

ORAL CARE 101:

why its important and what to do

Oral Care for Acute, Sub Acute and Long-Term Care
Settings

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What's The Big Deal About Oral Care?

Did you know that tooth brushing prevents more than just cavities and bad breath?

It's TRUE!!!



What's The Big Deal About Oral Care?

Poor oral hygiene has been related to a number of medical conditions:

- Diabetes Mellitus
- Cardiovascular Disease
 - Strokes
 - Atherosclerosis
 - Myocardial Infarction
- Cancer, including:
 - kidney (risk increased by 49% in men)
 - pancreatic (risk increased by 54% in men)
 - blood (risk increased by 30% in men)
- Pregnancy Complications – low birth weight & prematurity
- **Pneumonia**
- Source: American Academy of Periodontology. (n.d.). Gum Disease Information. Retrieved July 1, 2018, from <https://www.perio.org/consumer/gum-disease.htm>

Types of Pneumonia

- Viral Pneumonia –
 - Caused by influenza in 1/3 of all cases
- Fungal Pneumonia -
 - Pneumocystic Pneumonia (PCP)
 - Candidiasis
 - Aspergillosis
- Bacterial Pneumonia –
 - *Streptococcus pneumoniae*
 - *Mycoplasma pneumoniae*
 - **Aspiration Pneumonia**

Source: What You Need to Know About Pneumonia. (n.d.). Retrieved July 1, 2018, from https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/infectious_diseases/pneumonia_85,P01321

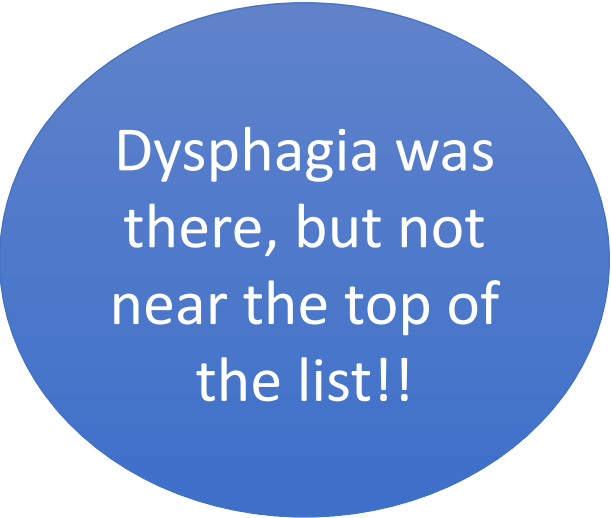
What REALLY Causes Aspiration Pneumonia?

- Aspiration pneumonia does not develop as a singular and independent disease entity (Langmore, et al. 2008; Ashford, 2005).
- Aspiration pneumonia can only develop within the context of a primary and serious illness (Ashford, 2005; Ashford, n.d.)
- Laryngeal aspiration related to dysphagia is not the sole cause of aspiration pneumonia (Langmore, et al. 2008; Ashford, 2005).
- The **BEST** predictors of aspiration pneumonia in a cohort of elderly, community and institutionally-dwelling adults studied were:
 - Inability to self-feed/dependent for feeding
 - **Dependent for oral care**
 - **Number of decayed teeth**
 - Tube Feeding
 - More than one medical diagnosis
 - Number of Medications
 - Smoking

Where is
dysphagia
on this
list???

What REALLY Causes Aspiration Pneumonia?

Langmore, et al. (1998) concluded that dysphagia was an important risk for aspiration pneumonia, but generally **not sufficient to cause pneumonia unless other risk factors were present as well.**



Dysphagia was there, but not near the top of the list!!

Source: Langmore et, al. (1998)

What REALLY Causes Aspiration Pneumonia?

John Ashford, PhD CCC-SLP (Ashford, 2005; Ashford & Skelley, 2008; Ashford, 2012) coined the phrase ***the three pillars of pneumonia*** to refer to the factors necessary to develop aspiration pneumonia (Ashford, n.d.).

1. Compromised Immune System

Related to various underlying diseases and conditions, including aging

2. The Presence of Aspiration

Identified using instrumental studies such as VFSS or FEES

3. Poor Oral Health

Biofilm of bacteria in plaque

Importance of Oral Care: Did You Know?

