

# It's more than a bright smile: Making a difference with an oral care initiative

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## Background

- Children undergoing treatment for oncologic conditions may be at a higher risk for developing mucosal barrier injuries (MBI) in areas such as the mouth due to the pharmacodynamics of many chemotherapeutic agents.
- Compromised mucous membranes place the patient at higher risk for developing infections such as blood stream infections (BSI) and central line associated blood stream infections (CLABSI), which are associated with increase in healthcare costs, length of stay, and mortality.
- Routine oral care offers an opportunity to reduce microbial load in the oral cavity and improve overall mucosal health.

## Objective

- The oral care bundle initiative in the pediatric oncology population within a multi-campus children's hospital aimed:
  - Increase oral care education
  - Increase oral care activities being completed
  - Decrease the incidence of MBI-CLABSI by 25% from 2017 to 2018

## Methods

- Oral care bundle from Solutions for Patient Safety (SPS) was modified and adapted for this initiative.
- A multi-campus pediatric interprofessional oral care workgroup with participants across the continuum of care was developed to spearhead this initiative.
- Education to nursing staff on the importance of oral care and the associated bundle was provided with the use of a PowerPoint presentation.
- The oral care bundle included patients brushing teeth twice daily, applying lip moisturizer twice daily, and using an oral rinse three times a day.
- Oral care kits included pediatric toothbrushes, pediatric toothpaste, an oral rinse, lip moisturizer, a calendar to assist patients and families to keep track of their oral care, and a patient/family education handout.
- Inpatient expectations included nurse driven education to patients and families on the oral care bundle and providing them oral care kits.
- Outpatient expectations included nurse driven education to patients and families on oral care bundle on a monthly basis and providing oral care products as needed to continue proper oral care at home.

Figure 3. Oral care patient education handout



2017/2018/2019 CLABSI MBI Comparison



Figure 4. MBI CLABSI comparison after oral care initiative implementation in summer 2017

## Results

- Baseline analysis showed no oral care education was provided to patients and families during admission or outpatient visits. Documentation of oral care also varied according to the unit/nurse.
- Per the units and clinicians, since the implementation of the oral care initiative, completion of oral care activities has greatly improved.
- Since implementation of the oral care initiative, 100% of nurses receive education on the oral care and 76% of patients receive oral care education on admission and 99% of patients receive ongoing education in the outpatient setting.
- As of May 2019, 95% of patients complete oral care at least twice daily.
- MBI-CLABSIs decreased 68% from 2017 to 2018, from 16 MBI CLABSIs in 2017 to 5 MBI-CLABSIs in 2018. As of May 2019 no MBI-CLABSIs have been reported.

## Discussion / Conclusions

- Staff's knowledge about the benefits of oral care has greatly increased.
- Pediatric friendly products help to promote patient engagement.
- This initiative allows for an opportunity to expand a focus of oral hygiene to the general inpatient pediatric population.
- Routine oral care is an easy intervention to prevent MBI-CLABSIs.
- The oral care initiative allows patients and families to take ownership in their own care.

## Implications for Practice

- Implementing an oral care initiative to the pediatric oncology population has increased oral care compliance.
- Recent expansion of oral care initiative includes implementing cryotherapy for specific high-risk chemotherapies that are known to increase risk for mucosal injury.
- Future focus includes increasing oral care completion during hospitalization.

## Acknowledgements

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## References

- Linder, L., Gerdy, C., Abouzef, R., Wilson, A. (2017). Using practice-based evidence to improve supportive care practices to reduce central line-associated bloodstream infections in a pediatric oncology unit. *Journal of Pediatric Oncology Nursing*, 34(3) 185-195.
- Solutions for patient safety (SPS) (2018). CLABSI Oral Care Bundle <https://portal.cchmc.org/sites/ochpsc/HAC/HEMEONC1/Document%20Library/2/1/HEMEONC%20Archive/HEMEONC%20Oral%20Care/CLABSI%20HemOnc%20Oral%20Care%20Bundle.pdf>

Prevention Bundle Items	Care Description
Teeth Brushing	<ul style="list-style-type: none"> <li>Use soft toothbrush</li> <li>Brush twice daily</li> <li>Brush for at least 90 seconds</li> </ul>
Oral Rinse	<ul style="list-style-type: none"> <li>Rinse mouth with Biotene 3 times a day</li> </ul>
Lip Care	<ul style="list-style-type: none"> <li>Apply lip moisturizer at least 2 times a day</li> </ul>
Patient/Family Education	<ul style="list-style-type: none"> <li>Inpatient-education should be completed upon admission</li> <li>Outpatient-education should be completed monthly</li> </ul>
Daily Assessment	<ul style="list-style-type: none"> <li>Assessment should include a visual inspection of the patient's mouth</li> </ul>

Figure 1. Oral care bundle



Figure 2. Oral care products