



# Fighting Hospital Acquired Pneumonia One Mouth at a Time



Crystal Norton, BSN, RN-BC, SCRN  
UNC Medical Center Chapel Hill, NC

## ABSTRACT

Due to an increased incidence of pneumonia on an acute care neuroscience unit, chart reviews were completed on patients who had been diagnosed with Non-ventilator Hospital-Associated Pneumonia (NV-HAP). Data revealed that 90% of these patients were neurologically impaired and could not perform oral care independently. Medical record review confirmed inconsistent oral care documentation. A literature review identified oral care as one modifiable risk factor that can prevent NV-HAP. Based on the team's research, an evidenced-based oral care protocol was implemented. The protocol includes standards for frequency of oral assessment, care of the oral mucosa, and the products to be used. Pre-implementation education was provided to nursing staff on the protocol in order to obtain support and ensure compliance. During implementation, audits are completed weekly to provide feedback and to sustain quality improvement. Since implementation of the protocol, there has been an 81% decrease in NV-HAP rates on the unit.

## INTRODUCTION

Hospital Acquired Pneumonia (HAP) is one of the most common hospital acquired infections (HAI) in the United States. More common than catheter associated urinary tract infections (CAUTIs) and central line associated blood stream infections (CLABSIs), is known to cause a significant increase in mortality rates, and increase in length of stay and hospital costs. Acute, neurologically impaired, care dependent patients are particularly vulnerable to acquiring HAP. Limitation of speech, limitation of chewing and tongue movement, and difficulty swallowing increase the risk for aspiration. Motor and cognitive deficits contribute to an inability to provide self-care and patients who have suffered cognitive impairment may not be able to appreciate the importance of good oral hygiene or remember to perform oral care on a regular basis

## OBJECTIVES

- The participant will describe the evidence based techniques to improve non-ventilator hospital acquired pneumonia in dependent patients
- Discuss one hospital's experience and results of implementing an evidenced-based oral care protocol on non-ventilator hospital acquired pneumonia rates

For more information, please contact  
Crystal Norton, Clinical Nurse IV  
([crystal.norton@unchealth.unc.edu](mailto:crystal.norton@unchealth.unc.edu))

25445

## METHODS

In a 32 -bed acute neuroscience unit a steady increase in patients diagnosed with NV-HAP prompted a comprehensive deep dive into those infections. Data revealed that 90% of these patients were care dependent patients, who were unable to perform their own oral care. Surveys presented to staff revealed that barriers to providing adequate oral care on dependent patients included lack of priority, time and resources. To address these barriers, the following strategies were implemented:

### Education:

- Problem:** Staff lacked understanding that oral microbes could cause NV-HAP.
- Solution:** Three comprehensive educational sessions held to equip nurses and support staff with the skills, tools, and knowledge essential for providing adequate oral care. This enhanced education helped to obtain support and ensure compliance.

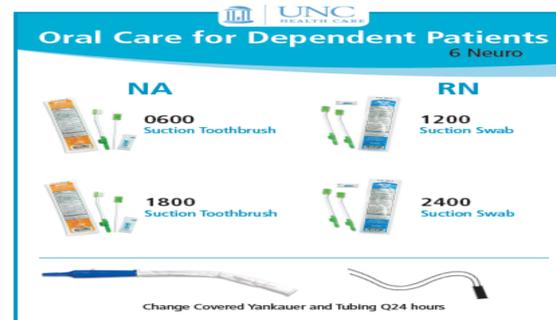


### Supplies:

- Problem:** Analysis of current oral care supplies on the unit established that adequate and effective supplies for performing oral care were not available.
- Solution:** Easy to use, ready to go, complete oral care kits were compiled and made accessible to staff.

