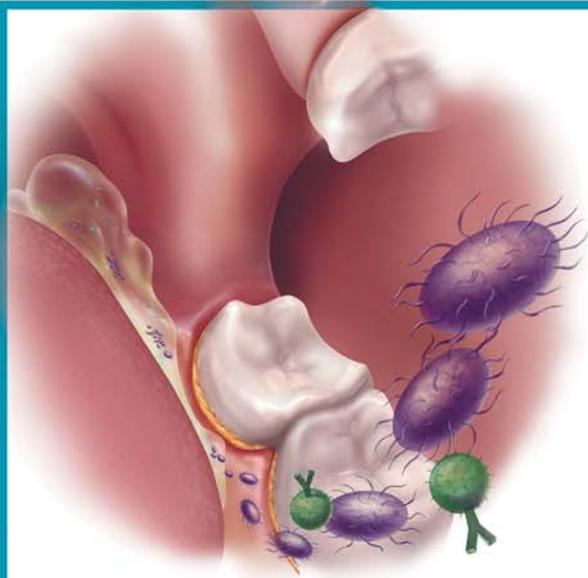


What the Experts Say The Impact of VAP and the Role of Improved Oral Care



“...Patients with VAP had other statistically significant outcomes that indicate they fare poorly compared to patients without VAP: on average, 9.6 additional days on mechanical ventilation, 6.1 additional days in the ICU, and 11.5 additional days in the hospital. The inpatient billed charges were also significantly higher among patients with VAP, averaging > \$40,000 more compared to patients without VAP.”

Rello J, et al., “Epidemiology and outcomes of ventilator-associated pneumonia in a large US database,” *Chest*. December 2002;122(6):2115-2121.

“Patients who develop VAP can have a seven-fold increase in the number of days on mechanical ventilation, causing a two- to five-fold increase in the length of stay in the intensive care unit, as well as a doubling of the overall length of hospital stay. The annual cost of diagnosing and treating VAP is estimated at \$2 billion.”

Pfeifer LT, et al., “Preventing ventilator-associated pneumonia: What all nurses should know,” *American Journal of Nursing*. August 2001;101(8):24AA-24GG.

“Pneumonia is the second most common nosocomial infection in the United States....Nosocomial pneumonia has been associated with high fatality rates. Crude mortality rates of 20%-50% and attributable mortality rates of 30%-33% have been reported; in one study, pneumonia comprised 60% of all deaths due to nosocomial infections.”

Tablan OC, et al., “Guideline for prevention of nosocomial pneumonia,” *Hospital Infection Control Practices Advisory Committee, Morbidity and Mortality Weekly Report, Centers for Disease Control and Prevention*. January 1997;46(RR-1):1-79.

“...Poor oral health may increase the risk for serious lower respiratory tract infection in susceptible subjects, including pneumonia in hospitalized subjects....Improved oral health may decrease the prevalence of oropharyngeal colonization by respiratory pathogens and thereby reduce the risk of infection in high risk subjects.”

Scannapieco FA, “Role of oral bacteria in respiratory infection,” *Journal of Periodontology*. July 1999;70(7):793-802.

“Oral and dental care have been identified as preventative measures against acquiring VAP...The new oral hygiene procedure tested in this study included components that address three risk factors: bacterial colonization of the oropharyngeal area, aspiration of subglottal secretions* and colonization of dental plaque with respiratory pathogens.... The preliminary data suggest that the mere reduction of risk through better oral hygiene can lead to fewer VAPs.”

* [Routine suctioning minimizes oral secretions which can migrate to the subglottic area.]

Schleder B, et al., “The effect of a comprehensive oral care protocol on patients at risk for ventilator-associated pneumonia,” *Journal of Advocate Health Care*. Spring/Summer 2002;4(1):27-30.

“Studies find that patients in medical ICUs have poorer hygiene than non-hospitalized patients, which contributes to the development of oral colonization....Current guidelines recommend the following practices for preventing VAP: Use good oral hygiene on all patients, implement oral hygiene assessments and intervention for all patients at risk for developing HAP [hospital-acquired pneumonia] or VAP.... Benchmark your unit against national data to determine the need for aggressive preventive interventions.”

Schleder BJ, “Taking charge of ventilator-associated pneumonia,” *Nursing Management*. August 2003;34(8):29-33.

The following chart reflects current National Nosocomial Infections Surveillance (NNIS) System data for ventilator-associated pneumonia rates:

NNIS - Ventilator-Associated Pneumonia Rate*†			
Type of ICU	No. of Units	Ventilator-Days	Pooled Mean
Burn	14	5,365	8.9
Coronary	41	12,216	3.4
Cardiothoracic	34	15,581	8.2
Medical	66	46,993	4.4
Medical-Surgical			
Major Teaching	76	45,276	5.1
All Others	83	54,991	5.3
Neurosurgical	23	8,928	10.8
Pediatric	37	20,137	2.2
Surgical	77	46,633	8.3
Trauma	18	9,682	14.7
Respiratory	5	3,311	2.4

* No. of VAPs ÷ No. of Ventilator-Days x 1000. † Data from January to June 2002 only. NNIS System Report, data summary from Jan 1992 to June 2002, issued August 2002, Division of Healthcare Quality Promotion, National Center for Infectious Diseases, CDC, Public Health Service, US Department of Health and Human Services, Atlanta, GA, 2002.

“Inadequate oral care may play an important role in the colonization of oropharyngeal secretions and the development of VAP....Perhaps oral care should move to the forefront, and its impact on the overall health of critically ill patients should be examined.”

Sole ML, et al., “Bacterial growth in secretions and on suctioning equipment of orally intubated patients: A pilot study,” *American Journal of Critical Care*. March 2002; 11(2):141-149.