2018

Oral Aversion and Your Child's Dental Health Brochure and Handout

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Preparing to meet the dentist:

- Bring the child along to watch a family member get their teeth cleaned. This will help familiarize her with the office and procedures without the stress of anyone attempting to be in her personal space.
- Video tape family members having their teeth cleaned and have a conversation about what was happening. This affords you an opportunity to offer reassurance and answer questions the child may have.
- Ask your dentist if your child can explore the office and get a chance to sit in the chair, maneuver the light, etc. "Playing dentist" with a special doll can help them take a step closer to agreeing to be a patient when they are ready.

Photo credit: Clavey, 2017

Feeding therapy resources:

Read **Toothbrushing 1-2-3©**
By Marsha Dunn Klein, MEd, OTR/L
www.mealtimenotions.org
Look under "Family Support," and then "Articles."

Feeding Matters: Outreach and support for families and healthcare providers caring for children with pediatric feeding disorders. Provider search & directory available
www.feedingmatters.org

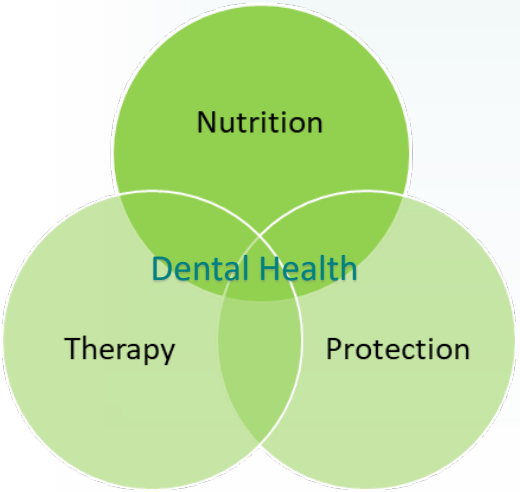
Illinois Department of Human Services
Bureau of Early Intervention
Request an assessment by an SLP speech-language pathologist) and OT (occupational therapist).
Phone: (217) 782-1981

Finding a dental provider familiar with accommodating special needs:

The Arc of Illinois
Toll Free: 866-931-1110
www.familyvoicesillinois.org
search for "pediatric dental care"

Oral Aversion & Your Child's Dental Health:

A Proactive Strategy



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Dental plaque formation

Microorganisms such as the bacteria *S. mutans* turn sugar into **dextran.**

Sticky dextran becomes one part of a biofilm known as **dental plaque** which may contain billions of bacteria.

Tooth enamel is dissolved

In this environment, additional bacteria such as *Lactobaccilus* also ferment sugars into organic acids.

The acidic environment promotes the further breakdown, or demineralization, of teeth.

Bacteria invade tooth

Once the enamel is dissolved, bacteria continue to invade the tooth and cause further demineralization and decay.

Taking steps to reduce harmful bacteria and acidity in mouth as well as strengthen enamel can help prevent tooth decay.

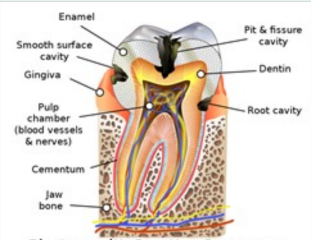

Photo credit: Creative Commons

Proactive strategy:
what can be done to prevent tooth decay?

Therapy

- Seek early oral-sensory intervention for children at risk.
- Consider a Z-Vibe® tool to acclimate the child to the sensation of an electric toothbrush.
- Become familiar with therapy methods like Toothbrushing 1-2-3© to learn strategies for introducing toothbrushing.
- Acclimate the child to dental office before expecting them to sit for a cleaning. This may take a while!

Nutrition

- It is recommended to not snack between meals. This creates a constant opportunity for bacteria to build a biofilm & demineralize enamel.
- Acidic foods allowed to remain on teeth also contribute to demineralization of tooth enamel.
- Avoid sweet and acidic foods as much as possible until child cooperates with toothbrushing.

Protective

- Xylitol, an ingredient in some mouth rinses, has been shown to reduce *S. mutans* and aid in keeping this oral bacteria under control.
- MI Paste™ is a product that can help strengthen tooth enamel by restoring calcium & phosphorus, important minerals for strong teeth.
- Talk to your healthcare professional about replacing fluoride that may be removed by a home water filtration device.