- If you scrape a cubic millimeter of your teeth in the morning before you brush your teeth, and you could collect up to 10 billion microorganisms (Sheffler, 2014a)
- Floating free or attached to surfaces as plaque, there are over 600 species of bacteria in the mouth (Keijser et al., 2008)
- Poor oral hygiene will cause dental plaque to form a dense bacterial biofilm that, if aspirated, can increase the likelihood of developing pneumonia
- “Findings by Alexander et al. and Saxton et al., as reported by Rowshani, Timmerman, and Van der Velden (2004), show that plaque recolonizes on tooth surfaces within 3 hours of cleaning and to original concentration levels in less than 24 hours in healthy persons. For individuals with periodontal disease, plaque may recolonize within 5 minutes of cleaning.”
- And: it is easy to screen the condition of the mouth and teeth!
- Nursing and SLP are qualified to complete the [Oral Health Assessment Tool \(OHAT\)](#) (Chalmers, et al. 2005). It is a screening that prompts referral to a dental care professional when appropriate.
- Other tools exist – institutions may wish to choose one with validity specific to their needs.

Do Toothettes Work?



Using a toothette is NOT the same as using a toothbrush

- Foam swabs/toothettes are NOT successful in removing plaques and biofilm that harbor pathogenic microorganisms
- The teeth, tongue, and palate need to be well cleaned and brushed.



Source: Sheffler (2018)

What should the pink or green sponges/toothettes really be used for?

- They should be used as FIRST line of defense in cleaning out large amounts of secretions and rinsing with water and/or mouthwash at the end of oral care.
- They are NOT a replacement for a toothbrush and should ALWAYS be used as a supplement to oral care.
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- Sponges/toothettes dipped in mouthwash and swirled around a patient's mouth is NOT adequate oral care.
- Additionally, lemon glycerin swabs should not be used to perform oral care. They can dry out the oral mucosa and should NOT be used in place of a toothbrush and oral care.

If Not Toothettes, Then What Works?

Nothing has been proven to be more effective at decreasing oral bacteria than vigorous cleaning with a toothbrush and toothpaste!

- Brush the teeth, tongue, and palate
- Rinse with water
- If the patient is NPO or unable to spit, use a suction toothbrush
- For high risk patients, oral care should be performed **at least 2-3x/day**

Toothette® Suction Toothbrush

Helps remove dental plaque,^{3,4} debris and oral secretions, all known to harbor potential respiratory pathogens.^{5,6,7,8}



- Available with sodium bicarbonate to mechanically cleanse.
- Swab on back of brush helps deliver cleansing solution.
- User-friendly thumb port provides easy suction control.
- Three suction ports to avoid clogging. Keeps open path for debris.



Source: Sheffler (2018)

What You Need:

- Gloves
- Splashguard
- Towel or paper towels
- Toothette/pink sponge
- Toothbrush
- Cup (for water to swish and spit)
- Toothpaste
- Spit basin
- Mouthwash
- Biotene (if dry mouth)
- Water based moisturizer for lips
 - **IF NPO you will need all of the above and the following:**
 - Suction equipment if NPO or patient can not spit
 - Yankauer suction



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- Available with sodium bicarbonate to mechanically cleanse.
- Swab on back of brush helps deliver cleansing solution.
- User-friendly thumb port provides easy suction control.
- Three suction ports to avoid clogging. Keeps open path for debris.

How to Perform Oral Care

1. Sit patient up, or at least in an elevated position.
2. Put on gloves and splash guard mask (per universal precautions).
3. Use the Yankauer suction or a pink/green sponge with water or mouthwash to remove any visible secretions, but be gentle.
4. Use a toothbrush with a small amount of toothpaste to brush all surfaces.
5. Rinse mouth with water via sponge or suction.
6. Use mouthwash if possible, or swab mouthwash along surfaces with pink sponge-suction if necessary.
 - ***Avoid alcohol based mouthwash as they have drying affect on oral mucosa.
8. Apply a WATER based moisturizer to lips and/or Biotene if patient complains of dry mouth.

