

Guidelines on Oral Health Management for children with special health care needs (SHCN)

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Introduction:

Children with special health care needs (SHCN) are those who have medical, developmental, behavioral, or emotional conditions that require more extensive and specialized health care than typically developing children(1).The importance of oral hygiene maintenance for children with Special health care dentistry cannot be overstated.(2) Good oral health not only prevents dental problems but also contributes to better overall health, improved social interactions, and

a better quality of life.However, due to the unique challenges faced by these children, it is essential to develop tailored oral hygiene guidelines that take into account their specific needs and abilities. (3) In this guide, we will provide evidence-based recommendations for maintaining good oral hygiene in children with special health care needs, based on the latest research and best practices in pediatric dentistry.(4) Table number 1 discuss different dental problems faced by children of special needs.(5)

Table no 1 General oral and dental problems faced by children of special needs and there predisposing factors

Poor oral hygiene

- Cognitive and motor concerns leading to dependence on others
- Parental neglect
- Pseudobulbar palsy
- Oral aversion due to sensory issues
- Reduced food clearance due to oro-motor impairment

Dental plaque and caries

- Poor oral hygiene
- Chronic administration of syrups
- Gastroesophageal reflux
- Enamel hypoplasia due to kernicterus
- Reduced food clearance due to oro-motor impairment
- Xerostomia due to drugs

Periodontal disease and gingivitis

- Poor oral hygiene and dental caries
- Gingival hyperplasia commonly with long-term phenytoin and less common with valproate, phenobarbitone or carbamazepine.
- Alveolar bone loss with carbamazepine or phenytoin.

Traumatic dental injuries

- Fall associated with seizures.
- Hyperactivity and other behavioral issues.
- Self-mutilation behaviors.

Chronic dental erosions

- Bruxism.
- Malocclusion

Hypodontia

Sedation and anesthesia

General Guidelines For Children With Special Health Care Needs

Maintainance of Daily Oral Hygiene: The most important part of maintaining good oral health for special children is daily oral hygiene. It includes brushing teeth, tongue cleaning, rinsing, and a healthy diet.

Brushing Teeth: Supervised brushing should be done twice daily (6) it should be started as soon as possible. The American Academy of Pediatric Dentistry (AAPD) recommends using a smear or rice grain-sized amount of fluoridated toothpaste for children under three years of age. For children three to six years old, a pea-sized amount of fluoridated toothpaste is recommended. However,

it is crucial to consider the specific needs and circumstances of each child and consult with their dentist for personalized guidance(7).

Adapt Toothbrush: Caregivers can adapt toothbrushes to make brushing easier for children with special needs. They can use a toothbrush with a larger handle or attach a grip to the toothbrush handle to make it easier to hold. They can also use an electric toothbrush that can help children with limited dexterity(8).

Tongue Cleaning: Tongue cleaning, using tongue scrapers or brushes, should be incorporated into the oral hygiene routine of children with special healthcare needs. It helps remove bacteria and debris from the tongue surface, promoting oral health. Individualized approaches, adaptations, and supervision may be necessary based on the child's abilities and preferences.

Rinsing: Rinsing with water after meals and snacks can help remove food particles and reduce the acidity in the mouth(6). Close supervision is essential to ensure safe and effective rinsing. Adapted Approach for rinsing can be utilized which includes using a specialized rinse cup, visual cues or instructions, or utilizing assistance from caregivers. Use a rinse solution recommended by the dentist or healthcare professional that is safe for children and addresses specific oral health needs. Avoid rinses with alcohol content, as it may cause irritation or discomfort(8–10).

Healthy Diet: A healthy diet that is low in sugar and high in vitamins and minerals can help maintain good oral health. Caregivers should avoid giving sugary and acidic foods and drinks

that can erode tooth enamel.(11)

Dental Check-Ups: According to the AAPD, children with special healthcare needs should have routine dental checkups every 3 to 6 months, depending on their individual needs and oral health status. These frequent visits allow for close monitoring of oral health, preventive care, and timely intervention if necessary.(8) Depending on risk category high/moderate/low Caries risk screening can be eased to six months interval for those who do not have Caries and every three months for moderate and high risk caries patients.