Oral Aversion & Dental Hygiene

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Healthcare provider fact sheet to accompany caregiver brochure

According to Children's Hospital of Wisconsin, there are between "five to ten percent of the pediatric population with some form of a serious feeding disorder at some point." It is also estimated that "up to 80% of children with developmental disabilities have a feeding disorder" which may include sensory-oral problems (Children's Hospital of Wisconsin, 2018). One common manifestation of a feeding disorder is an oral aversion (OA) related to oral-sensory issues. Beyond having a developmental disability, there are a variety of other factors that may play a role in developing an oral aversion (OA). Premature birth, early hospitalization, ongoing medical issues or an episode of choking are a few things that may contribute to the condition. Also, children with feeding difficulties may develop OA to protect their airway due to an underlying problem when swallowing food or liquids. According to the American Academy of Pediatrics, an oral aversion can "interfere with oral hygiene such as brushing and flossing" (Pediatrics, 2013). The AAP also asserts that without proper oral health many children, especially those with developmental disabilities, are at increased risk for developing periodontal disease as well systemic illnesses such as "aspiration pneumonia, systemic infection and systemic inflammation" (Pediatrics, 2013).

Planning interventions well before a child's teeth have even erupted is the ideal situation to minimize the impact of OA on dental health. In addition to the child's pediatrician, other providers who have a role in this strategy include: the speech-language pathologist (SLP), who provides feeding therapy; an occupational therapist (OT), who provides oral-sensory therapy; as well as the pediatric dentist. Caregiver education should include basic understanding for how dental problems develop, how they can be avoided and how OA can make the situation worse if the child refuses toothbrushing and other dental care. Suggestions for the caregiver may be made which include: minimizing acidic foods to decrease the possibility of demineralization of tooth enamel that occurs when pH is below 5.0. It should also be emphasized that foods with added sugar should be eliminated. According to Bauman, the bacteria *S. mutans* uses these simple sugars to form dextran, a component of dental plaque. Sugar is also by bacteria like *Lactobaccilus* to further acidify the oral environment (Bauman, 2017). It may also be suggested that a caregiver provides fluoridated water or other fluoride replacement if using a filtration system at home. Additionally, they may use an MI Paste™ to help strengthen tooth enamel, aid

in remineralization of teeth and improve saliva flow (Hettinger, 2018). A final suggestion is to include mouth rinse that contains xylitol which has been shown to reduce growth of *S. mutans*(SM & G., 1990). If a child with OA will not cooperate with toothbrushing or spit out a dental rinse, caregivers may be able to work in wiping the teeth with a washcloth or Toothette (disposable swab) in order to disrupt the biofilm on teeth. Small amounts of xylitol rinse may be utilized this way as well. For children who require thickened liquids, there are sugar-free thickeners available.

Having a proactive, therapy-based strategy in place well before toothbrushing has been introduced can help avoid some of the additional aversions a child may develop specific to dental care. However, even if a child has already become defensive when it comes to toothbrushing, a therapeutic approach may help achieve cooperation with toothbrushing. Feeding therapists who are trained to help a child avoid and/or overcome oral aversion should be an integral part of the child's healthcare team. Ideally, early intervention should happen as soon as risks for developing oral aversion are identified. One therapist, Marsha Dunn Klein, MEd, OTR/L, developed the Toothbrushing 1-2-3© approach to help her clients. The aim of the program is to give the child control over the task and "build trust and eventual enjoyment of toothbrushing." (Dunn-Klein, 2018)

The pediatric dentist can also have a role in a therapy-based approach to dental care by allowing appointment time in the office to get acquainted with procedures used to assess and clean the teeth. Role-play, where the child gets to act as the dentist on a special doll with teeth, is a technique that can help lessen anxiety about the tooth cleaning process in the dental office. In general, having a collaborative interdisciplinary approach can minimize the impact of OA on dental health and help the caregiver formulate a proactive strategy to promote their child's good oral hygiene.

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SM, W., & G., R. (1990, March). Xylitol, mechanisms of action and uses. *Nor Tannlaegeforen Tid., 100*(4), 140-3.