

Promoting oral care in children with additional needs: The role of the multidisciplinary team

Children with additional needs are at increased risk of poor oral health. Some may require additional support or adjustments to accept basic oral care. Other factors including diet, habits and behaviours can also increase risk of dental problems. Difficulty accessing appropriate dental care can further compound this patient group's risk of poor oral health. Furthermore, difficulties understanding or expressing pain, as well as diagnostic overshadowing can result in late presentation for dental care. Where direct access to appropriate dental care is challenging, other members of the multidisciplinary team can play an important role in supporting these individuals by promoting good oral care and signposting to dental services.

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Children with disabilities and additional needs are at increased risk of poor oral health (Ningrum et al, 2021), which is associated with pain, impaired function, difficulty sleeping and poor self-esteem (Goodwin et al, 2015; Guarnizo-Herreño and Wehby, 2012). They may require additional support or adjustments and may rely on others to maintain their oral hygiene. Some may exhibit behaviours of concern which can make providing basic oral care more difficult, and they may struggle to tolerate the noises, smells, tastes, and other sensations involved (British Society of Paediatric Dentistry, n.d. a; American Academy of Pediatric Dentistry, 2021; National Institute of Dental Craniofacial Research, 2023). Others may have physical disabilities which reduce their dexterity, and some may find it difficult to stay still for the time required to complete

a dental examination or treatment. Other factors can also increase this patient group's risk of dental problems. For example, certain medications and supplementary feeds may increase risk of dental decay. Oral habits which can impact on oral health such as grinding, drooling, food pouching, are also more prevalent (American Academy of Pediatric Dentistry, 2021; Chadwick, Chapman, and Davies, 2018). Difficulty accessing appropriate dental care can further compound this group's risk of poor oral health, as well as difficulties understanding or expressing pain, which can result in late presentation to healthcare providers (Public Health England, 2019).

Children with additional needs may not engage with regular dental care; therefore, dental issues may first be identified by another professional involved in their care within the multidisciplinary team. Due

to difficulty accessing dental care, some parents may seek advice regarding oral care from another healthcare professional involved in their care. This article aims to provide advice on promoting good oral care, with specific advice for children with additional needs who may benefit from some additional support and adjustments, as well as an overview of how to support children with additional needs to access dental care.

Development and acclimatisation

Maintaining a healthy mouth is important to ensure good feeding and communication. A baby may get their first tooth anytime from around 6 months to 1 year, with most children having a full set of baby teeth by 3 years old. Permanent or adult teeth will start to erupt from 6 to 8 years (American Dental Association, n.d. a). Children with delayed growth and development may take



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longer to get their baby teeth and slower to lose them; equally they may also take longer to get adult teeth (American Academy of Pediatric Dentistry, 2021; National Institute of Dental Craniofacial Research, 2023). Acclimatising for toothbrushing and dental examination starts at home; the more comfortable and familiar a child is with having their teeth checked and brushed at home, the greater the chance a dentist will be able to successfully examine.

Oral hygiene

Toothbrushing is important to maintain good oral health as it removes plaque (a sticky bacterial biofilm which coats teeth and gums) and food debris. Dentists advise to start brushing teeth as soon as a child's first tooth appears. It is recommended that toothbrushing should happen at least twice a day, last thing at night and on one other occasion (Department of Health and Social Care et al, 2021). Incorporating toothbrushing into a child's routine from a young age is important for acclimatisation and to develop acceptance of the activity (British Society of Paediatric Dentistry

n.d. a). Regular brushing with fluoride toothpaste can reduce risk of dental caries (tooth decay) (Department of Health and Social Care et al, 2021). Brushing gently at the gum line is also essential to maintaining good gingival (gum) health. If gingival health deteriorates, it can result in inflamed and uncomfortable gingiva and halitosis (bad breath). Most children will require assistance with brushing until the age of 7 years old. However, some children may need help longer than this, particularly those with intellectual disability or reduced manual dexterity (Department of Health and Social Care et al, 2021). Many children will find a small soft-headed toothbrush acceptable. Some children may prefer electrical toothbrushes, with some enjoying the sensation of the vibrations or oscillating bristles; they can be particularly beneficial for children with reduced manual dexterity. However, some children may find the noises and sensations distressing (British Society of Paediatric Dentistry n.d. a).