Stages of prevention of dental disease in children: In paper published in Indian pediatrics chandna et al has divided different stages of prevention of dental diseases in children. (6)

Stage 1-Pregnancy : This stage needs to managed same as it is for a typically developing healthy child and is beyond the scope of this review. Readers are advised to read the abovementioned review for the same.

Stage 2 - Infancy : Infants with SHCN are at increased risk for oral diseases because of compromised immunity, cardiac conditions, defective oro-facial complex, etc as mentioned in table no 1. When parent of these children visit then a detailed patient assessment of infants condition should be done and discussed with parents regarding risk of the child for having various dental problems. Box. 1 mentions guidelines for parents to check there infants oral cavity .

Box no 1. Parental guidelines for checking infants mouth (12)

1. Parents should begin checking their child's mouth once a month as soon as teeth begin to appear.
2. Wash your hands before you begin.
3. Lift your child's upper lip.

4. Look at their gums and teeth.
5. Try to examine the inside and outside of the tooth surface.
6. As the child gets older, check back teeth.
7. Early decay may appear as white or brown spots.
8. Contact your dentist if you notice any problems.
9. Make sure to schedule regular dental check-ups every 3 to 6 months, depending on their individual needs and oral health status to ensure early detection and treatment of any oral health issues.(12)

Brushing Your Infant and Toddler's Teeth

- **Before Teeth Arrive:**

Using a clean wet cloth or gauze, gently wipe the gums, inside the cheeks, outside the lips, and along the tongue twice a day.(13)

- **After Teeth Begin to Arrive:**

Continue wiping your child's mouth with clean wet cloth or gauze until teeth arrive.

After more teeth have arrived, brushing should be done twice daily using a soft bristle, small head toothbrush/ finger toothbrush with a smear layer of fluoridated toothpaste.(14)

- **Technique of brushing to be followed:**

Choose a time after feeding when your infant is not fussy or overly tired. Cradle your infant's head with one arm and wipe or brush with the opposite hand. Place your infant on a changing table, bed, floor, or lap. Sing, talk, and smile with your infant while cleaning his teeth to make it a positive experience.

Be an example; allow your toddler to watch you brush your teeth. This helps teach and reinforce the importance of good oral hygiene.(15)

Ensure that the child spits out the toothpaste after brushing to avoid swallowing too much fluoride¹⁸

Talk to your dentist or pediatrician about any concerns or questions you may have about

brushing your infant's teeth.

- **Teething and the Child with Special Needs**

1. Teeth may come in at different rates for all children, and children with developmental problems may take longer to get their baby teeth and adult teeth.

2. Children with developmental problems have a greater chance of bite problems.

3. Common signs of teething include discomfort, restlessness, irritability, loss of appetite, and waking during the night. Chewing on toys and fingers is very common. The amount of saliva may increase, causing your child to drool more and cough as they try to clear their throat.

4. To soothe your infant while teething give your child chewing objects such as a cold, wet washcloth or a hard, solid teething ring.

5. Make sure to schedule regular dental check-ups every 3 to 6 months, depending on their individual needs and oral health status to ensure early detection and treatment of any oral health issues.(12)

- **The Pacifier and Your Infant's Dental Health(16)**

1. Choose a pacifier that is solid and made of a nontoxic material with a ventilated shield to prevent swallowing.

2. Do not tie the pacifier to clothing.

3. Avoid dipping the pacifier in sweetened foods like sugar, honey, or syrup.
4. Discourage pacifier use after your child reaches 18 months of age to reduce the risk of dental problems.

Dental home concept: The dental home concept (10,12) was developed analogous to the concept of 'medical home'. Patients with SHCN who have a dental home are more likely to receive appropriate preventive and routine care. The dental home provides an opportunity to implement individualized preventive oral health practices and reduces the child's risk of preventable dental/oral disease. The dental home is inclusive of all aspects of oral health that result from the interaction of the patient, parents, nondental professionals, and dental professionals. Establishing a dental home should be done within 6 months of eruption of the first tooth and no later than 12 months of age.

