



# Preventing Pneumonia in Skilled Nursing Facilities

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# Your Speaker



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# OBJECTIVES

A close-up photograph of a hand in a dark suit jacket and white shirt cuff, pointing towards the word 'OBJECTIVES'.

- Review evidence-based clinical practices shown to prevent pneumonia.
- Explore strategies to reduce pneumonia.
- Discuss adherence monitoring and feedback.

# Pneumonia in Skilled Nursing Facilities (SNFs)

- One of the most common healthcare-associated infections in SNFs.
  - Occurs in an estimated 1–2 residents for every 1,000 days of nursing home residence.
- A significant cause of mortality and morbidity among residents in SNFs.
  - Mortality rate as high as 41%.



# Risk Factors for Pneumonia

Pneumonia

# Risk Factors

## SNF Residents at Risk

- Adults 65 years or older
- Smokers
- Brain disorders
  - Stroke
  - Head injury
  - Dementia
  - Parkinson's disease
- Weakened immune system
  - HIV/AIDS
  - Chemotherapy
  - Steroids (long-term)

## Risk Factors—Co-Morbidities

- Lung diseases (asthma, COPD)
- Other conditions (diabetes, heart failure)
- Enteral feedings
- Malnourished
- Decreased activity or bedridden
- Recently hospitalized
- Poor oral hygiene

# Assess for Pneumonia

- Fever
- Chills and sweats
- Fatigue
- Increased heart rate > 100
- Lower than normal body temperature
- Pain in the chest area
  - May occur with normal breathing
- Cough
  - May be productive or nonproductive with clear, purulent (yellow/yellowish green) or blood-tinged sputum
- Shortness of breath
  - At rest or with minimal activity
- Confusion
- Loss of appetite

