

HealthEast Eliminates VAP, Saving \$360,000 in VAP-Related Costs – Oral Care Key to Success

HealthEast Care System is a network of integrated care services that serves the East Metro communities of St. Paul, Minn. Oral care practice at HealthEast's three hospitals (St. John's, St. Joseph's and Woodwinds Health Campus) was performed on patients twice a day and was not a priority. However, as hospital nurses and infection control staff attended conferences, they realized that oral care was a hot topic. In addition, research studies suggested that a comprehensive oral care program could reduce ventilator-associated pneumonia (VAP).

VAP is a common hospital-acquired pneumonia. According to the Centers for Disease Control and Prevention (CDC), nosocomial bacterial pneumonia increases mortality rates between 20 percent to 33 percent. In addition, Chest, December 2002, reported that VAP can increase costs by more than \$40,000 per patient, compared to patients without VAP.

"As oral care was growing in interest, our hospital launched an intensivist program," said Rebecca Wong, RN, BSN, Clinical Director of ICU at St. John Hospital. "We knew the Intensivists would facilitate implementation of an effective oral care program and we began to discuss developing a more comprehensive approach."

Boyd Wilson, MS, CIC, System Director for Infection Control, Wong and others at HealthEast began drafting an oral care policy and discussing the purchase of oral care products with the system's materials management department. However, product analysis and review was slow.

In October 2003, the Institute for Clinical Systems Improvement launched a regional initiative called Safest in America, which brings together 10 hospital systems in the Twin Cities and Rochester, Minn. area to collaborate on process improvements to improve patient care. The initiative is now led by the Minnesota Hospital Association.

HealthEast's chief executive officer was interested in joining the initiative to address clinical improvement opportunities, including reducing VAP. The system's participation in the initiative and its desire to reduce VAP rates drove oral care to priority status. In January 2004, Wong contacted Sage Products.

"We were already familiar with Sage and some of its products and we wanted to learn more about their extensive product offerings," said Wong.

Sage's oral care products were reviewed at a special meeting that included the critical care directors, materials management and infection control staff from all three hospitals. The group decided to implement Sage's Q-Care® Oral Cleansing and Suctioning System q4, feeling that this product could best support the system's four intensive care units (ICU) and 56 ICU beds.

"Before the meeting, we conducted an extensive literature review and learned the difference between 'good' and 'effective' oral care," said Wilson. "Sage's Web site was also very helpful, providing much of the information we needed in one place. It saved us a lot of work."

Setting Out to Zap VAP

In February 2004, staff began developing a Zap VAP initiative that was led by the system's critical care/respiratory care medical director. In addition, they developed a formal educational plan and policy. By December, a system-wide ventilator bundle had been developed, approved and implemented.

"Although oral care is not included in what is traditionally considered the vent bundle, we consider it an integral part of our overall program for pneumonia prevention," adds Wilson.

The educational component of the program is comprehensive. Nurses from all three hospitals are educated about oral care, VAP and trained on proper usage of Sage's system and tools and Linda Funk, M.D., an intensivist, conducts quarterly critical care educational sessions. In addition, the system developed a best practice flier, which is distributed throughout the three hospitals, and posters featuring Sage's q4 oral care product and prevention of VAP are displayed throughout the system.

"We launched an all-encompassing communications program to ensure that staff was fully educated, immersed and involved in the initiative," said Wilson.

In addition, Wong and Wilson met with intensivist staff, anesthesia, respiratory therapy and other clinical staff to tell them about the Zap VAP initiative and raise awareness of the vent bundle and oral care program.

Since the oral care program was launched, it has encountered little resistance from nursing staff. Nurses like using the oral care tools and feel the care practice improves overall patient care. The oral care kits are placed directly on ventilators for ease-of-use. In April, the system launched a VAP prevention oral care protocol that includes the following:

1. The Registered Nurse assesses the oral cavity initially and daily. Assess for plaque, dried secretions, coating, sign of infection or bleeding; (includes lips, oral mucosa, tongue, gums, teeth, hard and soft palate)
2. Unconscious or intubated patients are provided oral care every 4 hours and prn using Sage blister pack with Suction Swabs. An anti-plaque agent is used q 12 hours with the Ultra-soft bristled Suction Toothbrush.
3. ETT should be assessed daily and repositioned prn, or once Q 24 hours. (Two staff members are required to change an ETT. RCP and Nursing, or 2 RN or 2 RCP). Change bite block as needed.
4. Closed system suction devices are to be used routinely for patients who will be intubated > 12 hours.
5. Closed system suction devices, inline humidity devices and ventilator circuits are changed according to RCP policy, and when visibly soiled. RT III.A.3.a or CC V-1.
6. Change suction canisters weekly, prn, or if approaching vacuum seal, and between patients per Nursing practice.
7. 20 cm continuous suction to subglottic suction port of ETT (such as Mallinckrodt Hi Lo Evac). - Sage individual suction catheters are to be used only in oral cavity (above the vocal chords), not for subglottic suction, due to risk of inducing aspiration.
8. If nasal suctioning required, a sterile single use suction catheter should be used.

Oral care compliance is monitored by a quality management specialist, who walks through the units daily to review patient charts for compliance.

Results

As the system's vent bundle and VAP prevention oral care protocol unfolded, so did successful

results in HealthEast's ICUs. From July 2004 to August 2005, HealthEast Care System reduced its overall VAP rates by 54 percent.

- St Joseph Hospital's cardiac ICU has had zero infections for the last seven consecutive months.
- St. Joseph's neuro/surgical ICU, which has one of the highest risk and most challenging populations, has had three non-consecutive months with zero VAP.
- St John's Hospital ICU has seen zero VAP cases for the last six consecutive months.
- Woodwinds Hospital's ICU has had nine consecutive months with zero cases of VAP.

"Oral care is one of the biggest tasks that we did for VAP prevention that was truly new," said Wilson. "We were already doing bits and pieces of the vent bundle; however the steps had not been formally packaged like they are now. Our success is attributed to quality nursing care and a partnership with the entire healthcare team in the ICU to provide the best care for our patients."

To date, the system estimates its Zap VAP initiative, vent bundle and oral care program has realized a \$360,000 cost avoidance.