# Rationale for the timing of the first oral evaluation

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The oral health of children living in industrialized countries has improved remarkably in the last 20 years, but many children still suffer from oral disease including caries, gingival infection, and malocclusion. Many studies report risk factors associated with the development of oral disease in children. While none provides a formula to determine accurately at birth the infant who will have the greatest risk of oral disease later in life, some studies strongly support early identification and management of contributing factors.

Today, health supervision for children younger than 3 years of age remains the purview of primary care physicians, with preventive counseling and early identification of disease in their hands (AAP Recommendations for Preventive Pediatric Health Care, 1995).

## Oral infectious diseases

Dental caries and gingivitis are complicated multifactorial oral infectious diseases that begin in infancy when bacteria start to inhabit the oral cavity. These bacteria produce acids and toxins harmful to the oral hard and soft tissues. They increase in number as more teeth erupt and the dietary practices of the infant and young child become more sophisticated. Oral infectious diseases affect pediatric patients with wide variability, and unfortunately, can develop into major oral infections with destruction of soft and hard tissues in children at high risk. Oral diseases increase in prevalence with age, so that by adolescence, all children have experienced some form of oral infectious disease.

We know that oral infectious disease is initiated by bacteria that colonize the mouth and is supported by the cariogenic diets popular in industrialized countries. Physician-supervised early intervention followed by dental professional intervention beginning between 3 and 5 years of age has not been successful in preventing the infection or its effects. In fact, in a number of industrialized countries, the decline in early childhood caries has stopped.

## A need for a new approach

It is not enough for a child to have professional supervision after the disease has begun. The concept of early professional intervention, initiated in the early 1970s, continues to grow in popularity with parents and health practitioners becoming more prevention oriented and eager for children to be disease-free.

The following concepts will help all health professionals understand the rationale of the American Academy of Pediatric Dentistry in recommending that infants and their parents seek their first professional evaluation by a dentist around 12 months of age.

## Health supervision versus disease treatment

The traditional approach to dental caries management presumed caries was inevitable. Therefore, the philosophy was to treat the effects of the disease (caries and/or gum disease) then initiate a preventive program. Contemporary guidelines, however, recommend early professional intervention to provide examination, risk assessment, and anticipatory guidance for parents so that disease can be prevented. Therefore, traditional professional intervention aimed at oral health beginning at age 3 years is no longer appropriate. Contemporary management recommendations are that professional intervention begin at approximately 12 months of age or shortly after the primary teeth begin to erupt. This way, we prevent the disease and never have to deal with the effects.

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## Risk assessment

With the leveling of the previous decline in early childhood caries (ECC) and a continuing high prevalence of nursing caries and ECC in certain populations, it is even more important to be able to identify infants who are at highest risk. Risk assessment remains an imperfect science at this time since no one factor or set of factors exhibits the sensitivity and specificity desired,

but certain clinical and historical factors can be useful in predicting caries risk. Identifying high-risk populations focuses preventive measures on those most likely to get the disease, ultimately reducing costs and improving risk-benefit ratios and efficiency.

Medical and social histories, bacterial assays, dietary habits, availability of fluoride, oral hygiene, and clinically detectable caries/decalcified enamel are areas that can indicate the infant's risk of future dental caries. Clinicians can use these to build a profile of a child most likely to develop dental caries.


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## Presence of oral bacteria

We have known for many years that the bacteria necessary for oral disease colonize the mouth shortly after birth and increase in number as more teeth erupt and dental caries progresses. More recently, we have learned that the window of infectivity for mutans streptococci—the organism most closely associated with dental caries—is between 19 and 31 months of age. Therefore, early intervention needs to be initiated before age 19 months to prevent colonization and to provide appropriate recommendations to parents on controlling the bacteria.


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## Early childhood caries

Early childhood caries, which includes baby bottle tooth decay, nursing caries, and rampant caries, is terminology now proposed by the Centers for Disease Control and Prevention (USDHHS, Atlanta) to identify a specific dental disease affecting the primary dentition in very young children. Reports suggest that up to 12% of preschool-age children are affected by ECC, while in some populations it is as high as 70%. Children who experience ECC tend to remain high risk and to experience caries later in both the primary and permanent teeth. Despite a general reduction in dental caries in children and adolescents, ECC is a major health problem continuing to affect many pediatric patients.