Fluoride

Fluoride is a naturally occurring mineral which is added to many dental products as it supports mineralisation of teeth, making teeth stronger and more resistant to damage from sugars and acids. Use of a fluoride toothpaste is recommended for all children. A smear of toothpaste is advised for children under 3 years old, progressing to a small pea-sized amount for children aged 3 years and above. Children should use a fluoridated toothpaste to reduce their risk of dental decay. Under-6-year-olds should use a toothpaste with at least 1000 ppm sodium fluoride, 6-year-olds and older should use a toothpaste with 1300–1500 ppm sodium fluoride (commonly listed as 1450 ppm or 0.32% sodium fluoride on an ingredients list) (Colgate, n.d.; Department of Health and Social Care et al, 2021). Additional fluoride use may be advised for children at increased risk of dental caries. For example, children aged 0–6 years old may be advised to use a toothpaste with at least 1450 ppm at a younger age; some children aged 8 years and above may be advised to use a fluoridated mouthwash at

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a different time from brushing; and some children at high risk of dental caries may be prescribed a toothpaste with 2800 ppm sodium fluoride by their dentist once 10 years old (Walsh et al, 2019; Department of Health and Social Care et al, 2021).

Overcoming challenges providing oral hygiene

Compliance

Parents of children with additional needs will commonly report reduced compliance as a barrier to providing effective oral care (American Academy of Pediatric Dentistry, 2021). Levels of compliance can be variable, and a compromised approach is common. Some may tolerate a toothbrush but are unable to tolerate the sensation of toothpaste itself. Sometimes starting with a small smear of toothpaste, although less than ideal for children older than 3 years, may be enough to start to acclimatise the child to toothpaste, with a view to then increase the quantity gradually to a small pea-sized amount as per recommendations. Alternatively low-foaming and flavourless toothpastes are available which some find easier to tolerate. If great difficulties exist, sometimes brushing the teeth firstly with water, then dabbing some fluoride toothpaste around the teeth, or using a dampened flannel with toothpaste could be considered as a last resort but is less effective than conventional methods.

Behavioural factors may also influence compliance. Recommendations advise that toothbrushing should be completed twice a day, once before bed and once at another time throughout the day. If compliance is challenging, consider a time when a child is relaxed and not overly tired. Many parents opt to brush their child's teeth at bath time. This helps to develop their understanding that toothbrushing is part of their general cleaning routine. If brushing causes distress, using distractions, such as singing, playing music, videos and toys can help. If brushing remains a challenge, involving another household member to support or distract the child may be helpful. If cooperation is very limited and brushing for more than 10–20 seconds at a time is challenging, consider prioritising a different area at a time, reducing the duration of brushing but increasing the frequency.

Limited dexterity

Some children may have sufficient understanding to brush their own teeth but may have inadequate dexterity to hold or grip the toothbrush. Simple modifications can be made to a toothbrush handle, such as making it broader with wrapping tape or bands around the handle. A child with reduced dexterity can also benefit from electrical brushes which often have a wider handle by design, and if they have rotary brush heads, will reduce demand on being able to manoeuvre the brush. Other ergonomically designed brushes are also available. For example, three-sided toothbrushes designed such that the bristles encase the teeth, enabling carers to brush all three surfaces at once with a swift back and forth motion (British Society of Paediatric Dentistry n.d. a). U-shaped silicone brushes or finger brushes are rising in popularity. While they can be suitable for some very young children, the silicone bristles can be too short and soft to sufficiently clean the teeth of older children. However, they may be considered as a last resort, where other options are not acceptable.

