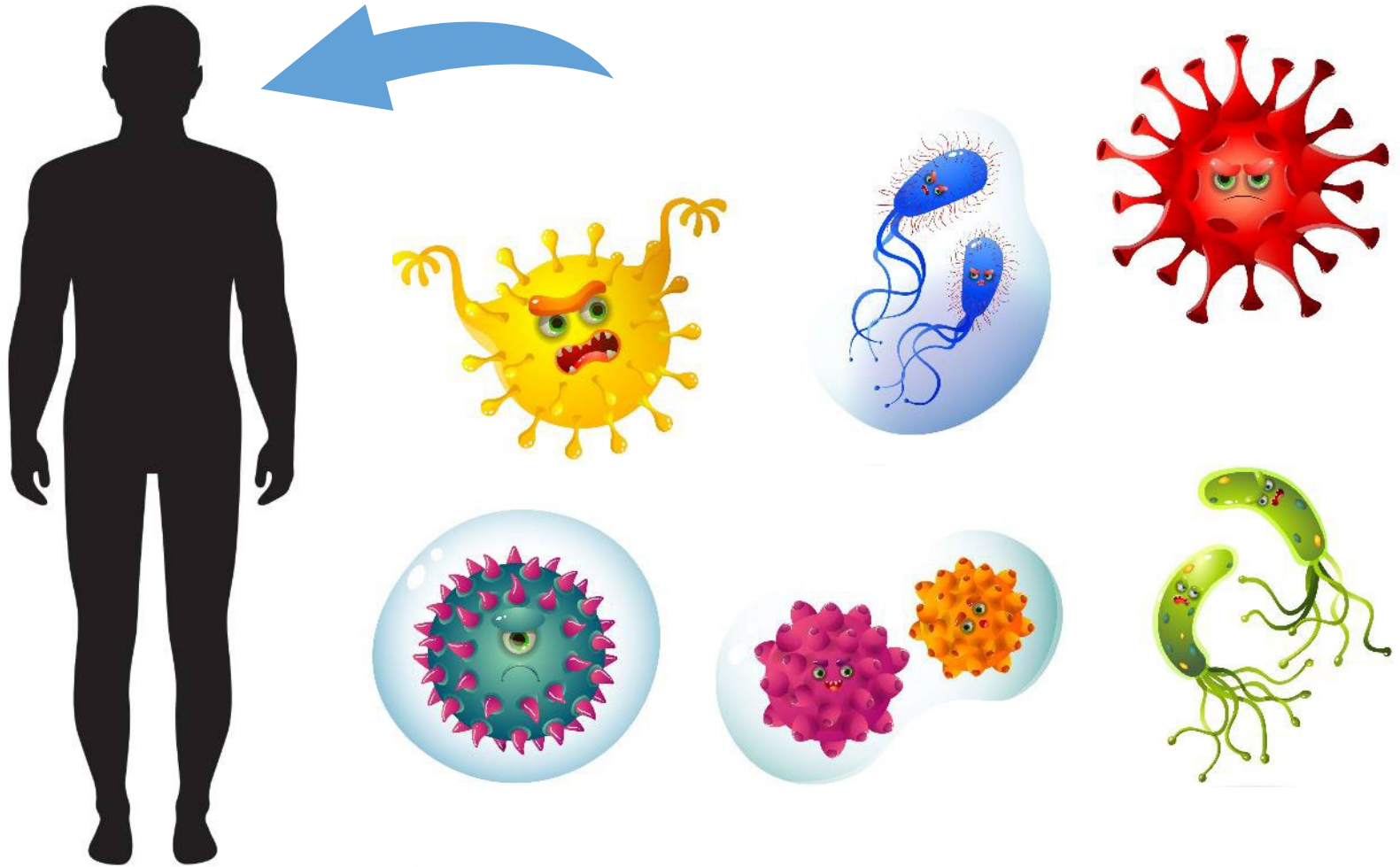


Sepsis Definition

- Sepsis is a life-threatening organ dysfunction caused by a dysregulated host response to infection.*
- Sepsis is a medical emergency. It is not infection; it is the body's overwhelming and life-threatening response to infection. Sepsis can lead to tissue damage, organ failure, and death.
- Sepsis is not contagious; however, an infection can lead to sepsis and you can spread some infections to other people.



