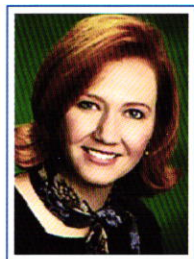


Oral Health Considerations for our Patients with Special Health Care Needs



By **Kimberly K. Patterson, D.D.S., M.S.**, pediatric dentist at Children's Hospital and assistant professor of pediatric dentistry at LSU Health Sciences Center School of Dentistry. This issue of *Pediatric Review* is intended for pediatricians, family physicians and all other interested medical professionals. For CME purposes,

the author has no relevant financial relationships to disclose.

OBJECTIVES

1. Identify challenges with oral health in patients with special healthcare needs (SHCN)
2. Discuss three significant risks posed to the dentition of children with SHCN
3. Develop and implement an oral health risk plan for your patients with SHCN

INTRODUCTION

End of school parties. Sno-balls. Fourth of July cakes and pies. Summertime snacking. Following these opportunities for sweet treats, it is important for children to brush their teeth or have their teeth brushed by an adult. While the typical 'rules' regarding oral health apply to everyone — brush every night, limit sugary snacks and use floss — one group of patients cannot be defined or confined by anything typical. Our SHCN patients have atypical dental health needs.

Oral healthcare for children is a challenge from a preventive aspect as the public is bombarded with media images of both natural and remarkably unnatural snacks and food items that can negatively affect a child's dentition. The dental management of our patients with SHCN is further compounded by factors associated with their respective disabilities. Dental care is the most

common unmet healthcare need in families with special needs, a consequence intensified for families from lower incomes. (1,2)

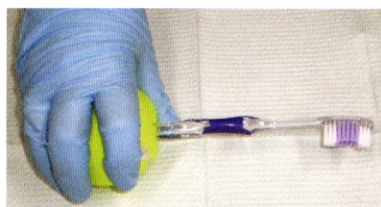
Compounding factors that affect oral health for children with SHCN include increased risk of dental caries (cavities), trauma and aspiration of exfoliated teeth or loosened dental calculus (tartar). Prevention of not only dental caries, but also an untoward event of trauma or aspiration is vital to maintaining a functional dentition and, in some cases, overall health for children with SHCN.

INCREASED RISK FOR DENTAL CARIES

Increased caries risk is ubiquitous in childhood due to undeveloped or underdeveloped dexterity of young children to properly manipulate a toothbrush, combined with the availability of many cariogenic (cavity-causing) food items. Children with SHCN have additional disadvantages with oral

hygiene measures as well as diet. With children who may struggle during brushing, parents may find it difficult to thoroughly clean all the teeth at least once a day. The most important time to clean teeth is before bedtime; however this is often a 'fussy' time for patients with SHCN. Confinement of the extremities can be a challenge, as well as the basic use of a toothbrush. Parents and caregivers of children with SHCN should be encouraged to seek professional guidance provided by dental healthcare professionals for helpful hints on using various household items to aid oral hygiene measures. For example, to aid in keeping the mouth open for brushing, 4-5 tongue depressors can be taped together with waterproof tape to provide a mouth prop. Gauze can be wrapped around one end (prior to tape application) for comfort.

Many medications are sweetened for palatability, and therefore increase caries risk. Syrupalpa, often added to liquid medications,



Toothbrush handle modifications including tennis ball, foam tube or pool noodle and bicycle handle.

contains 83% sucrose. Over the counter meal substitutes contain varying amounts of sugar; Pediasure contains 18 grams of sugar in an 8 ounce serving. The American Heart Association (AHA) guidelines recommend 3-4 teaspoons of added sugar per day for children, 5-8 teaspoons per day for adolescents. For reference, 1 teaspoon is 5 grams of sugar. Gummy vitamins contain not only a cariogenic component of sugar, but a carrier mechanism in the form of a wax and/or gum that adheres the sugar to the tooth surface for a prolonged period, typically in the deep pits of the chewing surface that is difficult to cleanse without immediate brushing.

Often parents and caregivers of children with SHCN will reward the child for taking a medication or completing a task with sweets. Simply swishing their mouth with plain water (not juice) after using any of these would help reduce the cariogenicity of the products. If swishing is not an option, use a damp washcloth to swab the teeth or follow up any sticky snack or vitamin with something crunchy, such as crackers or nuts (as age and allergen appropriate), to assist with cleaning the deep grooves and pits within the tooth.