Strong lips and tongue, and clamping

Children with certain neuromuscular conditions, such as cerebral palsy and others can have tense oral musculature, which can make toothbrushing challenging (American Academy of Pediatric Dentistry, 2021). Sometimes, gently massaging a child's lips and cheeks beforehand can help to encourage them to relax their lips, permitting access. Some children who dislike toothbrushing may clamp their lips together as a defence mechanism, which can be challenging. For children who allow toothbrushing but are prone to clamping, consider using a finger guard or prop or a second toothbrush, one for the child to bite down on propping them open slightly, using the other to brush their teeth.


Children with swallowing difficulty or an unsafe swallow

For children with swallowing difficulty, it is advisable to tilt their head forwards during toothbrushing, allowing the excess toothpaste to dribble from their mouth. A well-placed towel over their chest or lap can be beneficial to help to minimise mess from this approach. Low foaming toothpastes are also available. Sodium lauryl sulphate (SLS) is a foaming agent often added to toothpastes to assist removal of plaque food debris (American Dental Association n.d. b). However, where a child has difficulty swallowing, SLS-free preparations are often recommended to reduce risk of aspiration. For children with an unsafe swallow, an aspirating toothbrush attached to their suction may be required. Many models are available which can be compatible with a pre-existing suction unit. A small amount or smear of toothpaste is also advised, and to consider using a clean, damp washcloth to remove excess toothpaste from mouth after brushing.

Children who are non-orally fed

There may be less emphasis on the importance of regular oral care for those who are non-orally fed, as without oral intake of dietary sugars, this patient group would be considered at lower risk of developing dental caries. However, toothbrushing is just as important for children who are tube fed for several reasons. Toothbrushing reduces stagnation and accumulation of plaque and calculus, which can lead to inflamed gingiva and halitosis (Department of Health and Social Care et al, 2021), consequently helping the mouth feel more comfortable. If the feeding tube is temporary, persevering with a good oral hygiene routine can also help to develop good habits for when oral feeding resumes, and caries risk may increase.

Gagging

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Some medications, particularly if given as an oral syrup, can increase a child's risk of dental decay. Often parents and carers will rely on disguising the medication within a juice or milkshake to administer the medication. Generally, it is advisable to enquire about sugar-free preparations of medication ...'

Toothbrushing can be challenging for children with sensitive mouths or a hypersensitive gag reflex. It is advisable to start brushing at the front of their mouths progressing backwards. Many find a small toothbrush with soft bristles easiest to tolerate. It can also be helpful to consider using a low-foaming toothpaste to reduce excess toothpaste when brushing which could exacerbate a gag reflex. Upright positioning when toothbrushing can also help to reduce the sensation of the toothpaste accumulating at the back of the mouth. Distraction methods, such as focussing on breathing through their nose or wiggling their fingers and toes can also help.

Diet

Consumption of sugary foods and drinks should be minimised. If sugary foods are being given, they should be limited to mealtimes only when saliva flow is the highest, and subsequently the buffering capacity is increased. Sugary snacks should be avoided in the evening before bed as this is when saliva flow and consequent buffering capacity is reduced, increasing risk of dental decay (Department of Health and Social Care et al, 2021). Foods considered to have 'hidden sugars', such as tomato ketchup, fruit juices and flavoured yoghurts, should be consumed sparingly. Generally, it is advisable to avoid introducing food rewards and consider alternatives, such as rewarding good behaviour with more time to engage with their favourite activities and toys, or simply praise, smiles and applause.

Fruit juices may be advised for children with limited diets to encourage greater intake of vitamins or for children who are prone to constipation. The recommended daily amount of fruit juice is 150 ml a day

(Department of Health and Social Care et al, 2021). While an easy way to ensure a child is receiving a good dose of vitamins, fruit juices are high in natural sugars. Parents can be encouraged to measure out 150 ml of juice into a cup as a reference point and to avoid excessive consumption as fruit juice can increase risk of tooth wear and dental decay (Office for Health Improvement and Disparities et al, 2021).