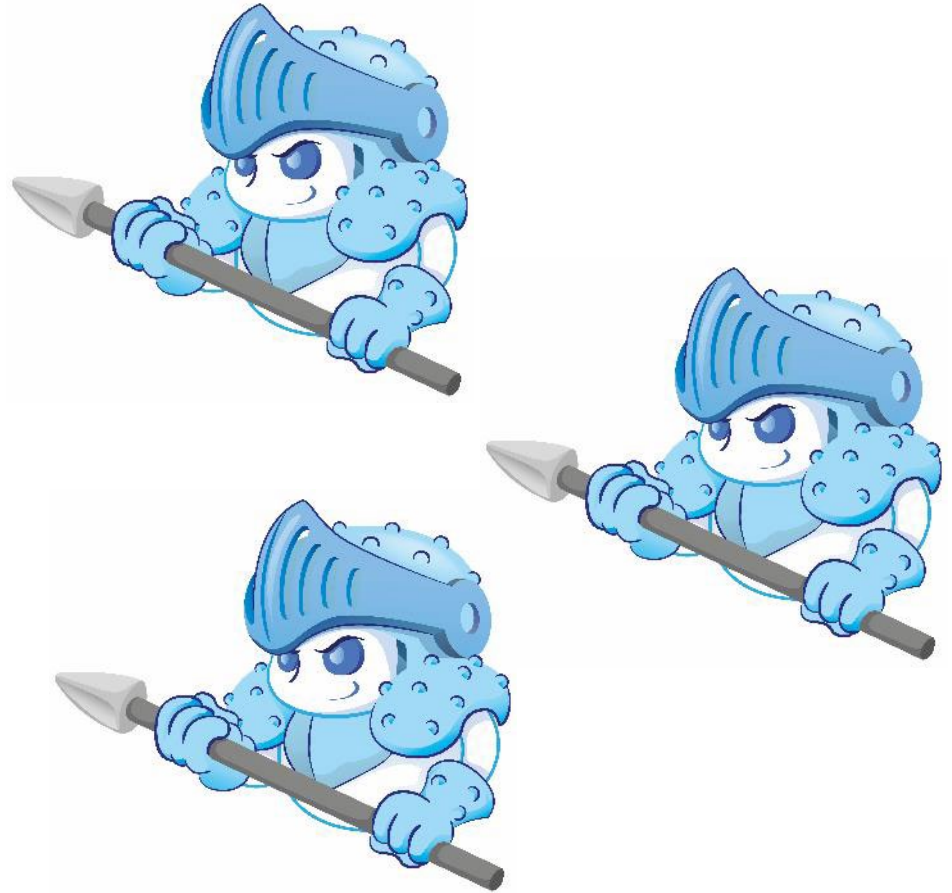
Body Is Invaded by a Pathogen



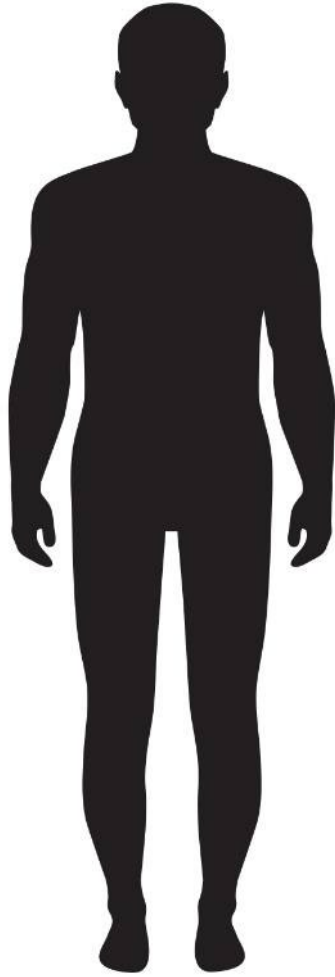
Immune Response Is Triggered

White blood cells increase to kill the invading pathogen, producing inflammatory mediators such as:

