What the experts say
The role of pneumonia and sepsis

Leading institutions in healthcare recognize sepsis as a significant challenge. Sepsis is a blood stream infection that creates a cascade of bodily responses, which can ultimately result in organ failure and/or death.¹ Sepsis is one of the leading causes of death in the United States,² with a 34.7 to 52% mortality rate in hospitals.³ Sepsis affects more than one million people a year and causes 258,000 deaths annually in the U.S.⁴ Furthermore, the treatment of sepsis costs the U.S. healthcare market $24 billion per year, making it the number one hospitalization cost in the country.⁵ Individually, sepsis costs an average of $20,000 - $40,000 per hospital stay.⁶ While any infection can lead to sepsis, respiratory infections are the most common precipitating condition.⁷ Below is a summary of some of the evidence highlighting the relationship between pneumonia and sepsis.

Recommendations & guidelines

Centers for Disease Control and Prevention (CDC) 2017¹
• “Sepsis is often associated with infections of the lungs (e.g., pneumonia)…”

Association for Professionals in Infection Control and Epidemiology (APIC) 2015⁴
• “Any type of infection can lead to sepsis, but sepsis is most often associated with pneumonia…”

Mayo Clinic 2016⁸
• “While any type of infection – bacterial, viral or fungal – can lead to sepsis, the most likely varieties include: pneumonia…”

Sepsis Alliance 2017⁹
• “Sepsis and septic shock can result from an infection anywhere in the body, including pneumonia.”

Health Care Utilization Project database (AHRQ) 2017¹⁰
• Sepsis developed in 36.3% of patients with non-ventilator hospital-acquired pneumonia (NV-HAP).
• Sepsis developed in 1.9% of the Community Acquired Pneumonia patients (matched cohort).

American Hospital Association (AHA), Health Research and Educational Trust (HRET), U.S. Department of Health and Services (HEN) 2014¹¹
• “Establish and implement protocols to reduce postoperative pneumonia in patients who will receive general anesthesia.”
• “Consider a pre-operative CHG oral rinse the night before and the morning of surgery to reduce the risk of post-operative pneumonia for those who will be receiving general anesthesia.”

Published outcomes

Severe sepsis and septic shock.¹²
• “Pneumonia is the most common cause [for sepsis], accounting for about half of all cases…”

The Role of Infection and Comorbidity: Factors that Influence Disparities in Sepsis 2006⁷
• The most common type of infection causing sepsis are respiratory infections.
Published outcomes (cont.)

Implications of the new international sepsis guidelines for nursing care.¹³

• “General principles of caring for any patient undergoing mechanical ventilation continue to be relevant to patients with sepsis.”

Non-Ventilator Hospital Acquired Pneumonia Versus Pneumonia as an Admission Diagnosis in Patients Who Develop Sepsis: Incidence and Cost.¹⁰

• “Sepsis incidence associated with NV-HAP (non-ventilator associated pneumonia) was 19 times greater than that associated with AP (admitted pneumonia) (36.3% vs 1.9%). LOS was significantly longer and total hospital charges were significantly greater for patients with sepsis associated with NV-HAP (both P < .001). The risk of sepsis developing was 28.8 times greater with NV-HAP than with AP.”