Some children with disabilities and complex medical needs may receive supplementary oral feeds and milk preparations to increase their nutritional intake, especially if they are deemed very underweight or undernourished. Similarly, this patient group may be advised to follow a high-carbohydrate diet. While not overlooking the importance of this intervention for these children to promote weight gain and boost nutritional intake, these preparations are often high in sugar, subsequently increasing a child's risk of dental decay. Therefore, while following these regimes, other aspects of preventative dentistry should be promoted, for example good toothbrushing and fluoride, to help to reduce this risk (Department of Health and Social Care et al, 2021).

Timing of feeding is also important, as certain feeding patterns can increase risk of dental decay. Prolonged bottle feeding, especially sending a child to bed with a bottle of milk, can increase a child's risk of dental caries (Department of Health and Social Care et al, 2021), honing the term 'bottle caries'. It is advisable that an infant or young child is not sent to bed with a bottle and parents and carers should be encouraged to wean their children from bottles where appropriate.

Medicines and child's oral health

Some medications, particularly if given as

an oral syrup, can increase a child's risk of dental decay (Department of Health and Social Care et al, 2021). Often parents and carers will rely on disguising the medication within a juice or milkshake to administer the medication. Generally, it is advisable to enquire about sugar-free preparations of medications, and to consider low sugar alternatives to disguise the medications, for example plain milk rather than fruit juices or flavoured milkshakes. Certain medications, for example methylphenidate, prescribed to children with attention deficit hyperactivity disorder, can suppress a child's appetite (NHS, n.d. b). This can make it less appealing for these children to eat a full meal, which can in turn lead to increased tendency to snack. Frequently snacking can increase risk of dental decay (Department of Health and Social Care et al, 2021). If a child is prone to this eating pattern, it would be advisable to consume lower sugar snacks at this time, for example savoury foods like toast and breadsticks, rather than biscuits, cakes, and chocolates.

Oral habits

Children with additional needs can be more prone to certain oral habits, such as dribbling, grinding their teeth, as well as chewing on toys and objects, and prolonged use of pacifiers (Ningrum et al, 2021; American Academy of Pediatric Dentistry, 2021). Children with additional needs may also take longer to stop the habits. Where possible, children should be encouraged to reduce or stop any oral habits. However, this is not always possible. Prolonged use of pacifiers, as well as persistent chewing or sucking on toys, can increase risk of narrowing of the upper jaw and protrusion of the upper front teeth. It can also result in a vertical gap developing between a child's front teeth, known as an anterior open bite, which can result in difficulty eating certain foods (Sandler et al, 2011).

Grinding teeth is also common, particularly in non-verbal children or those with certain neuromuscular conditions (American Academy of Pediatric Dentistry, 2021). This habit can be very challenging to overcome and there are very few interventions that would be considered. It is generally considered important to ensure the teeth are as healthy as possible by other

means, through good toothbrushing and limiting sugars and acids in the diet to maintain healthy enamel, to attempt to limit the damaging attritional effects of persistent grinding.

Drooling is another common oral habit for children with disabilities, particularly those with reduced muscle tone. It is often seen in combination with the clinical feature of perleche which can make a child's lips and perioral skin uncomfortable and dry (American Academy of Pediatric Dentistry, 2021). Neckerchief dribbling bibs can be helpful to wipe away excess saliva and maintain comfort.

Some children with reduced muscle tone are also prone to food pouching, which is the accumulation and stagnation of foods in the buccal sulci or cheek pouches. This can increase risk of plaque accumulation and subsequently dental caries and poor gingival health in the adjacent teeth (National Institute of Dental Craniofacial Research, 2023). If a child is prone to these habits, it is advisable to encourage them to rinse their mouth after eating and to spit or swallow the excess after doing so. Alternatively, a parent or carer could use a damp flannel to wipe away the excess food from their pouches after they have finished their meal.