- Histamine
- Interferons
- Interleukins
- Tumor necrosis factor



Response to Inflammatory Mediators

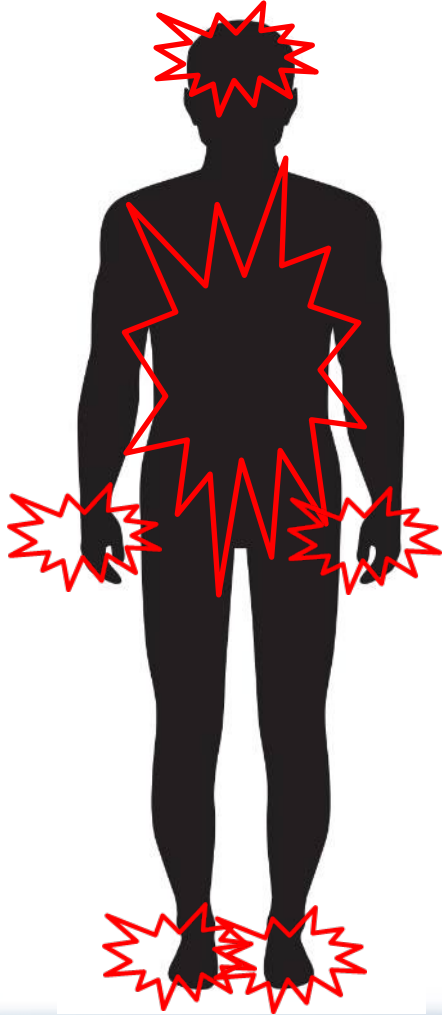


- Vasodilation

- Capillary leak

- Blood clotting

Insufficient Blood Flow to Organs



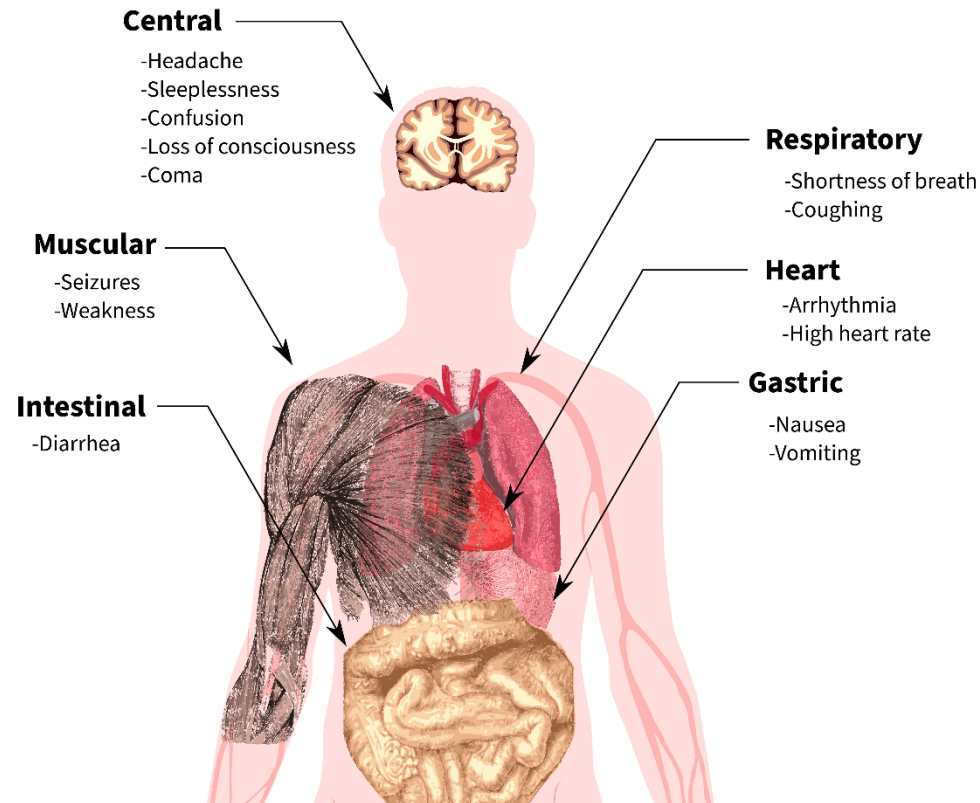
Vasodilation, capillary leak, and blood clotting can decrease blood flow to organs and extremities.

Metabolic Acidosis

Hypoperfused kidneys:

- Cannot get rid of waste.
- Cannot produce enough bicarbonate to balance the pH.
- Will lead to an increase in lactic acid.

Symptoms of acidosis



Septic Shock

- The last stage of sepsis; defined by extremely low blood pressure (despite fluid replacement)
- Additional symptoms include:
 - Lightheadedness
 - Little or no urine output
 - Heart palpitations
 - Cool and pale limbs
 - Skin rash



