

HEALTH & SAFETY: ASPIRATION PREVENTION

“Management of Oral Health”

BQIS/Outreach Fact Sheets provide a general overview on topics important to supporting an individual's health and safety and to improving their quality of life. This document provides general information on the topic and is not intended to replace team assessment, decision making or medical advice. This is the third of ten Fact Sheets regarding Aspiration Prevention.

Objectives

Readers will gain an understanding of the importance of maintaining an effective oral hygiene program, the importance of oral health in the prevention of bronchitis and/or pneumonia, and steps that can minimize the risk of aspiration during oral hygiene.

Definitions

Chlorohexidine (Peridex): A mouthwash that reduces bacteria in the mouth. Peridex, usually prescribed by a dentist, is used to treat gingivitis, a condition in which the gums become red and swollen, and also to control gum bleeding caused by gingivitis.

Bruxism: Grinding of the teeth; is typically accompanied by the clenching of the jaw.

Collis Curve Toothbrush: A toothbrush that contains 3 sets of bristles allowing the brushing of three sides of the tooth at once instead of just a single surface.

Suction Toothbrush: A reusable oral hygiene instrument for people with difficulty swallowing and expectorating (coughing and spitting), or who cannot independently perform routine oral care. Is commonly used for individuals who are unable to tolerate thin liquids or if they are NPO (unable to eat by mouth), and reduces the risk of infection, aspiration and pneumonia.

Plaque: A film (usually colorless) that builds up on the teeth. If not removed regularly, it can lead to dental cavities or periodontal problems (such as gingivitis). May be caused from food or sweets not removed from the surface of the tooth.

Calculus: A form of hardened Dental plaque also called tartar. Caused by the continual accumulation of minerals from saliva on plaque on the teeth. Its rough surface provides an ideal medium for further plaque.

Oral Bacteria Acquired Pneumonia: Pneumonia occurring as a result of aspiration of bacteria from the mouth. (most common in individuals who receive enteral nourishment)

Facts

- Studies suggest a strong correlation between poor oral health and an increased risk of aspiration and pneumonia.
- Pneumonias in persons who receive nutrition by a tube are often associated with the aspiration of bacteria from the mouth and gastrointestinal (GI) tract.
- Poor oral hygiene increases exposure to disease-causing microorganisms found in the mouth, which together with reduced resistance leads to an increased incidence of systemic disease.
- Development of a comprehensive oral care program significantly:
 - Improves quality of life
 - Decreases risk of pneumonia
 - Decreases risk of bronchitis
- Toothpaste is not required for good oral hygiene. Persons with an identified risk of aspiration should be evaluated by a speech pathologist with expertise in assessing dysphagia in persons with intellectual/developmental disabilities for the appropriateness of using regular toothpaste, low-foaming toothpaste, or no toothpaste.
- Individuals with Intellectual/Developmental Disabilities (I/DD) are at a greater risk of Poor Oral Hygiene because of:
 - Poor brushing techniques
 - Mouth breathing
 - Food pocketing
 - Plaque build-up
 - Poor food choices (i.e., excessive sweets or sugars)
 - Medications
 - Tone imbalances or self-stimulation (bruxism)
 - Sensory processing disorders or sensory defensiveness
 - Difficulty finding dental professionals with expertise for this population
- Common Dental Problems Seen with People with I/DD include:
 - Gum Disease
 - Dental Cavities
 - Mouth Sores
 - Poorly-Fitting Dentures
 - Decreased Saliva
 - Missing Teeth
 - Bruxism

Recommended Actions and Prevention Strategies

1. **As directed/prescribed by the physician or dentist, use a Mouth Wash such as Chlorhexidine Rinse (Peridex):** Utilizing mouth wash twice a day has demonstrated the ability to lower the rate of pneumonia by up to 60%.
2. **Brush teeth before eating and at night:** This allows the surface of the teeth to be clean when eating and prevent adherence of plaque to the tooth. If aspiration occurs during eating, less

bacteria will be in the mouth and aspirated contents reducing the chances of pneumonia. You may also want to consider brushing after the meal so that residual food and particles are removed.