But What if They Don't Have Teeth?

Do we still need to use a toothbrush during oral care?

YES!!!! The surfaces of the gums, palate, and tongue can only be cleaned effectively with a toothbrush, NOT A TOOTHETTE!

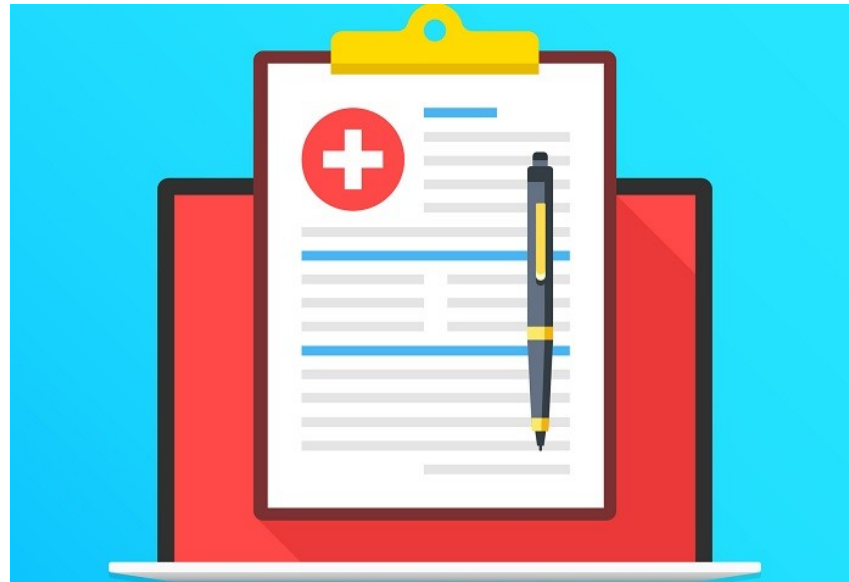
***Don't forget about DENTURES:**

- 1) Remove dentures and rinse with COLD water to remove debris (Hot water can deform dentures)
- 2) Thoroughly brush all surfaces using denture paste and rinse well.
- 3) Soak dentures overnight in a denture cleaner to remove bacteria.
- 4) Use a very soft toothbrush with toothpaste to clean all surfaces, gums, cheeks, tongue etc.
- 5) Provide oral care as usual while dentures are out of mouth.

Source: <https://www.cdc.gov/mmwr/volumes/66/wr/mm6603a12.htm>

If it wasn't documented, did it happen?!

- Make sure to document that oral care was completed! Give yourself credit for a job well done.
- Document in PCC under TASKS tab that oral care was complete.



Not Convinced Yet?

- A nurse training program on the benefits of toothbrushing over foam swabs resulted in a 50% reduction in vent-acquired pneumonia (Ross & Crumpler, 2005).
- Yoneyama et al. (2002) studied 417 residents of 11 nursing homes randomized into oral care vs. no oral care groups. The oral care residents had their teeth brushed for 5 minutes after each meal, plus weekly dental hygiene services. Only 11% of the oral care group developed pneumonia, vs. 19% in the control group ($p = .05$). And of these, only 7% in the oral care group vs. 16% in the control group died of the pneumonia ($p = .01$).
- For tube fed patients, Maeda & Akagi (2014) found that standard oral care given 2x/day resulted in a 40% decrease in hospitalizations. And pneumonia was twice as high in the group that had no oral care protocol as compared to those getting oral care.
- If you look at these findings together with the idea that the oral biofilm is FULL of bacteria that do NOT belong in the lungs, you may agree that basic TOOTHBRUSHING truly is an Oral Infection (Prevention) Protocol, and we should have one in place here!

A Dignity Issue

Aside from the health risks associated with poor oral hygiene, having daily oral care is a dignity issue.

How do YOU feel when you go 24 hours without brushing your teeth? Eew. Yeah. Now imagine you haven't brushed your teeth in weeks.

That's the harsh reality for many patients.

**But YOU can help change that
by performing daily oral care!**



Questions???