# Pneumonia Complications

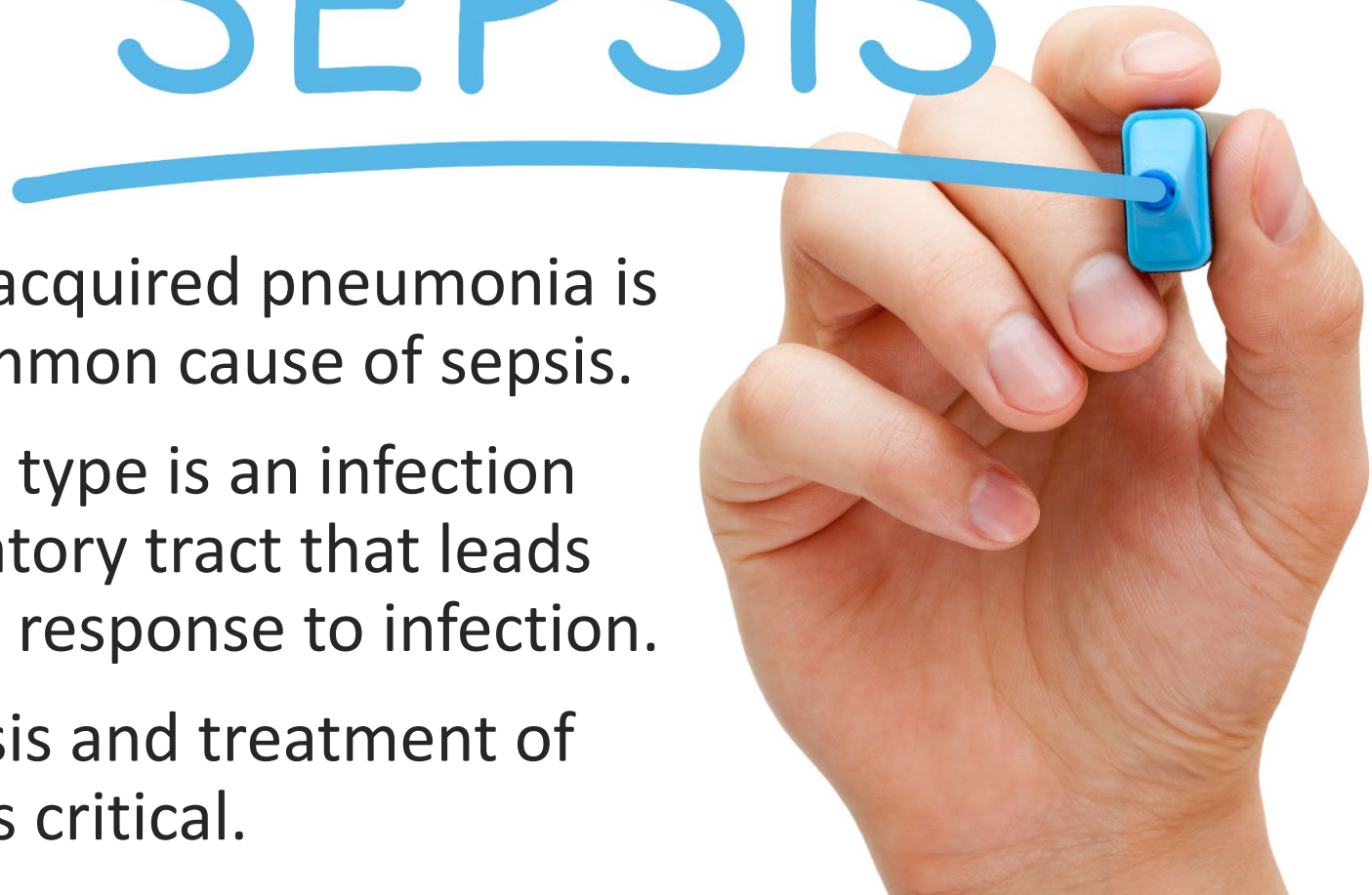


- Pleural effusion
- Respiratory failure
- Lung abscess
- Kidney, liver, and heart damage
- Pericarditis  
(heart lining inflammation)
- Atelectasis  
(collapse within the lungs)
- Sepsis



# Pneumonia Progression to Sepsis

## SEPSIS



- Community-acquired pneumonia is the most common cause of sepsis.
- Sepsis of this type is an infection in the respiratory tract that leads to a systemic response to infection.
- Early diagnosis and treatment of pneumonia is critical.

# Early Signs of Sepsis

Monitor all residents with pneumonia for early signs of sepsis

- Fever or low body temperature
- Chills
- Rapid heart rate
- Difficulty breathing
- Skin rash
- Confusion or disorientation
- Light-headedness due to a sudden drop in blood pressure

# Sepsis

# Preventing Pneumonia

- Vaccinations
- Proper hand hygiene
- Regular oral care
- Mobility
- Deep breathing exercises
- Adequate diet/hydration
- Isolate infected residents
- Smoking cessation



# Summary

- Pneumonia can lead to bloodstream infections.
- Adherence monitoring of evidence-based care practices will reduce pneumonia incidence.
- Feedback pneumonia incidence and adherence monitoring results to staff to improve outcomes.



# HSAG Pneumonia Prevention Toolkit— Action Plan

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

Nursing Home Name: \_\_\_\_\_ CCN\*: \_\_\_\_\_ Date: \_\_\_\_\_

Goal: The Percentage of Healthcare-Associated Pneumonia 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 pneumonia	High rate of HAI pneumonia	<ol style="list-style-type: none"> <li>Review and update policies and procedures to reflect current evidence-based practices.</li> <li>Identify pneumonia prevention champions for each area/unit.</li> <li>Conduct education with teach-back for staff, including nurses and nursing assistants, including:                             <ul style="list-style-type: none"> <li>Pathophysiology of pneumonia.</li> <li>Clinical signs and symptoms of pneumonia.</li> <li>Risk factors of pneumonia</li> <li>Prevention bundles.</li> </ul> </li> <li>Use Pneumonia Risk Form to identify residents that are high risk.</li> <li>Implement prevention bundle for pneumonia for residents identified as high risk.</li> <li>Use HSAG Pneumonia Bundle Compliance Tool to assess adherence to prevention strategies.</li> </ol>			100% of policies and procedures updated.  100% of the staff received education for pneumonia and prevention bundles.  _____ % of the residents were screened for risk of Pneumonia.  _____ % of the residents had implementation of the Pneumonia Bundle.  Perform _____ audits/week.  Compliance goal: _____ %