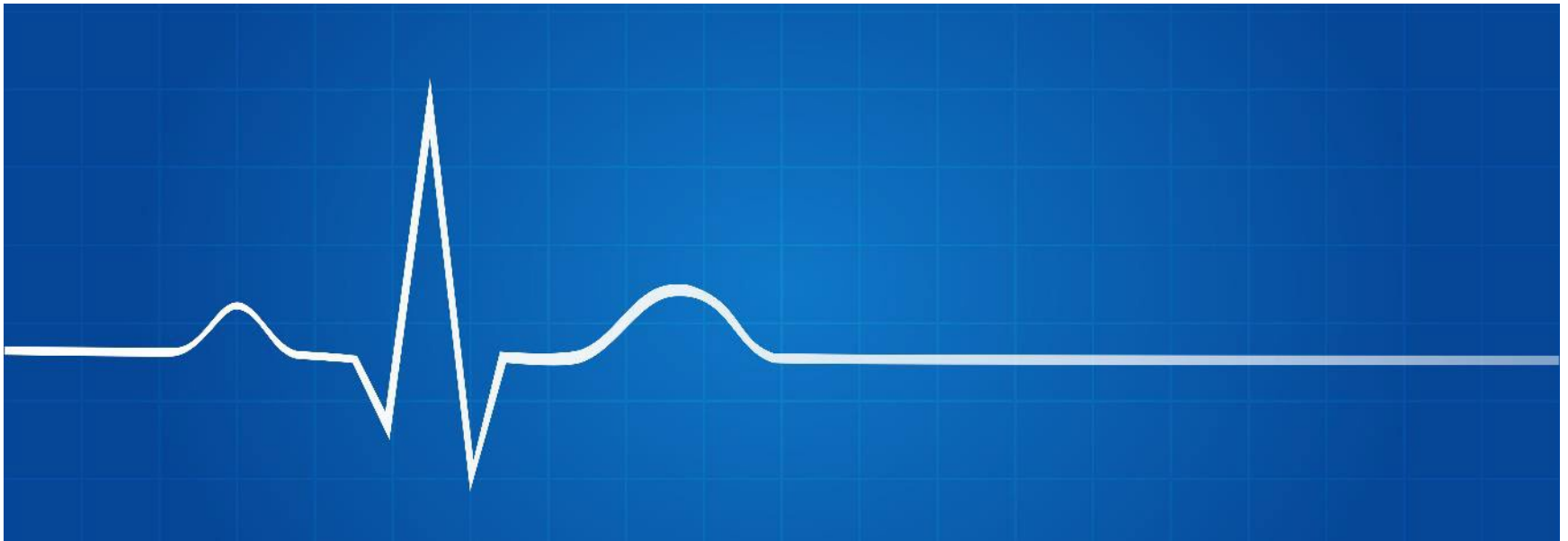
Multi-Organ Failure

- Related to decreased blood flow
- Increases the likelihood of death

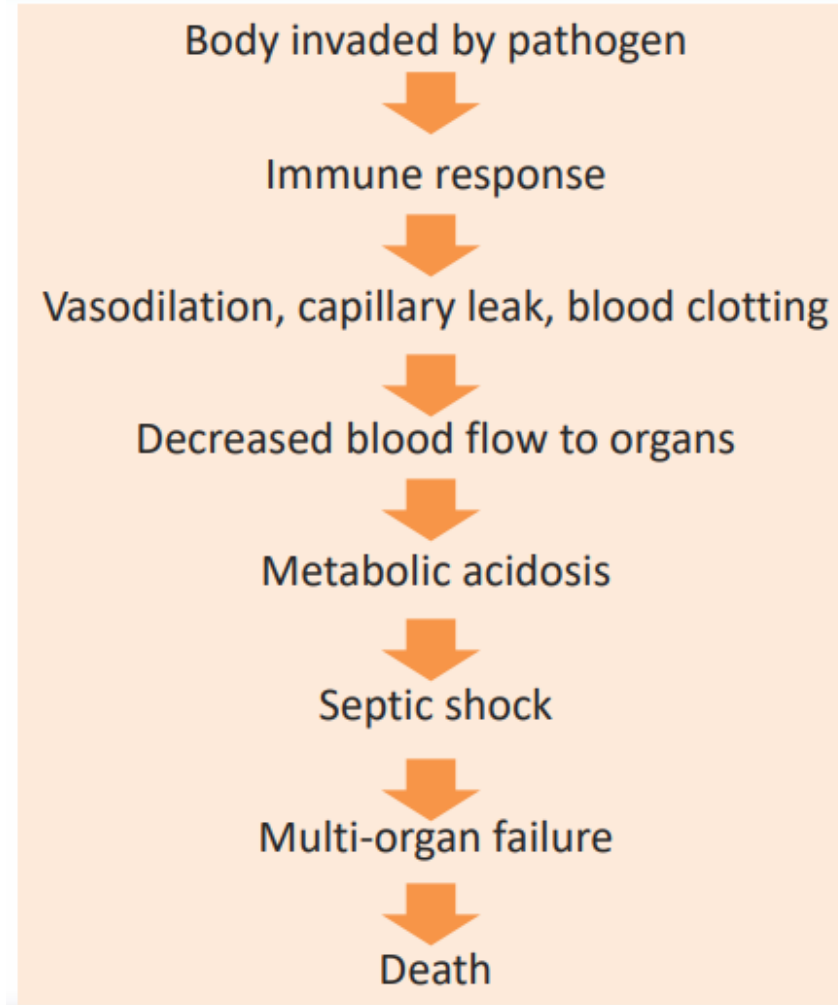


Death

- Related to multiple organs failing at the same time
- Cessation of life
- Permanent cessation of all vital bodily functions



Simplified Sepsis Pathophysiology



Sepsis Risk Factors

- Adults 65 years or older
- People with chronic medical conditions
 - Diabetes
 - Lung disease
 - Cancer
 - Kidney disease
 - Pulmonary disease
 - Renal disease
- Those who survived sepsis



Sepsis Risk Factors (Cont.)

- Residents with weakened immune systems
- People with recent/recurrent severe illness or hospitalizations; including but not limited to:
 - Urinary Tract Infections
 - Pneumonia
 - COVID-19
 - Infected cuts/scrapes
- Those with pressure ulcers
- Previous use of antibiotics or corticosteroids
- Functional limitations
- Opioid and loperamide use related to constipation complications

This Is A **Big** Risk Factor!

Neglecting to identify and properly treat the signs and symptoms of infection!



Risk Factor 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.

<input checked="" type="checkbox"/> Risk	Action
<input type="checkbox"/> Compromised Immune System	<ul style="list-style-type: none"> Consistently perform hand hygiene. <ul style="list-style-type: none"> Wash with soap and water or use an alcohol-based sanitizer. Encourage vaccinations. Wear appropriate personal protective equipment (PPE).
<input type="checkbox"/> Diabetes	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations. Conduct routine skin checks for ulcers. Maintain stable blood sugar levels. <ul style="list-style-type: none"> Adhere to a proper diet. Take all medications as ordered.
<input type="checkbox"/> Chronic Kidney/Renal Disease (Excluding End Stage Renal Disease)	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations. Utilize the urinary tract infection (UTI) bundle for prevention.
