

# Oral Health Care in Infants and Deciduous Dentition: A Review

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## Abstract

Oral health goes in a close relationship with the general health. Hence, bad oral health affects the personal life and the lifestyle too. It affects interpersonal relationships, concentration, and productivity. Hence, maintenance of oral health, not only maintains the oral cavity, but, also helps maintain a quality life. The process should start right from the prenatal period (oral care of the pregnant mother) and infancy. It has been found from surveys that the presence of dental caries in school going children affects their education as they tend to miss school due to pain and aesthetics.

**Keywords:** Oral Health, Maintenance, Oral Hygiene.

## Introduction

Oral care in infants and children is an important aspect of the sphere of their health care. The parents, caregivers, and pediatric dental and medical practitioners play an important role in the maintenance of the oral health of this section of the population. Oral care practices in infants differ from those in case of deciduous dentition. These practices help prevent the most prevalent dental disease, i.e., dental caries.

### Oral hygiene in infants:

**Source of infection in infants:** Though teeth are not present in the oral cavity at this age, but, still the maintenance of oral hygiene is very necessary. This would prevent the occurrence of dental caries when the primary teeth or the permanent teeth erupt.

Vertical transmission in one of the major factors in the infection of infants with *Streptococcus Mutans*.<sup>1</sup> The high density of *Streptococcus mutans* in the saliva of mothers leads to the increased risk of infection in the early life of their children. This in turn leads to a high risk of dental caries in the primary and permanent dentition.<sup>2,3</sup> Infection from family members or the members of a group can also occur. This is called horizontal transmission.<sup>1</sup>

Few other sources of infection of *Streptococcus Mutans* in infants and children are diet including cariogenic foods, poor oral hygiene practices, bottle-feeding, and breastfeeding practices at night and on-demand. These are also found to be linked to the development of early childhood caries (ECC).<sup>4,5</sup>

### Oral hygiene practices in infants:

Oral health in infants can be maintained by taking a few steps at home itself.

- Vertical transmission of dental caries can be prevented by reducing the cariogenic bacterial count in the mother, especially during pregnancy. This can be achieved by regular tooth brushing, use of fluoridated Mouthwash, and treatment of all the carious teeth, if any.
- horizontal transmission of dental caries can be

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prevented by avoiding any habits that include the sharing of saliva (e.g., sharing of spoons) within siblings, parents or any other family members.<sup>6</sup> Regular maintenance of oral hygiene can be achieved by wiping the alveolar mucosa and the tongue with a moistened piece of sterilized gauze. This can be wrapped around a clean index finger and then oral tissues are gently wiped and gingival tissues are gently massaged. The use of dentifrices, such as fluoridated toothpastes should be avoided as its ingestion is a possibility.<sup>7</sup> Another important practice is weaning the child at the proper time. Frequent bottle-feeding or breastfeeding on demand or during the night in infants beyond 12-18 months leads to the development of dental caries at a very early age. The results are early childhood caries and nursing bottle caries.<sup>7</sup>

**Dental home concept:** According to AAPD, this concept is an ongoing relationship between the dentist and the patient, inclusive of all aspects of oral health care delivered in a comprehensive, continuously accessible, coordinated, and family-centered way. It should be established as early as 6 months after the eruption of the first tooth and no later than 12 months of age. It includes the referral to dental professionals as and when appropriate.<sup>8,9</sup>

Its objectives include enhancement of dentists' ability to assist the children, their parents and/or their caregivers for maintenance of child's optimum oral health; planning early oral examination schedules and preventive services for the achievement of cost-effectiveness; risk assessment of the individual child for dental diseases, monitoring growth and development and awareness of parents of proper time and frequency of paying a visit to the dental home for their child.<sup>8</sup>

**Oral hygiene of deciduous dentition:** The care for the deciduous dentition should be started immediately with the eruption of the first primary tooth in the oral cavity. Colonization of the deciduous teeth with *Streptococcus Mutans* leads to the development of dental caries in them and the non-maintenance leads to the development of dental caries in the permanent teeth in those children too. It has been reported that tooth brushing habits in children are viewed as the parents' attitude towards the importance of maintenance of oral hygiene.<sup>10,11</sup> Toothbrushing in children till the age of 7 to 8 years should be assisted or guided by the parents as at this age, fine motor skills develop in the children.<sup>12</sup>

**Source of infection in children:** One of the primary causes of infection of children with *Streptococcus Mutans* is the presence of active caries in the parents or caregiver.<sup>13,14</sup> Hence, the treatment of their dental caries is of utmost importance. High and frequent intake of sugars in the diet is another important source.<sup>15</sup> Some other factors are reduced salivary flow (including intake of medications those might result in xerostomia); premature birth leading to enamel defects; the presence of deep pits and fissures in the teeth, etc.

**Oral hygiene measures in children:**

**Diet counseling:**

- This is included in Anticipatory Guidance practiced by the dental professionals.
- Exclusive breast-feeding for 6 months of age and subsequent introduction of appropriate food.<sup>16</sup> Weaning of children from bottle and breast-feeding by the age of 1 year.
- Limitation of intake of sugary foods and beverages to only during meals and avoiding having them as 'between-the-meal-snacks'.
- Avoiding aerated and sugary juices and making the children to take pure juices.
- Making children drink only water, especially, fluoridated tap water between the meals.
- Maintaining a balanced diet.

**Oral hygiene practices:<sup>6,9</sup>**

- Discontinuing the habit of the bottle or breast-feeding during night.
- Tooth brushing twice a day with a proper amount (as appropriate for the age of the child) fluoridated toothpaste.<sup>17</sup> The use of fluoridated toothpastes is an easy means of delivering fluoride to the teeth. Other means of fluoride delivery is fluoridated drinking Water (can be obtained by community-based water fluoridation programs)<sup>18,19</sup>, application of fluoride varnish (professional means).<sup>20</sup> Tooth brushing should be properly guided or done by the parents only for achieving an optimal result. This should be practiced till the child attains 7 or 8 years of age.<sup>12</sup>
- For children below 2 years, the toothpaste should be smeared on the toothbrush, and for children above 2 years, a pea-sized amount of toothpaste should be dispensed. Care should be taken or the child should be trained so that they don't swallow the toothpaste.

- Replacement of toothbrush every 2 months or on the appearance of the first sign of fraying, whichever is earlier. This increases the efficacy of toothbrushes.<sup>21</sup>
- The children should be made to rinse their mouth after every meal to prevent food lodgement, thus preventing the provision of a nidus for bacterial growth and subsequent development of dental caries.<sup>22</sup>
- Flossing and use of mouthwashes should be incorporated in the daily oral hygiene practice of the child.<sup>12</sup>
- The use of proper dentifrice is an important factor as well. Fluoridated toothpastes are the recommended dentifrices for prevention of development of dental caries.<sup>16</sup>
- Tongue cleaning also should be included as a regular oral hygiene practice. This reduces the count of Streptococcus Mutans and significantly reduces the plaque accumulation.<sup>23,24</sup>
- A proper brushing technique should also be incorporated.

### Conclusion

Optimal oral health is not only obtained by maintaining proper oral hygiene in an individual, but it starts right from the prenatal period. The care of the pregnant mother is also a necessary step. Maintenance of the oral hygiene is not only practiced after the eruption of teeth, but also the oral cavity before the eruption of the deciduous teeth is essential as the colonization of the oral cavity with cariogenic bacteria begins at this stage. This would affect the caries status of both primary and permanent teeth.

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