Stage 3 - First dental visit : The American Academy of Pediatric Dentist recommends that the first oral examination should occur within 6 months of the eruption of the first primary tooth, and no later than age 12 months of age. Thereafter the child should be seen according to a schedule recommended by the dentist, based on the child's individual needs and susceptibility to disease.(6)

Stage 4 - Care of deciduous dentition : It should be done as per typically developing children.(6)

Brushing Your Preschooler And Middle Schooler Child:

- Supervised brushing should be done twice daily using a soft bristle, small head toothbrush with a Pea sized of fluoridated toothpaste in a circular motion for 3-6 years old children. (14)
- Provide assistance and supervision: Some children with special healthcare needs may require assistance or supervision during brushing. Caregivers should be actively involved in the process to ensure thorough

cleaning and proper technique.

- Create a toothbrushing routine with music, a favorite cup for rinsing, and a consistent daily routine.
- Ensure that the child spits out the toothpaste after brushing to avoid swallowing too much fluoride¹⁸
- Rinsing-Demonstrate and assist by showing the child how to rinse their mouth properly. Assist them as needed, guiding them to swish the rinse around their mouth and spit it out into a sink or cup. If the child is unable to rinse and spit effectively, start with small amounts of water or a diluted mouth rinse and gradually increase the volume as their skills improve. Always supervise the child during rinsing to ensure they are using the rinse safely and not swallowing it. If necessary, use a fluoride rinse specifically recommended by the child's dentist.(8,15)
- Tongue cleaning-Select a tongue cleaner or scraper that is suitable for the child's age and abilities. Look for tools with a small head and a handle that is easy to grip. Show the child how to clean their tongue properly. Assist them as needed, guiding them to gently scrape the surface of their tongue from back to front to remove any buildup or debris. If the child has difficulty using a tongue cleaner, start with alternative methods such as gentle brushing of the tongue using a soft-bristled toothbrush. As the child becomes more comfortable, introduce the tongue cleaner gradually. Always supervise the child during tongue cleaning to ensure they are using the tool safely and not causing any harm to their mouth. Teach them to rinse their mouth thoroughly with water after tongue cleaning. (8)
- Healthy diet-Encourage a well-balanced diet that includes a variety of nutrient-dense foods from different food groups. Include fruits, vegetables, whole grains, lean

proteins, and healthy fats in their meals. Work with the child's healthcare team, including their pediatrician and dietitian, to develop an individualized meal plan that takes into account their specific health condition, dietary restrictions, and nutritional needs.(11)

- Consider the use of remineralizing agents such as Casein phosphopeptide--amorphous calcium phosphate (CPP-ACP) in the management of early childhood caries or tooth demineralization. (9,17) Instruct parents or caregivers on the proper application of CPP-ACP. It can be applied topically as a paste or cream directly to the teeth or incorporated into other dental products such as toothpaste or mouth rinses.

Make brushing easier for Special Health Care Need Children:

- Use a lying down position to brush your child's teeth.
- Place your child's head on your lap or on the floor while keeping their head steady with your legs.
- If your child is standing, have them stand with their back to you and their head tilted slightly, resting against your body.
- Have your child stand in front of a bathroom mirror while brushing their teeth so they can see what is being done.
- Establish a toothbrushing routine that includes playing music, setting things up, and using a favorite cup for rinsing. Singing a song during brushing can also be helpful.
- If your child is able, let him brush his own teeth first, then brush them again yourself. Encourage him to spit out the toothpaste after brushing.
- Depending on risk category high/moderate/low Caries risk screening can be eased to six months interval for those who do not have Caries and every three months for moderate and high risk caries patients.