\*CCN=Centers for Medicare & Medicaid Services (CMS) Certification Number

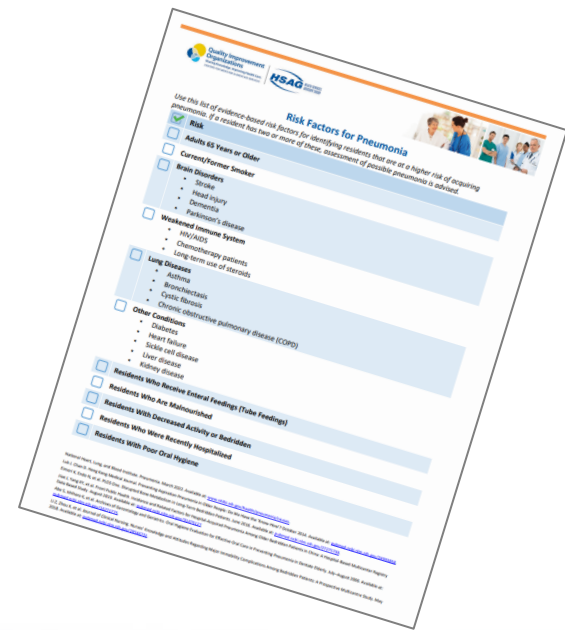
# HSAG Pneumonia Prevention Toolkit—Screen

## Risk Factors for Pneumonia

Use this list of evidence-based risk factors for identifying residents that are at a higher risk of acquiring pneumonia. If a resident has two or more of these, assessment of possible pneumonia is advised.

- Risk**
- Adults 65 Years or Older
- Current/Former Smoker
- Brain Disorders
  - Stroke
  - Head injury
  - Dementia
  - Parkinson's disease
- Weakened Immune System
  - HIV/AIDS
  - Chemotherapy patients
  - Long-term use of steroids
- Lung Diseases
  - Asthma
  - Bronchiectasis
  - Cystic fibrosis
  - Chronic obstructive pulmonary disease (COPD)
- Other Conditions
  - Diabetes
  - Heart failure
  - Sickle cell disease
  - Liver disease
  - Kidney disease
- Residents Who Receive Enteral Feedings (Tube Feedings)
- Residents Who Are Malnourished
- Residents With Decreased Activity or Bedridden
- Residents Who Were Recently Hospitalized
- Residents With Poor Oral Hygiene

One-page screening tool to identify residents **most** at risk for developing pneumonia



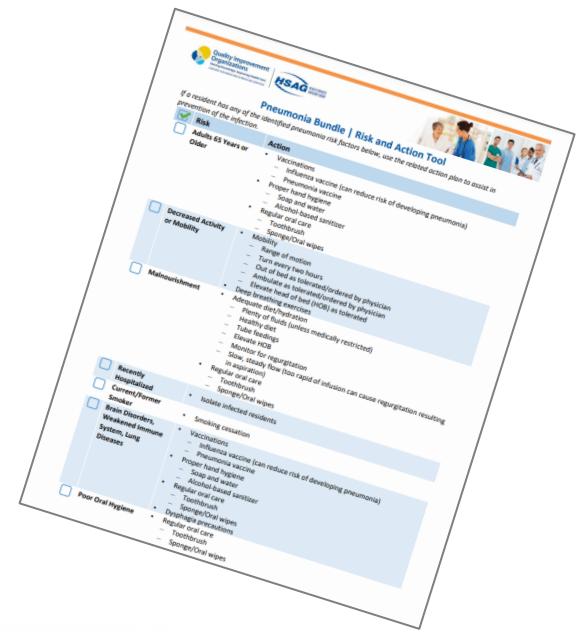
# HSAG Pneumonia Prevention Toolkit—Prevent

## Pneumonia Bundle | Risk and Action Tool

If a resident has any of the identified pneumonia risk factors below, use the related action plan to assist in prevention of the infection.