The American Academy of Pediatric Dentistry (AAPD) encourages healthcare providers to recommend or prescribe sugar-free medications whenever possible. (3) Educating parents to recognize the cariogenic potential of oral medications as well as over the counter preparations could benefit any healthcare practitioner's preventive program.

INCREASED DENTAL TRAUMA RISK

Increased risk for dental trauma affects a component of our SHCN patient pool. For those with an altered gait as in Down Syndrome or Cerebral Palsy, a trip over a rug edge or electric cord could result in traumatic fracture of the maxillary front teeth. Some conditions, notably Cerebral Palsy and Pierre Robin



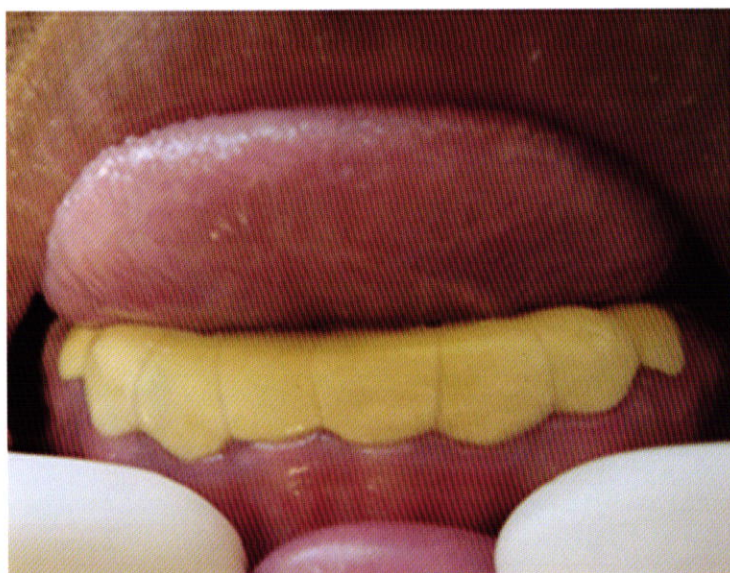
Actual label from a bottle of gummy vitamins with sugars and carriers indicated.

Sequence, result in a pronounced maxilla and retruded mandible (Class II malocclusion), predisposing a child to oral trauma.

Seizure disorders likewise increase the risk for dental trauma as does intubation during general anesthetic procedures. Preventive strategies for patients with SHCN should address the possibility of traumatic dental injuries which would include anticipatory guidance about risk of trauma (e.g., with seizure disorders or motor skills/coordination deficits), fabrication of mouthguards when indicated, and what to do if dentoalveolar trauma occurs (hint: contact your dentist or go to local emergency room).

RISK OF ASPIRATION

While loss of a primary tooth is eagerly anticipated and significantly rewarded for our child patients, severely compromised patients may manifest increased agitation when