<input type="checkbox"/> Cancer	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations. Employ reverse isolation and wear appropriate PPE, as needed.
<input type="checkbox"/> Chronic Liver Disease	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations.
<input type="checkbox"/> Pulmonary Disease	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations. Utilize the pneumonia bundle for prevention.
<input type="checkbox"/> Previous Use of Antibiotics or Corticosteroids	<ul style="list-style-type: none"> Consistently perform hand hygiene. Encourage vaccinations. Wear appropriate PPE. Utilize the UTI/pneumonia bundles, if applicable.
<input type="checkbox"/> Increased Age	<ul style="list-style-type: none"> 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.
<input type="checkbox"/> Functional Limitations	<ul style="list-style-type: none"> Utilize the UTI/pneumonia bundles, as applicable, for mobility issues. <ul style="list-style-type: none"> 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.

Top HAIs leading to Sepsis



Urinary Tract Infection (UTI)¹

- Most common HAI
- 20–30% of infections in long term care (LTC)
- Incidence is 1.5 per 1,000 resident days
- 7%–10% of UTIs are catheter associated



Pneumonia²

- Incidence is 1–2 per 1,000 resident days
- Up to 41% mortality rate in LTC residents



Skin Infections³

- 10% of residents will develop a skin infection
- Most prevalent are pressure injuries and cellulitis
- Frequently MRSA

Prevent Infections—Prevent Sepsis

Urinary Tract Infections

Tools and Posters

HSAG Tools

- UTI Patient Zone Tool: English | Spanish
- LTC CAUTI Audit Tool
- UTI Audit Tool

HSAG UTI Prevention Bundle

- UTI Bundle Risk and Action Tool
- UTI Nursing Signs and Symptoms Assessment
- UTI Prevention Bundle Poster
- UTI Risk Assessment
- UTI Action Plan
- Myths Diagnosis UTIs