3. **Brush teeth a minimum of twice daily:** Twice is good but three times is better.
4. **Visit the Dentist regularly:** Standard practice is to visit the dentist every 6 months unless otherwise recommended by treating dentist.
5. **Maintain proper positioning:** During oral care, the individual and staff should be in the same position as during mealtime or standing. If the individual is able to lean safely forward, then this is an option as it will help saliva and excess water flow from the mouth.
6. **Ensure appropriate fluids:** Provide liquids during oral care that matches mealtime fluid consistency.
7. **Determine adequacy of dental equipment:** Consult with dentist or physician, to determine if the individual would benefit from suction tooth brushing, or other adaptive equipment (nosey cup, collis curve or electric tooth brush).
8. **Additional Brushing Techniques:**
 - A small headed toothbrush or a youth sized brush is preferable. Using this sized toothbrush will improve manipulation within the mouth during brushing.
 - There are three surfaces on the teeth that must be cleaned. Teeth surfaces touching the lips and cheeks, teeth surfaces towards the tongue, and the chewing surfaces of the molar, posterior teeth. A Collis Curve toothbrush may be helpful in assisting someone who is sensitive to tooth brushing.
 - The toothbrush should be placed at a 45 degree angle against the tooth towards the person's gum line and brush with short back and forth movements (this technique is most effective at cleaning teeth at the gum line) on all three surfaces of the tooth for at least 5 seconds per tooth. For all teeth surfaces to be thoroughly cleaned tooth brushing should last approximately 2 minutes.
 - Make it a habit to brush one quadrant of teeth, give person time to breathe and swallow and then brush the second quadrant of teeth followed by a break and so on until all 4 quadrants are cleaned.
 - If an individual will not allow brushing for two minutes consistently, take advantage of the occurrences in which they will allow more time inside their mouth with thorough brushing.
9. **People who can help assist with development of proper oral care guidelines:**
 - Dentist and Dental Hygienist: Brushing techniques, medications
 - Occupational Therapist: Adaptive oral care equipment, and individual/staff positioning
 - Speech Therapist: Adaptive oral care equipment and swallowing techniques/strategies
 - Nurse: Suction tooth brushing, administration of medications

Learning Assessment

Questions that can be used to verify a person's competency in the material contained in this Fact Sheet:

1. True or False: Poor food choices lead to a decline in oral health.
2. True or False: Brushing teeth before meals can help reduce negative effects of aspiration.
3. True or False: Consequences of Plaque Bacteria include cavities and gum disease
4. True or False: Chlorhexidine (Peridex) may be purchased over the counter
5. True or False: Positioning does not play an important role in minimizing the risk of aspiration during oral care.

References

American Association of Critical-Care Nurses (2006). American Association of Critical-Care Nurses Practice Alert: Oral care in the critically ill. Retrieved July 30, 2008, from www.aacn.org

Marik PE. Aspiration pneumonitis and aspiration pneumonia. N Engl J Med 2001;344(9):665–71

Scannapieco FA. Role of oral bacteria in respiratory infection. J Periodontol 1999;70(7):793–802

Related Resources

Aspiration Prevention Series Fact Sheets: “Food Texture and Fluid Consistency Modification”, “Management of Constipation”, “Dysphagia”, “Modified Barium Swallow Study/ Videofluoroscopy”, “Management of Gastroesophageal Reflux Disease (GERD)”, “Positioning”, “Management of Residuals”, “Feeding Tubes and Feeding/Medication Administration Options”, and “Choice Considerations Relevant to the Use of Enteral Nutrition”

“General Description of Diet Textures” Handout

Oral Health Solutions “General Brushing Instructions”

Learning Assessment Answers

1. True
2. True
3. True
4. False
5. False

Outreach Services

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