Accessing dental care

It is recommended that a child attends a dental 'check-up' every 3 to 12 months, depending on their dental needs and risk factors (Department of Health and Social Care et al, 2021). For many parents and carers of children with responsive behaviours, the thought of taking their child to a dentist can be stressful. However, frequent dental visits can assist in acclimatising a child to the dental setting, which can be particularly beneficial for certain children, for example those with autism or learning disability (American Academy of Pediatric Dentistry, 2021). Furthermore, some patient groups are also at increased risk of oral conditions.

For example, children with trisomy 21 are at increased risk of poor gingival health and hypodontia (missing teeth), therefore regular contact with a dental team can be beneficial to monitor dental development. Children with neurological disorders, such as epilepsy are at increased risk of dental trauma when experiencing seizures, as well as tooth wear, through grinding or clenching their teeth (National Institute of Dental Craniofacial Research, 2023). Regularly engaging with dental care professionals can help to identify certain oral conditions in a timely manner and appropriate advice or treatment can be provided.

Parents and carers of all children aged 1 and above should be encouraged to register their child with a dentist, in line with the UK's national Dental Check by One programme (British Society of Paediatric Dentistry, n.d. b). Some children may be able to accept care with a local general dental practitioner (primary care dentist or 'high street' dentist). However, some children may not be able to accept care in this setting and may be more appropriately seen in a more specialised setting, for example their local community dental service (NHS, n.d. a). Some accept self-referral, while others only accept a referral from another healthcare professional such as school nurses, health visitors or doctors.

Many children with disabilities or additional needs are unable to express or describe their dental or oral pain. Some children may express discomfort in other ways. For example, reluctance to eat certain foods or drinks that they would normally consume, pulling, touching, or hitting their mouth more frequently, or unexplained changes in behaviour. All of which may indicate discomfort and possible dental problems. This can still be challenging to decipher, particularly for those with behaviours of concern normally, and may be missed by diagnostic overshadowing. Parents and carers should be encouraged to seek dental attention for their child

if they are starting to exhibit any of the aforementioned behaviours, or if they have concerns.

Preparation is key when attending a dental appointment. Visiting the dental clinic in advance of the appointment can be helpful for some children. Alternatively, some clinics may be happy to send photographs of the clinic or social story booklets via email prior to the visit. Encouraging a parent or carer to provide a summary of information outlining their child's likes and dislikes, communication aids or sensory capabilities, in advance of their visit can be helpful to assist the dental care professional make the visit as positive as possible. Comforters and toys can also be helpful. Parents and carers could also consider requesting an appointment at a time that works best for their child; many prefer appointments at the start of the session to limit delays in the waiting room, others may prefer appointments later in the day depending on their child's schedule (Parry et al, 2021; British Society of Paediatric Dentistry, n.d. a). If a child is particularly challenging and a parent/carer is concerned that they may not be able to convey their concerns adequately when managing their child during the appointment, a call to the dentist prior to the visit to discuss their concerns can often be accommodated.

Conclusions

Children with additional needs are at greater risk of poor oral health, as well as certain oral habits and behaviours. Effective oral care is important to reduce risk of developing certain conditions, including dental caries (tooth decay). Direct and timely access to appropriate dental care can sometimes be challenging for these patients. However, there are many simple strategies that can be used to promote healthy oral care in this patient group. Where direct access to appropriate dental care is challenging, other healthcare professionals within the multidisciplinary

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KEY POINTS

- Children with additional needs are at increased risk of poorer oral health.
- Some children may require additional support and adjustments to accept their oral care.
- Toothbrushing twice a day with fluoride toothpaste, and reducing the amount and frequency of foods that contain sugars helps to prevent tooth decay
- Parents and carers of all children aged 1 and above should be encouraged to register their child with a dentist.

team can play a role in providing initial advice, promoting good oral care, as well as supporting referral or signposting to dental services. **CHHE**

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