

## **Sherman Hospital Saves \$1.6 Million on VAP-Related Costs**

### **Sage Products' Oral Care Program Helps Contribute to Success**

Hospital personnel across the United States are working to reduce the number of hospital-acquired infections. Aggressive measures are being taken, from the appropriate use of antibiotics prior to surgery to strict reminders on hand washing. One particular infection that critical care unit nurses want to reduce is ventilator-associated pneumonia (VAP).

According to the Centers for Disease Control and Prevention (CDC), nosocomial bacterial pneumonia increases mortality rates between 20 to 33 percent. Research reported in *Chest*, December 2002, says that VAP can increase costs by more than \$40,000 per patient compared to patients without VAP.

Nurses at Sherman Hospital, a 350-bed facility in Elgin, Illinois, wanted to reduce ventilator-associated pneumonia-related costs. The hospital is part of Sherman Health Systems, one of the largest networks of medical care facilities in the far Northwest suburbs of Chicago. In fiscal year 2003, the hospital reported 32 cases of VAP and during the following year, the number rose to 41. With the decreased compensation rate, the hospital lost \$2.1 million.

Because of the effect of VAP-related costs, hospital administration included VAP reduction as one of the hospital's primary goals in its fiscal year 2005 Clinical and Operational Improvement Plan. Pamela Meyer, R.N., M.S.N., manager of the critical care unit, and Nancy Haberichter, A.P.N., CCRN, clinical nurse specialist, spearheaded the program, with Meyer being placed in charge of the effort to reduce VAP.

Meyer formed a multidisciplinary team to address the challenge and identify solutions. The team included an administrative director, an epidemiologist, case manager, clinical nurse specialist, respiratory therapy technician and critical care staff members. In June 2004, the team reviewed the CDC's recommendations, hospital data, clinical research and available oral care products.

The group was greatly influenced by a study entitled "The Effect of a Comprehensive Oral Care Protocol on Patients at Risk for Ventilator-Associated Pneumonia;" *Journal of Advocate Health Care*; Spring/Summer 2002. The study showed how a hospital reduced VAP through a comprehensive oral care program.

Sherman Hospital already used Sage Products' Toothette® Swabs on its patients and decided to ask Sage to present its complete oral care products to the team, which includes Sage's Toothette® Oral Care Suction System.

"We really liked the convenience of the 24-hour product and its packaging," said Meyer. "Each kit easily hangs in patients' rooms, making it a great visual reminder for staff to clean and suction patients' mouths and to comply with the protocol."

In August 2004, the team presented the suction system to the hospital's new products committee. The committee weighed the opportunity to reduce VAP-related costs against the cost of implementing the new product and decided that the savings from reducing VAP offset the product cost. In addition, CDC data and clinical evidence provided by the team helped to influence the committee's decision.

### **Getting Started**

In August 2004, the hospital held a number of in-service trainings on the new oral care product. All nursing shifts, including weekend shifts, received training on the appropriate use of the product.

"At the same time, we implemented a ventilator bundle and head-of-bed elevation," said Meyer. "These efforts, combined with a more comprehensive oral care product and protocol, began to realize results."

She adds that it also helped that many of the nursing staff already were familiar with Sage's oral care tools, and they were "happy and anxious" to be using the products at Sherman.

The hospital adheres to the following oral care protocol for intubated or unconscious patients:

1. The oral cavity is assessed initially and every 12 hours by a Registered Nurse.
2. Intubated and unconscious patients are provided oral cleansing every 2-4 hours.
3. Teeth are brushed every 12 hours and PRN.
4. Deep oropharyngeal suctioning is performed every 6 hours and PRN as well as prior to repositioning the tube or deflating the cuff or extubation.
5. Suction canisters and tubing are changed per hospital policy.
6. Yankauer catheters are changed every 24 hours.

### **Unbelievable Results**

By the end of fiscal year 2005, Sherman Hospital reduced VAP cases to ten (a rate of 0.26/100 ventilator days) and saved \$1.6 million on additional costs.

Meyer believes conducting daily rounds and checking head-of-bed and oral care compliance has been instrumental in the hospital's success. In addition, support from the hospital's management team has helped encourage staff to adopt the new program.

Overall, Meyer says the program has been a tremendous success.

"Administration is very pleased with the savings realized through our comprehensive oral care program," said Meyer. "And our nursing staff is thrilled that we've been able to give better care to our patients."