### Oral care protocol:

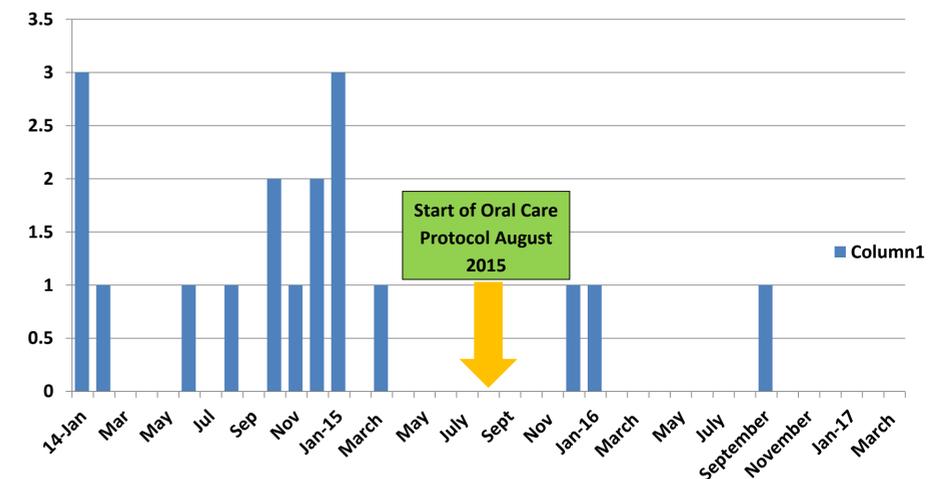
- Problem:** No standardized protocol existed for oral care for this patient population
- Solution:** A protocol was developed to center around care dependent patients who could not complete their own oral care. The protocol includes:
  - .Changing oral suction equipment every 24 hours
  - .Mouth assessment every 6 hours
  - .Cleansing mouth with toothbrush every 12 hours
  - .Cleaning oral mucosa with oral rinse solution every 6 hours
  - .Moisturize mouth/lips with swab and standard moisturizer every 6 hours
  - .Suction mouth and throat as needed
  - .Head of bed elevated to a minimum of 30° during oral care



## OUTCOMES

In the 19-month pre-implementation period we had 15 cases of NV-HAP. In the 17 months post implementation we have had only 2 cases for patients on the protocol, which represents an > 85% decrease in NV-HAP.

Chart # 1. NV-HAP Rates on 6 Neuroscience 2014-2017



## CONCLUSION / NURSING IMPLICATIONS

- It is vital that nurses are aware of NV-HAP, patients who are at risk and their crucial role in infection prevention.
- The results from the improvement initiatives outlined in this poster suggest that a standardized oral protocol can promote patient outcomes and can benefit all patient populations.
- Collecting and sharing relevant data and outcomes can help motivate staff and engage them in ongoing improvement efforts.
- Improved oral care is a simple and inexpensive intervention to address a complex and expensive problem.

## REFERENCES

Barnes, C. M. (2014). Dental Hygiene Intervention to Prevent Nosocomial Pneumonias. *Journal of Evidence Based Dental Practice*, 14S, 103-114.

Quinn, B., Baker, D. L., Cohen, S., Stewart, J. L., Lima, C. A., & Parise, C. (2014). Basic Nursing Care to Prevent Non-ventilator Hospital-Acquired Pneumonia. *Journal of Nursing Scholarship*, 46(1), 11-19.

Robertson, T., & Carter, D. (2013). Oral intensity: Reducing non-ventilator-associated hospital-acquired pneumonia in care-dependent, neurologically impaired patients. *Canadian Journal of Neuroscience Nursing*, 35(2), 10-17.

Scannapieco, F. A., & Shay, K. (2014). Oral Health Disparities in Older Adults: Oral Bacteria, Inflammation, and Aspiration Pneumonia. *Dental Clinics of North America*, 58, 771-782.

Sorensen, R. T., Rasmussen, R. S., Overgaard, K., Lerche, A., Johansen, A. M., & Lindhardt, T. (2013). Dysphagia Screening and Intensified Oral Hygiene Reduce Pneumonia After Stroke. *Journal of Neuroscience Nursing*, 45(3), 139-146.