

ORAL HEALTH

FIRST DENTAL VISIT

why, when and what can be done?

WHY AN EARLY VISIT?

Parents are often given conflicting information by health professionals and the media regarding the first dental visit. The main reasons for attending the dentist around the age of one year are to establish a 'dental home', detect risk factors for dental caries and provide advice and information. There are a number of developmental issues affecting the oral cavity that are best detected as early as possible. These include soft tissue pathology, assessment of the correct timing of tooth eruption, and detection of hard tissue pathology including dental defects of enamel. The latter is especially important as teeth showing these defects are more susceptible to the development of one of the most common chronic diseases of childhood, dental caries.^{1,2}

Despite advances in preventive dentistry, dental caries remains one of the most common chronic diseases of childhood. Many children are not visiting oral health professionals until the disease process is well established and preventive strategies alone are not able to manage the disease adequately. It has been reported in children between 9 and 18 months of age, non-cavitated (white spot) lesions are more prevalent than cavitated lesions. After 18 months of age cavitated lesions are more prevalent than non-cavitated lesions due to the progression of the disease.³ Once a lesion is cavitated traditional surgical based 'drill and fill' management, which is more biologically and financially costly, and requires significant cooperation from young children, is often needed. A dental visit in the first year of life allows dental staff to identify high caries-risk infants and implement preventive programs to maintain and often improve oral health.

WHEN SHOULD THE VISIT TAKE PLACE?

The Australasian Academy of Paediatric Dentistry recommends that the first oral examination should occur after the eruption of the first primary tooth and should occur no later than twelve months of age.⁴ Early identification of children at high risk of developing dental caries and detection of early lesions provides an opportunity to implement minimally invasive prevention and remineralisation programs. This attempts to change risk factors, ideally allowing the reversal of the disease process. The first visit also allows the assessment of the child's growth and development and to provide parents with oral health education and anticipatory guidance.⁴ Many families are not

aware of the benefits of this early dental visit and parents often do not access dental services for their preschool aged children unless a problem is perceived. It has been reported that 85% of Australian two to three-year-olds are non-users of dental services.⁵

WHAT SHOULD HAPPEN AT THIS EARLY VISIT?

The original thought that dental caries was an infectious disease process has been succeeded as knowledge grows. It has now been shown that the disease is actually behavioural in origin with an associated bacterial component. This means each patient must be viewed individually by the dentist including behavioural and social factors, not simply focusing on the presence or absence of caries. The concept of caries management now focuses on risk assessment, early detection, optimal preventive measures and minimally invasive restorative care. This is termed 'Minimal Intervention Dentistry' and allows targeted preventive programs to be utilised for those children in most need.⁶

CARIES RISK ASSESSMENT

Caries Management by Risk Assessment (CAMBRA), can be used for used for children from birth to five years of age.⁷ CAMBRA aims to assess each child and their caregiver's individual risk, tailor a specific therapeutic management plan, customise a restorative plan in conjunction with preventive care, and an appropriate recall based on caries risk to effectively implement these strategies and to prevent caries.⁷ Children should preferably have timely contact with dental professionals by attending an age one-year examination.⁷

ANTICIPATORY GUIDANCE

The American Academy of Paediatric Dentistry defines anticipatory guidance as 'the process of providing practical, developmentally appropriate information about children's health to prepare parents for the significant physical, emotional, and psychological milestones'.⁸ The Australasian Academy of Paediatric Dentistry recommends that anticipatory guidance be given regarding dental and oral development, dental defects of enamel, use of fluorides, non-nutritive oral habits and their effects on developing occlusion, injury prevention and oral hygiene and dietary advice.⁴ Parents on numerous occasions will acknowledge they have limits in their knowledge of factors that contribute to Early Childhood Caries, and often do not know where to seek care for their children.^{9,10} ➤

committee report

It has been well established that the frequency of sugar intake is a significant risk factor for the development of dental caries, especially if the child is permitted to sip on sweetened liquids on-demand overnight. Therefore, parents must be informed on this important and preventable reason for caries development.^{11,12}

Evidence is also mounting for the role of developmental defects of enamel in increased caries risk. These children require up to ten times the amount of treatment over their lifetime as compared to those without dental defects. This highlights the need for early diagnosis and protection to maintain dental health.^{13,14} An excellent resource for researchers, clinicians, parents and children is the D3 website www.thed3group.org.