Brushing Your Adolescent:

- Supervised brushing should be done twice daily using a soft to medium bristle(13), small head toothbrush with a full length of fluoridated toothpaste for 10-19 years old children.(14)
- Brushing technique-Assistive devices and adaptations like electric tooth brushes, modified toothbrush handles, adaptive grips, or specialized toothbrushes designed for individuals with special needs can be used to encourage effective brushing(18,19) These adaptations can improve their ability to grasp and maneuver the toothbrush effectively. Visual and tactile cues can also be incorporated to guide the adolescent during teeth brushing.
- Consider the most comfortable and effective positioning for the adolescent during teeth brushing. This may include using a supportive chair, adjustable headrests, or cushions to ensure proper alignment and effective positioning for optimal access to the mouth.
- Encourage 45-degree angulation of the toothbrush bristles along the gumline and ensure adequate time is spent on each quadrant of the mouth. 45-degree angulation involves positioning the toothbrush bristles at a 45-degree angle to the gumline. It allows for effective cleaning at the gumline, where plaque tends to accumulate. It may be suitable for adolescents who have sufficient motor skills and can manage the angulation without causing discomfort or injury. Encourage brushing for a minimum of 2 minutes during each brushing session. This ensures adequate time to clean all tooth surfaces thoroughly. (10,20)
- Gentle circular motions can also be done if 45 degree angulation is not possible
- Ensure that the child spits out the toothpaste after brushing to avoid swallowing too much fluoride.(12)

- **Rinsing Technique:** Encourage the adolescent to take a small sip of water and swish it around the mouth for about 30 seconds before spitting it out. Teach them to tilt their head slightly forward to prevent water from going down the throat and causing choking.
- Tongue cleaning should be practiced in a similar way as mentioned for preschoolers and middle schooler children.

Oral Hygiene Practices For Children In A Wheelchair

- **Method 1:** Stand behind the wheelchair. Use your arm to brace the individual's head against the wheelchair or against your body. Consider using a pillow so that the person is comfortable.
- **Method 2:** Sit behind the wheelchair and, remembering to lock the wheels of the wheelchair for safety, tilt the wheelchair back into your lap.

Changing A Toothbrush:

- Change toothbrushes every three months or sooner if the toothbrush bristles are worn out(21).
- **Provide Replacement Toothbrushes:** Ensure that an adequate supply of replacement toothbrushes is available for the child or adolescent.
- Educate caregivers about the importance of regularly replacing toothbrushes and provide guidance on appropriate toothbrush selection.

Guidelines For The Application Of Fluoride Supplements

- In the case of children with special health care needs, the decision to use fluoride supplements should be based on their individual circumstances, oral health status, and consultation with a healthcare provider or pediatric dentist who is familiar with their specific needs.
- When considering fluoride supplements for

children with special health care needs, the healthcare provider or pediatric dentist will take into account factors such as the child's age, risk for tooth decay, fluoride exposure from other sources, and any medical conditions or medications that may affect their oral health.

- The American Dental Association (ADA) and the American Academy of Pediatric Dentistry (AAPD) provide some general guidelines regarding the use of fluoride supplements:

-Infants: Fluoride supplements are not typically recommended for infants younger than 6 months old. At this age, if the water supply is deficient in fluoride, it may be appropriate to use ready-to-feed formula with fluoride or consider breastfeeding.

-Children 6 months to 3 years: If the child's primary source of drinking water contains less than the optimal level of fluoride (less than 0.6 parts per million), fluoride supplements may be considered after consultation with a healthcare provider or pediatric dentist. The decision to use supplements should be based on an assessment of the child's risk for tooth decay.

-Children 3 years and older: Fluoride supplements may be considered if the child's primary drinking water source is deficient in fluoride. The decision to use supplements should be based on an assessment of the child's risk for tooth decay and consultation with a healthcare provider or pediatric dentist.(7,22,23)

Management of children suffering from dental illness: Children who are diagnosed to have dental illness should be referred to a pedodontist for further management.

Conclusion: In conclusion dental illnesses are an important ailment for children with special needs. Brushing and oral hygiene should be started as soon as possible. There are various modifications required in SCHN population for brushing. These children should be screened timely and should be referred to a pedodontist if any feature of dental illness is recorded.

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