Solution: Reduction of Ventilator-Associated Pneumonia Using Standardized Oral Care Shows Incidental Decrease in Blood Stream Infection

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IDENTIFICATION:
In 2004, Franklin Square Hospital Center’s ICU joined the Transformation of the ICU (TICU) collaborative sponsored by VHA, Inc. which focused on multiple quality improvement measures to improve patient outcomes including the reduction of Ventilator Associated Pneumonia (VAP) and Blood Stream Infections (BSI). VAP reduction included implementing a bundle consisting of: daily weaning assessment, head of bed elevation, daily sedation interruption, deep vein thrombosis (DVT) and peptic ulcer disease (PUD) prophylaxis, and tight glycemic control. The BSI bundle included: maximum barrier precautions, maintaining a sterile field and use of a line cart. Year one, the ICU had achieved over 95% compliance with the ventilator bundle but only minimally reduced the VAP rate.

PROCESS:
Evidenced-based practice and shared governance were the processes that were used. After reviewing the literature, the TICU Project Manager had recommended that a standardized oral care protocol be incorporated into the ventilator bundle order set to further reduce the VAP rate. Anticipating compliance issues with standardized oral care, the TICU team discussed best methods for implementation with the ICU staff. The staff believed compliance would increase if oral care could be done with ease and supplies were readily available.

SOLUTION:
A standardized oral care protocol was developed based on the evidence found in the literature. Two mouth care kits were trialed and the staff selected the Sage kit. The kit was customized to contain supplies for oral care every 4 hours and the protocol was added to the ventilator bundle order set. To avoid confusion with the kits and oral care protocol, the staff decided to start the new oral care kits at 0800 or 2000, depending when the patient was intubated. To ensure consistency with each step of the oral care protocol was completed, a data collection tool was created to be used at the bedside. When the nurse or respiratory therapist completed each step of the oral care protocol, they would sign off that time box with their initials. During Daily Interdisciplinary Rounds, the charge nurse would review the previous day’s compliance with each step of the oral care protocol. This review was then entered into the TICU Daily Rounding Form which also collected data for the ventilator bundle compliance and pain scores.

Initially, the VAP rate decreased from 17 cases per year to 8 cases, and unforeseen, the BSI rate dropped from 12 cases to only 2 cases. Additionally, an improvement in glycemic control was noted, and subjectively, physicians reported improved mouth care of their patients noted on exam. Data continues to be collected and continues to show that when oral care compliance is higher, there are no VAPs and BSIs, and likewise, when oral care compliance drops off, we have a VAP and/or BSI case. When comparing VAP cases in 2007 with 2008, we went from 6 cases to 5,
respectively. When comparing BSI cases in 2007 with 2008, we went from 15 cases to 3, respectively. We continue to re-educate staff about the importance of and correlation of oral care with VAP and BSI incidence. We also make staff aware of the specific patients who have been affected by poor compliance with basic nursing care (oral care). Making it personal helps to improve the staff’s ownership in the care that we provide.