

# **Villages Regional Hospital Significantly Reduces VAP Rates Through Clinical Interventions, Including Oral Care**

## **At a Glance**

The Villages Regional Hospital opened its doors on July 15, 2002. The hospital was tracking its ventilator-associated pneumonia (VAP) rates and wanted to improve the care of its ventilator patients.

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

Hospital clinicians conducted an extensive literature review and learned that the lack of a comprehensive oral care program increased the risk of VAP. To reduce VAP rates, Villages Regional staff pursued implementation of an oral care program, as well as several clinical practice changes.

As a result of these changes, Villages Regional experienced near zero VAP cases from October 2004 and April 2005.

## **The Story**

The Villages Regional Hospital, in affiliation with Leesburg Regional Medical Center, is an adult acute care facility serving a tri-county area in Lady Lake, Florida. The hospital provides comprehensive medical services with 54 medical / surgical beds, a six-bed intensive care unit, state-of-the-art surgical suites, a radiology department featuring filmless computer imaging, pharmacy, clinical laboratory and a full-service emergency department.

Hospital staff was using Sage's Toothette® swabs and conducting basic oral care on its patients. In September 2004, staff presented Sage's Q-Care® Oral Cleansing and Suctioning System q8° to the hospital products committee and received approval to implement the new product and protocol.

"When we first introduced the new system to the committee, we received some pushback," said Debra DiLibero, RN, Infection Control Nurse at Villages Regional. "However, my colleagues and I presented research that showed how oral care and other clinical practice changes could lower VAP risk, and it made complete sense to them. Everyone was excited about the possibilities. Support from Robert Foster, Director of ICU and Emergency Department, has been most beneficial."

Upon receiving approval, DiLibero and her colleagues, Judy Guenther, RRT, supervisor of the respiratory therapy department and Bonnie Mattheus, RN, ICU charge nurse, arranged in-service trainings for the new oral care system, protocol and clinical changes.

All staff was instructed on the importance of oral care and how to correctly use the new oral care system and tools. In addition, staff was trained on the risk factors for VAP so they could better understand the reasons for the practice changes.

In addition to oral care, Villages Regional also implemented the following clinical interventions:

- Elevating the head-of-bed to 35 degrees
- Implementing new cuff pressure tracking procedures
- Monitoring tube positioning once every 24-hours
- Replacing closed suction system every 72-hours
- Implementing heated moisture exchangers

"We are also planning to implement new beds in our ICU," said Guenther. "We are focused on a holistic care approach to our clinical practice and we believe all of these changes will help us to greatly, improve patient care."

### **Implementing Oral Care**

At The Villages Regional, Respiratory Therapy (RT) technicians are responsible for initiating oral care on ventilator patients and educating nursing staff on proper use and application procedures. RT staff attach the Q-Care kits directly onto every ventilator in the hospital, which helps ensure that patients receive oral care within two hours of being connected to a ventilator in the emergency department or in the intensive care unit. It also serves as a visual reminder to perform oral care.

"The oral care system is great and our patients love it," said Mattheus. "We sampled the oral solution ourselves and really liked the taste and smell of the product. Oral care is all about doing what's best for patients."

Patients who have been weaned off ventilators have commented to nursing staff how much they really appreciated the oral care while they were on the machine. Patients said the routine mouth care actually "made them feel better," which Mattheus believes speaks volumes about why oral care is so important.

"Nurses feel good about improving patient care and comfort and oral care achieves both," Mattheus adds.

In addition, family members have expressed appreciation for patient oral care efforts. They say that their loved one's breath smells good. Physicians have also commented on this benefit.

### **Rewarding and Surprising**

The Villages Regional Hospital is pleased with the new oral care system and enjoys using the Sage Q-Care kit. The system is easy-to-use and encourages protocol compliance. Clinicians especially like that they don't have to "hunt" for all the pieces -- everything needed to conduct mouth care is packaged together.

The hospital's hard work has resulted in amazing results. In the seven months since it began implementing a comprehensive oral care program, The Villages Regional Hospital has reduced its VAP rates to near zero and expects to continue low rates.

"We also noticed a drop in mouth breakdown due to our oral care efforts and have seen less eruption of patients' lips and oral lining," Guenther said. "Brushing and swabbing massages the oral cavity and facilitates moisture, which keeps the mouth from drying, cracking and breaking down."

The Villages Regional Hospital believes it is very important to be proactive and continually think about how patient care can be improved.

"The feedback we've received from our patients truly supports our decision to implement a comprehensive oral care program," said DiLibero. "We didn't expect to receive such a direct response from our patients. Their support is rewarding and pleasantly surprising."