<input checked="" type="checkbox"/> Risk	Action
<input type="checkbox"/> <b>Adults 65 Years or Older</b>	<ul style="list-style-type: none"> <li>• Vaccinations                             <ul style="list-style-type: none"> <li>– Influenza vaccine (can reduce risk of developing pneumonia)</li> <li>– Pneumonia vaccine</li> </ul> </li> <li>• Proper hand hygiene                             <ul style="list-style-type: none"> <li>– Soap and water</li> <li>– Alcohol-based sanitizer</li> </ul> </li> <li>• Regular oral care                             <ul style="list-style-type: none"> <li>– Toothbrush</li> <li>– Sponge/Oral wipes</li> </ul> </li> </ul>
<input type="checkbox"/> <b>Decreased Activity or Mobility</b>	<ul style="list-style-type: none"> <li>• Mobility                             <ul style="list-style-type: none"> <li>– Range of motion</li> <li>– Turn every two hours</li> <li>– Out of bed as tolerated/ordered by physician</li> <li>– Ambulate as tolerated/ordered by physician</li> <li>– Elevate head of bed (HOB) as tolerated</li> </ul> </li> <li>• Deep breathing exercises</li> </ul>
<input type="checkbox"/> <b>Malnourishment</b>	<ul style="list-style-type: none"> <li>• Adequate diet/hydration                             <ul style="list-style-type: none"> <li>– Plenty of fluids (unless medically restricted)</li> <li>– Healthy diet</li> <li>– Tube feedings</li> <li>– Elevate HOB</li> <li>– Monitor for regurgitation</li> <li>– Slow, steady flow (too rapid of infusion can cause regurgitation resulting in aspiration)</li> </ul> </li> <li>• Regular oral care                             <ul style="list-style-type: none"> <li>– Toothbrush</li> <li>– Sponge/Oral wipes</li> </ul> </li> </ul>
<input type="checkbox"/> <b>Recently Hospitalized</b>	<ul style="list-style-type: none"> <li>• Isolate infected residents</li> </ul>
<input type="checkbox"/> <b>Current/Former Smoker</b>	<ul style="list-style-type: none"> <li>• Smoking cessation</li> </ul>
<input type="checkbox"/> <b>Brain Disorders, Weakened Immune System, Lung Diseases</b>	<ul style="list-style-type: none"> <li>• Vaccinations                             <ul style="list-style-type: none"> <li>– Influenza vaccine (can reduce risk of developing pneumonia)</li> <li>– Pneumonia vaccine</li> </ul> </li> <li>• Proper hand hygiene                             <ul style="list-style-type: none"> <li>– Soap and water</li> <li>– Alcohol-based sanitizer</li> </ul> </li> <li>• Regular oral care                             <ul style="list-style-type: none"> <li>– Toothbrush</li> <li>– Sponge/Oral wipes</li> </ul> </li> <li>• Dysphagia interventions                             <ul style="list-style-type: none"> <li>– Regular oral care</li> <li>– Toothbrush</li> <li>– Sponge/Oral wipes</li> </ul> </li> </ul>

## Pneumonia Prevention Bundle Strategies



# HSAG Pneumonia Prevention Toolkit— Bundle Poster

## Pneumonia Prevention Bundle

### Hand Hygiene

- Before and after any contact with the resident, body fluids, and secretions



### Diet/Hydration

- Encourage fluids (unless restricted)
- Healthy diet
- Out of bed for meals or elevate head of bed



### Oral Care

- Toothbrush
- Sponge swabs
- Morning, bedtime, and as needed



### Mobility

- Out of bed daily
- For meals as tolerated
- Range of motion
- Ambulate (if able)



Visual cue poster to remind staff, residents, and families about the importance of pneumonia prevention strategies.