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## Feeding management

Oral bacteria thrive in an environment with available dietary carbohydrates, so parents must be taught to manage the infant and preschool diet. Physicians routinely provide weaning information to parents, yet many parents continue to rely on the bottle or breast as a means of managing their child's behavior well into early childhood. Prolonged use of the bottle or breast as a sleep or behavioral control aid produces an oral environment with low pH, demineralization of enamel, and eventual tooth breakdown. Monitoring the frequency of foods and liquids known to lower pH is a high priority to reduce oral disease, beginning as early as infancy and early childhood.


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## Fluoride assessment and management

Fluoride, used both systemically and topically, is the most effective preventive measure to reduce dental caries. More than half of the U.S. population resides in communities with fluoridated drinking water. Many of

those who do not now turn to bottled water or home water processing units for their main source of drinking water. However, determining the appropriate fluoride supplementation for children drinking from multiple water sources is not well understood by physicians. Reports suggest that many supplements are prescribed without appropriate water analysis, leading to excess fluoride ingestion early in life (18–36 months) when the developing enamel is very sensitive to fluorosis.


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## Anticipatory guidance

Anticipatory guidance is a proactive, developmentally based counseling technique that focuses on the needs of a child at each stage of life. Well known to most contemporary pediatricians, the concept has only recently been described in dentistry. Many dentists still provide information to parents/patients on caries prevention only and repeat it at each intervention relying on the infectious-disease model for a basic and generic message. It is time to broaden the prevention concept and to consider other aspects of oral health by keying the comprehensive preventive message to dental and general developmental milestones. By providing practical and contemporary health information to parents before significant physical, emotional, and psychological milestones, parents will anticipate impending changes, maximize their child's developmental potential, and identify their child's special needs.


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## Trauma management

Ambulation begins at the end of the first year and increases during the second year of life, intensifying the risk of trauma to the face and mouth. The prevalence of orofacial injuries increases each year from age 1 year through age 6. A thorough assessment of all injuries to the mouth and teeth is mandatory to ensure proper treatment and mitigate long-term consequences. Examination, appropriate treatment when indicated, and follow-up are more likely to occur for the infant or child who already has a "dental home." An established relationship eliminates the anxiety of locating a dental professional to provide appropriate and timely trauma management and ensure proper follow-up.


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## Fluorosis

An increase in very mild to mild fluorosis has occurred in the pediatric population during the last 10 years. Children living in nonfluoridated and fluoridated communities alike receive excessive amounts of fluoride from the inappropriate use of fluoride supplements, formula, and dentifrices. To reduce and monitor the amount of fluoride preschool children are exposed to requires an understanding of tooth development and fluoride metabolism as well as close supervision and counseling parents.


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## Non-nutritive sucking

Non-nutritive sucking is a normal activity for most children. It generally decreases throughout early childhood so that by age 6 years, very few children continue to suck. Children suck many objects, including fingers, thumbs, nipples, pacifiers, clothes, and toys. Depending on the intensity, frequency, and duration of sucking habits, dental/oral effects such as anterior open bite, posterior crossbite, and even skeletal deformity are possible. Parent counseling can decrease the likelihood of therapeutic intervention and help eliminate the habit at the appropriate time.

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## Professional oral health management

The foundation of good oral health must be built early in life, and physicians can play a very important role by recommending that a child see a dentist by 1 year of age. Most pediatricians have had little training on oral health guidance and dental treatment. Nationwide surveys of pediatricians in 1978 and 1989 reported that more than 75% felt insufficiently trained in pediatric dental care. The dentist has expertise on dental health, experience dealing with a range of dental problems, including oral hygiene and diet, and the resources to deal with clinical problems.

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## The first oral health supervision visit to a dentist

Very few infants younger than 1 year have oral problems that require intervention, but almost all have an oral environment at risk for oral diseases. The goal of the first oral supervision visit is to assess the risk for dental disease, initiate a preventive program, provide anticipatory guidance, and decide on the periodicity of subsequent visits. The first visit is nonthreatening, and requires minimal manipulation of the infant, but provides sufficient time with the parents to gather historical information and demonstrate appropriate home care procedures. A dentist, especially a pediatric dentist, is best qualified to perform this service.

## Conclusion

Only tradition supports age 3 years as the best time for the first dental visit. Evidence about oral disease, its initiation, and the benefits of a comprehensive preventive program all point to a first dental visit at 1 year of age.