APIC

- Poster: The Power of 10: Your Role in Preventing CAUTI in NHs

Preventing UTIs in SNFs Training

- **Part 1:** Refresher of UTI pathophysiology, review UTI etiology, discuss pathogens, and review types of UTIs.
 - [Training Recording | PPT](#)
- **Part 2:** Review the evidence-based clinical practices shown to prevent UTIs and CAUTIs, discuss strategies to reduce healthcare-associated UTIs and treatment of UTIs.
 - [Training Recording | PPT](#)
- **Part 3:** Describe the risk of healthcare-associated UTIs in SNFs, discuss strategies to reduce healthcare-associated CAUTIs, and discuss adherence monitoring and feedback.
 - [Training Recording | PPT](#)
- **Part 4:** Review the HSAG UTI Prevention Bundle and Change Package and the HSAG CAUTI Audit Tool.
 - [Training Recording | PPT](#)

Pneumonia

Tools

- HSAG—Pneumonia Patient Zone Tool: Armenian | English | Spanish
- HSAG—Pneumonia Audit Tool
- CDPH—PPT: Preventing Respiratory Infections in SNFs

Pneumonia Bundle

- Pneumonia Action Plan
- Pneumonia Bundle | Risk and Action Tool
- Pneumonia Signs and Symptoms Assessment
- Pneumonia Prevention Bundle
- Pneumonia Risk Factors

Educational Resources

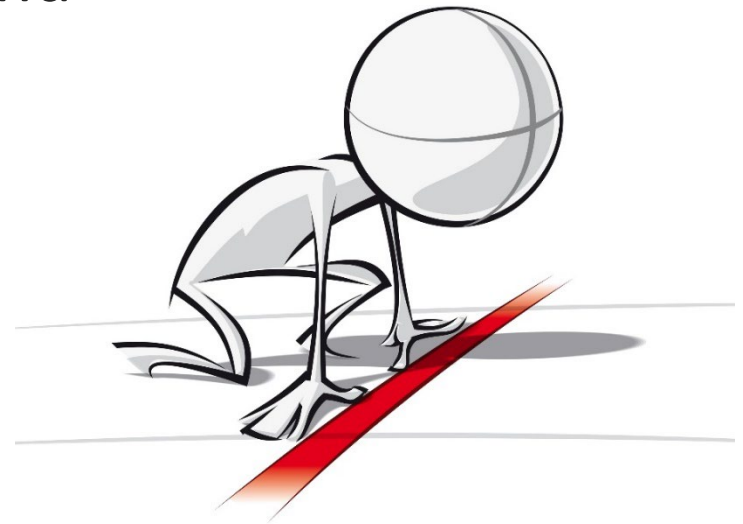
- CDC—Pneumonia Causes, Risk Factors, Management, and Prevention
- CDC—Pneumococcal Vaccination Recommendations

Preventing Pneumonia in SNFs Training

- [Training Recording | PPT](#)

Key Take-Aways

- ✓ It is important to understand what happens to the body during sepsis
- ✓ Identifying the residents at risk will help you prioritize
- ✓ Educate your staff about sepsis and the outcomes of sepsis
- ✓ Preventing infections is the best way to prevent sepsis



Scenario

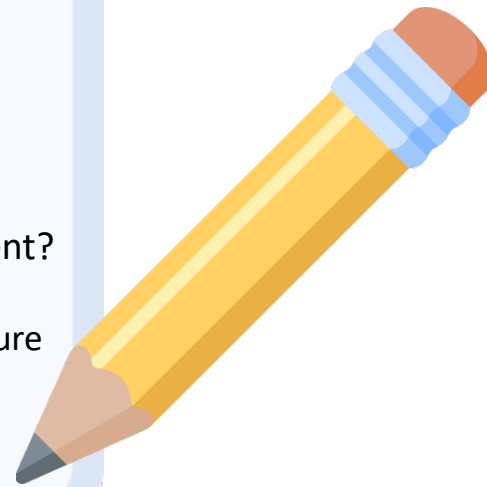
A 75 year old man on the skilled unit presents with a change in condition. Family has noted that he is more confused today. He has had a cough for 2 days with shortness of breath. He appears flush and mildly tachypneic. His oxygen saturation is 88%, respirations 35 with right basal crackles (rales), heart rate 140, temperature 102.1, and blood pressure 90/50.

What is the most likely diagnosis?

- a. Pneumonia
- b. Pneumo-sepsis
- c. Bronchitis

What would be the immediate management of this patient?

- a. IV fluids (urine output) and Oxygen
- b. Blood cultures (including Lactate level) and sputum culture
- c. Chest x-ray and EKG
- d. A and B
- e. All of the above



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

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!



CMS Disclaimer

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