References:

- American Academy of Periodontology. (n.d.). Gum Disease Information. Retrieved July 1, 2018, from <https://www.perio.org/consumer/gum-disease.htm>
- Ashford, J. R. (n.d.). Three Pillars of Pneumonia. Retrieved from <http://www.sasspllc.com/three-pillars-pneumonia/>
- Ashford, J. R. (2005). Pneumonia: Factors beyond aspiration. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 14(1), 10. doi:10.1044/sasd14.1.10
- Ashford, J. R., & Skelley, M. (2008). Oral care and the elderly. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 17(1), 19. doi:10.1044/sasd17.1.19
- Ashford, J. R. (2012). Oral Care Across Ages: A Review. *Perspectives on Swallowing and Swallowing Disorders (Dysphagia)*, 21(1), 3. doi:10.1044/sasd21.1.3

References:

- Chalmers, J., King, P., Spencer, A., Wright, F., & Carter, K. (2005). The Oral Health Assessment Tool — Validity and reliability. *Australian Dental Journal*, *50*(3), 191-199. doi:10.1111/j.1834-7819.2005.tb00360.x
- Keijser, B., Zaura, E., Huse, S., Vossen, J. V., Schuren, F., Montijn, R., . . . Crielaard, W. (2008). Pyrosequencing analysis of the oral microflora of healthy adults. *Journal of Dental Research*, *87*(11), 1016-1020. doi:10.1177/154405910808701104
- Langmore, S. E., Terpenning, M. S., Schork, A., Chen, Y., Murray, J. T., Lopatin, D., & Loesche, W. J. (1998). Predictors of aspiration pneumonia: How important is dysphagia? *Dysphagia*, *13*(2), 69-81. doi:10.1007/pl00009559
- Maeda, K., & Akagi, J. (2014). Oral care may reduce pneumonia in the tube-fed elderly: A preliminary study. *Dysphagia*, *29*(5), 616-621. doi:10.1007/s00455-014-9553-6

References:

- Morbidity and Mortality Weekly Report (MMWR). (2017, August 01). Retrieved July 1, 2018, from <http://www.cdc.gov/mmwr/volumes/66/wr/mm6603a12.htm>
- Ortega, O., Parra, C., Zarcero, S., Nart, J., Sakwinska, O., & Clavé, P. (2014). Oral health in older patients with oropharyngeal dysphagia. *Age and Ageing*, *43*(1), 132-137. doi:10.1093/ageing/aft164
- Ross, A., & Crumpler, J. (2007). The impact of an evidence-based practice education program on the role of oral care in the prevention of ventilator-associated pneumonia. *Intensive and Critical Care Nursing*, *23*(3), 132-136. doi:10.1016/j.iccn.2006.11.006
- Rowshani, B., Timmerman, M. F., & Velden, U. V. (2004). Plaque development in relation to the periodontal condition and bacterial load of the saliva. *Journal of Clinical Periodontology*, *31*(3), 214-218. doi:10.1111/j.0303-6979.2004.00468.x

References:

Sheffler, K. (2014a, July 22). 10 Trillion Microorganisms versus Your Toothbrush. Retrieved July 1, 2018, from <https://blog.asha.org/2014/07/22/10-trillion-microorganisms-versus-your-toothbrush/>

Sheffler, K. (2014b, September 4). How to perform effective oral care: Part IV. Retrieved June 29, 2018, from <http://www.swallowstudy.com/perform-effective-oral-care/>

Sheffler, K. (2018, May 01). The Power of a Toothbrush. Retrieved from <https://leader.pubs.asha.org/article.aspx?articleid=2679429>

What You Need to Know About Pneumonia. (n.d.). Retrieved July 1, 2018, from https://www.hopkinsmedicine.org/healthlibrary/conditions/adult/infectious_diseases/pneumonia_85,P01321

Yoneyama, T., Yoshida, M., Ohrui, T., Mukaiyama, H., Okamoto, H., Hoshiba, K., . . . Members Of The Oral Care Working Group. (2002). Oral care reduces pneumonia in older patients in nursing homes. *Journal of the American Geriatrics Society*, 50(3), 430-433. doi:10.1046/j.1532-5415.2002.50106.x



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