Anticipatory guidance may allow families to develop positive oral hygiene and dietary practices with the help of the dental staff. Information given must be tailored to the family's level of understanding and to the individual child's risk factors and unique situation. Information given verbally has been shown to improve expectant mothers' attitudes to their own oral health as well as that of their infant or toddler as opposed to written or no information.¹⁵ Motivational interviewing delivered concurrently with conventional education has also been demonstrated to reduce the number of new caries lesions over a two year period, as well as reducing caries severity, improving brushing habits and parental monitoring for white spot lesions. However, it has not been shown to be successful in modifying the timing of the use of nursing bottles or in changing snacking habits.¹⁶

ORAL HYGIENE FOR INFANTS

An infant dental visit allows the dentist to help families establish positive oral hygiene practices. The presence of observable plaque in the mouth is a significant risk indicator for early childhood caries; pre-schoolers who have a visible accumulation of plaque at 12 months of age are significantly more likely to have early childhood caries at three years of age than children who are relatively plaque-free at 12 months.¹⁷ Consistent with this finding it has been reported that children who commence tooth brushing before 12 months of age had significantly lower caries experience than children who began brushing after 13 months.¹⁸ It has been reported that less than half of Australian two–three year-olds had their teeth brushed twice-daily by a parent or guardian.¹⁹ Parents who are dentally aware and motivated are likely to begin brushing habits earlier and are likely to have appropriate preventive oral health behaviours and education levels.¹⁸

The most current recommendation from the Australian Dental Council is that fluoride should be used to strive for optimal caries prevention while ensuring that dental fluorosis is minimised. Fluoride-containing toothpastes should be used, regardless of whether the water is optimally fluoridated or not, as an important method of further reducing caries risk. Its use should be recommended by a dentist taking into account the age of the patient, the access to fluoridated water and the caries risk. This suggests recommending the use of a small amount of adult strength toothpaste in children at high risk, as well as using other preventive products such as CPP-ACP, to help reduce caries risk.²⁰

Dental fluorosis varies in clinical presentation from thin white patches over the surface of the enamel to brown stained or pitted enamel surfaces. Special care must be taken with very young children to limit the amount of toothpaste used to avoid fluoride ingestion and possible fluorosis during enamel formation; however the risk of fluorosis should be balanced against the risk of caries development. Therefore, the parent should be informed of the potential risk of fluorosis to allow for optimum benefit but reduced side-effects of adult strength toothpaste, as research has failed to show efficacy of children's strength toothpaste use on preventing caries.²¹

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FLUORIDE VARNISH

Fluoride varnish is a well proven, safe and effective caries prevention method in children. Topical fluoride varnishes that are operator applied have been reported to be the most effective form of topical fluoride for preventing dental caries.²² A trial in three–five year-old Aboriginal children in the Northern Territory of Australia found a 25% reduction in the two year surface caries risk with six monthly application of fluoride varnish (22,600ppm F). The authors reported that the intervention had the greatest effect on surfaces that were sound at baseline.²³ This would indicate that if this intervention were to be most effective young children at high risk would be identified as infants before the carious process becomes too advanced. If high risk children are identified at the 'age one' dental visits appropriate fluoride regimes can be implemented.

THE FINAL WORD

While there are multiple risk factors involved in the development of early childhood caries, the strongest predictor for development of future caries is still past and present caries experience.^{24,25} Experience of dental caries in the primary dentition is a strong indicator that an individual will continue to experience dental caries into adulthood. If high risk infants are identified and appropriate guidance is given in conjunction with preventive strategies children can be set up for a lifetime of good oral health.

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REFERENCES

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