# HSAG Pneumonia Prevention Toolkit—Identify

## Pneumonia Signs and Symptoms Assessment

Below is a list of signs and symptoms of pneumonia; a resident may have one or more than one of them. If any are identified, the next step is to report, as further testing is recommended.

Any Change in The Resident's Condition Should Be Reported Immediately

### Sign/Symptom

#### Fever

- With tachycardia (Increased heart rate; >100)
- Chills and sweats
- Fatigue

#### Lower Than Normal Body Temperature (Adults 65 years or older and those with weakened immune systems)

#### Cough

- May be productive or nonproductive with mucoid (clear), purulent (yellow/yellowish green), or blood-tinged sputum

#### Pleuritic Chest Pain (Pain in Chest Area)

- May have pain with normal breathing
  - Facial grimaces or winces
  - Vocalization of pain (moans, cries, gasps, groans)
  - Bracing of chest or surroundings (furniture or room equipment)
  - May avoid taking a deep breath
- May have increased pain with coughing
  - Facial grimaces or winces
  - Vocalization of pain (moans, cries, gasps, groans)
  - Bracing of chest or surroundings (furniture or room equipment)

#### Shortness of Breath at Rest or With Minimal Exertion

- Increased respiratory rate
- Shallow respirations
- Crackles, rales, bronchial breath sounds are heard on auscultation
- Fatigue
- Headache
- Myalgia (deep muscle pain) or arthralgia (joint pain)
  - May be mild or severe
  - May last minutes or be constant
  - May occur with rest or movement

#### Confusion

- May occur due to the infection, fever, or shortness of breath

#### Loss of Appetite

One-page assessment checklist to assist in identifying possible pneumonia

The image shows a tilted version of the 'Pneumonia Signs and Symptoms Assessment' checklist. It includes the title, introductory text, and the list of symptoms with checkboxes. The checklist is designed to be a quick reference for healthcare providers to identify signs of pneumonia in residents.

# Pneumonia Audit Tool

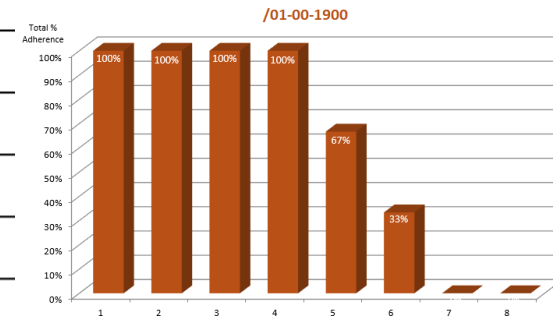
Complete for Each Resident With PNEU Prevention Bundle Implemented:

Comments	Room #
<b>Direct Observation</b>	
1. Staff performed hand hygiene--wash in/wash out.	
2. Resident out-of-bed for meals. (If able)	
3. Head-of-bed (HOB) elevated for those receiving tube feeding (TF).	
4. Resident ambulating, physical therapy (PT), or range of motion (ROM) daily.	
5. Consuming > 75% of diet, including supplements.	
6. Water pitcher full and within reach, if not on fluid restriction	
7. Fluids encouraged during purposeful rounding, if not on fluid restriction.	
8. A.M. (morning) oral care completed.	
9. HS (at bedtime) oral completed.	
10. Up-to-date on PNEU vaccine(s)	

**Total Positive Per Patient**

**Total % Adherence Per Patient**

	Resident 1	Resident 2	Resident 3
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	Yes	Yes
	Yes	No	
	No	No	
	No	No	
	Yes	No	
	Yes	No	
	7	5	
	87.5%	62.5%	



PNEU Prevention Bundle Measures

1. Staff performed hand hygiene--wash in/wash out.
2. Resident out-of-bed for meals, if able.
3. HOB elevated for those receiving TF.
4. Resident ambulating, PT, or ROM daily.
5. Consuming > 75% of diet, including supplements.
6. Water pitcher full and within reach, if not on fluid restriction.
7. Fluids encouraged during purposeful rounding, if not on fluid restriction.
8. AM oral completed.



Thank you!

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