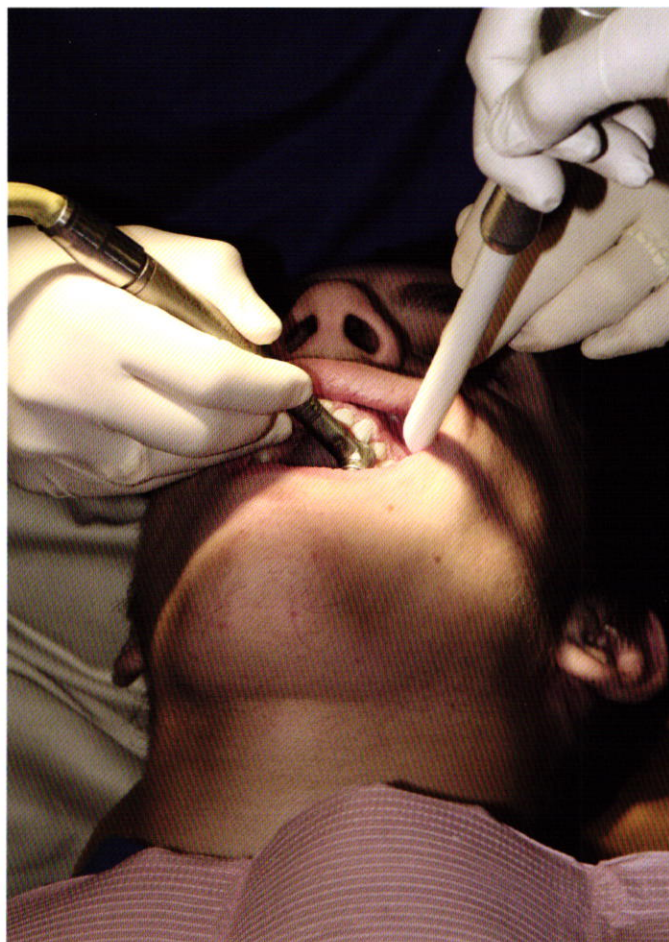


Before and after dental calculus (tartar) removal. Photos courtesy of Dr. Priyanshi Ritwik.

teeth are becoming loose and are at increased risk for aspiration of the exfoliated tooth. Educating the parent or caregiver to recognize typical exfoliation ages for primary teeth (approximately ages 6-12 years), and making a cursory oral exam part of any visit to the primary care provider would assist in preventing such an unfortunate outcome.

Children who are fed via G-tube do not manifest a high caries risk, but interestingly do build up more dental calculus than do mouth-fed children. Should pieces of dental calculus break off the teeth due to bruxism (grinding) of the teeth or during a dental cleaning, aspiration of pieces of bacteria-laden accretions becomes a significant problem.

Typically, dental professionals do not recommend tartar-control products for children or adolescents but in the case of those with SHCN who are G-tube fed, the use of tartar-control toothpaste has been shown to reduce the accumulation of dental calculus by more than 50%, (4) therefore reducing the risk of aspiration. As the American Academy of Pediatrics (AAP) along with the AAPD recommend a child's first dental visit by age one year, education of the parent or caregiver of children with SHCN regarding oral hygiene measures to reduce calculus formation as well as more frequent dental recall examinations can also reduce the risk of dental calculus aspiration.



is a low priority. Healthcare providers should work together to educate parents/caregivers of our children with SHCN regarding oral health issues, promote referrals to dental healthcare professionals and support the need for the first dental visit to be by the child's first birthday.

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CONCLUSIONS

Oral Hygiene for children with SHCN can pose preventive as well as financial challenges. Third-party payer insurance systems may not cover more frequent dental recall examinations and cleanings. Implementation of oral hygiene measures can be difficult for parents and/or caregivers of children with SHCN. Children with SHCN are at an increased risk for dental caries as well as trauma and aspiration of exfoliated primary teeth or dental calculus. With children with SHCN, often dental health

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Locations: Children's Hospital, Main Campus

Physicians:
Ryan Pasternak, MD
Deidre Pierre, NP

The Adolescent Health Clinic addresses the unique developmental and reproductive health needs of adolescents. The clinic is designed to assist primary care and specialty providers in ensuring their adolescent patients have the best comprehensive care available. Care is provided by clinicians with more than 25 years combined experience providing adolescent and reproductive health services. The clinicians work to build a strong therapeutic alliance with patients and their families.

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WHEN ARE THE CLINICIANS AVAILABLE?

The Adolescent Health Clinic has two providers. Ryan H. Pasternak, MD, MPH attends the clinic every other Wednesday. Deidra Pierre, NP, attends the clinic each week.

WHAT KIND OF CONTRACEPTION DOES THE CLINIC PROVIDE CONSULTATION ON?

This includes intrauterine device (IUDs); contraceptive implant and shot; and contraceptive patch, ring and pills.



ARE THERE ANY ADOLESCENT HEALTH NEEDS THE CLINIC DOES NOT TREAT?

We do not diagnose/treat ADD/ADHD or offer psychological or psychiatric services through the Adolescent Health Clinic at this time.

RYAN H. PASTERNAK, MD, MPH

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Masters of Public Health, Johns Hopkins School of Public Health, Baltimore, MD

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1. Oral Health poses preventive as well as financial burdens for children affected by special needs.
 - a. True
 - b. False
2. Children with SHCN are at risk for:
 - a. increase in dental decay
 - b. dental trauma
 - c. aspiration
 - d. all the above
3. Healthcare providers from all specialties should work together to provide appropriate anticipatory guidance for families of children with SHCN.
 - a. True
 - b. False

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