

Coral Springs Reduces Ventilator-Associated Pneumonia

Coral Springs, FL.

Coral Springs Medical Center in Coral Springs, Fla., part of the North Broward Hospital District, experienced 13 cases of ventilator-associated pneumonia (VAP) in its 16-bed adult intensive care unit in 2001. But in the first 10 months of 2002, the cases of VAP jumped to 22. Because studies suggest that reducing bacteria in the oral cavity reduces the risk of nosocomial infections, nurses began researching ways to improve mouth care. In October 2002, staff in the ICU began using Sage Products' Toothette® Oral Care. Since then, the unit has had only one case of VAP, which was an outlier. "We did not have a goal in place when we decided to try Sage's Oral Care," said Coral Springs' Epidemiologist Ava Dobin, RN, BSN. "However, we never thought that going to zero cases would ever happen. Now, zero is our goal." Compared to the average of two cases a month in 2002, the hospital estimates it saved approximately \$80,000 a month by preventing hospital-acquired VAP. Over a year's time, the hospital can save as much as \$1 million in addition to substantially improving patient outcomes. Patients are spending less time on the ventilator, and therefore, fewer days in intensive care.

Preventing Ventilator-Associated Pneumonia

According to the Centers for Disease Control and Prevention (CDC), nosocomial bacterial pneumonia increases mortality rates between 20 to 50 percent. The estimated incidence of VAP in intensive care units is 10 to 65 percent. Research reported in *Clinical Investigations in Critical Care* says that VAP can increase costs by more than \$40,000 per patient compared to patients without VAP. The ICU at Coral Springs is staffed only by registered nurses, many of them holding bachelor's and master's degrees in nursing or certification in critical care. In the fall of 2002, the nurses at Coral Springs were investigating how to improve oral care. Earlier, respiratory therapy had improved endotracheal tube suctioning techniques and initiated a closed system suction device, which the nurses change every 24 hours. Also, physicians had reviewed the antibiotic regimen, and nurses were attentive in obtaining physician orders for sputum cultures in ventilated patients. The nurses thought more could be done. They studied research-based journals and searched for effective instruments that could be used to improve mouth care in ventilator patients. They even attempted to design their own instruments. During that time, Sage Products called on Coral Springs to demonstrate Toothette® Oral Care, which includes care products for patients who cannot expectorate and cannot perform their own oral hygiene—just right for ICU patients. "It was fate that Sage visited our hospital at that particular time," said Janette Moss, RN, MSN, Regional Nurse Manager for Critical Care. Sage's Oral Care had the type of reach and suction for which they had been searching. They began using Oral Care in October. Three months later, Dobin informed the hospital's Infection Control Committee about the progress with VAP and since that time has shared the outcomes with the Critical Care Committee. "It was a group effort and decision to continue to use Sage Oral Care as part of our regimen—our doctors were very involved," she said. Every staff nurse learned about proper setup of the new oral care products for ventilated patients through an in-service training session. Sage also provided educational posters and training materials to hospitals. The rate of VAP dropped significantly in the hospital's ICU once the oral care regimen began and has continued to reduce. Since March 2003, the hospital has not had any cases. "Our nurses are really, really bright and were innovators in preventing the devastation of VAP in critical care patients," said Moss. Collaboration among the interdisciplinary critical care team—from physicians to respiratory therapists—is important in maintaining a good performance of the VAP prevention program. Staff nurses, the clinical nurse specialist and the nurse manager openly share information and evaluations of patients in the unit. Family members are kept informed, too.

Rolling Out Oral Care Program

The North Broward Hospital District is one of the country's largest public healthcare systems. It has 40 healthcare facilities, including four hospitals, more than 7,000 employees and 1,700 affiliated physicians. Coral Springs is the smallest facility among the four hospitals. Now its larger sister facilities are bringing Toothette Oral Care to their intensive care units and staff are being trained. "It just goes to show you that a small hospital can do big things to improve patient care," said Dobin. "We were never concerned about the cost of the product and our results have been phenomenal." As an affirmation, the Joint Commission on Accreditation to Healthcare Organizations recently gave Coral Springs a score of 99. The JCAHO surveyors were so impressed with the facility's VAP program that it will be held as a best practice for other hospitals. This study was performed independently of Sage Products. Sage Products has reviewed its content and supports its dissemination.