Breast-feeding and oral health

Midwives, lactation consultants, child health nurses and other healthcare professionals give new mums and dads a great deal of advice, at prenatal classes. However, there is often relatively little specific information provided on:

- oral and dental development,
- oral care of the young child with primary teeth, and
- benefits of breast-feeding on dental and facial development.

This leaflet is designed to:

1. give mums and dads information to help them understand the many dental and oral benefits of breast-feeding as opposed to bottle-feeding,
2. explain the relationship between breast-feeding and dental/facial development of your baby,
3. explain the benefit of breast milk in reducing dental decay in the early primary dentition
4. inform parents of the need to maintain careful and effective cleaning of the primary teeth

It is strongly advised in the *United Nations Children's Fund: Global Strategy for Infant and Young Child Feeding* that for the first 6 months of a baby's life, exclusive breast-feeding is the best option and then a combination of breast-feeding combined with solid foods is advised for the next 6-18 months, or as long as mother and baby desires[1]. Further detailed guidance on breast-feeding can be obtained from an International Board Certified Lactation Consultant (IBCLC) or a midwife.

What are the general health benefits of breast-feeding?

The general benefits of breast-feeding are well known and widely discussed with mums and dads at prenatal sessions.

- Breast milk changes in its composition as the baby grows in order to fully satisfy their growth and developmental needs. These changes include specific nutritional needs and immunological needs as the breast milk contains immune cells, antibodies and digestive enzymes to help maintain baby's health, promote growth and protect them from infection[1]. It has been strongly advocated that babies should ideally be exclusively breast-fed for the first 6 months of life and mixed feeding should follow until 18-24 months of age.
- The development and growth of the face is intimately related to the position and movements of the tongue. Breast-feeding, performed correctly encourages this development around the well-functioning tongue to achieve balanced growth, normal widening of the upper jaw, clear nasal passages and improved respiratory function.
- Good early respiratory function will help avoid the later development of snoring and obstructive sleep apnoea.
- Correct functional movements of the tongue during breast-feeding also leads on to improved gastro-intestinal function with reduced colic, reflux and vomiting in babies and reduced constipation and abdominal discomfort in adults later.
- Correct tongue posture and movement results in improved balance between the "rest, relax and digest" *parasympathetic system* and the "fight and flight" *sympathetic system* due to an encouragement of the tongue to adopt the correct resting posture in the palate leading to neurological stimulation of the

central nervous system resulting a greater balance between the parasympathetic and sympathetic systems.

Oral benefits of breast-feeding - Malocclusion

The suction by a baby on the natural soft pliable nipple creates a very efficient seal due to the texture of the nipple and surrounding breast tissue. This seal that is created by the perfectly designed soft tissues leads to satisfactory nasal breathing[2]. Those children who breath effectively through their nose, as opposed to mouth breathing, do not develop an open-mouth posture at rest, the palate remains at a lower level rather that become a high palate due to narrowing and cheek pressure lifting the palate up and encroaching on the space required for the nasal airways, this in turn reduces the chance of later snoring and sleep apnoea and they do not develop excessive vertical facial growth leading to a long thin facial contour.

The use of a dummy or pacifier is not a suitable substitute for breast-feeding. These are firm, they take up a large space over the tongue and fail to encourage the tongue to move up into the roof of the mouth. There are many issues that can arise from this and these are more extensively explained in our leaflet on tongue and lip tie as this is one of the common factors that can contribute to incorrect tongue positioning and movement. Dummies and pacifiers are therefore to be avoided if at all possible except when absolutely necessary for the sanity of Mum!

Dental research has shown that exclusive breast-feeding as opposed to bottle-feeding results in a 60% reduction in the number of children suffering from malocclusions requiring orthodontic correction[3]. While many of these children examined were assessed at their deciduous dentition stage, indicators of malocclusion at this stage are a clear indicator of malocclusion in the permanent dentition[4].

Oral benefits of breast-feeding - Dental Decay

Breast-feeding has been found to have a protective effect on a young child's teeth up to 12 months of age providing a degree of protection against the development of tooth decay[5].

The bacteria most commonly associated with the development of acid that attacks the tooth surface resulting in decay (*Streptococcus mutans)* thrives best on a sugar known as sucrose, which is present in baby formula used for bottle-feeding babies, and in most processed foods available these days. However, breast milk does not contain sucrose but instead contains lactose and therefore the organism is less able to metabolise this sugar to cause an acid-attack of the tooth surfaces[6]. Breast-feeding is therefore an effective way to prevent dental decay in the early primary dentition.

Furthermore, breast milk contains additional proteins, immune substances and enzymes that together have an antibacterial effect[7] and also helps to neutralise any acid produced by the bacteria in a process known as buffering.

The tongue is also the "Janitor" of the mouth and cleans up after feeding, throughout life. Even in a baby this is true and a baby with a white tongue that appears to have deposits on the surface may well have milk residues remaining because the tongue cannot rub against the palate. Sometimes these white surfaces can be mistaken for thrush and inappropriately treated with Nystatin but with no improvement. This appearance suggests the tongue movement may be restricted and this should be investigated to avoid many later issues in life ranging from gastro-intestinal and respiratory problems.

General dental advice for mums and dads

New parents need to know about the care of their baby's teeth that will start to erupt within the first months of life. It is so important to establish a routine of effective tooth cleaning right from the time that the first teeth begin to erupt into the mouth. Tooth brushing has to be taught. All parents need help and support to enable them to be efficient at removing plaque from their child's teeth. Incomplete plaque removal leaves the teeth

highly susceptible to decay and the deciduous or primary teeth are more porous and less resistance to decay than the permanent successor teeth.

The use of a suitable toothpaste for baby teeth that contains fluoride at a reduced concentration to ensure the teeth are strengthened against future decay is also strongly encouraged. While fluoride in the water is an effective community measure to reduce dental decay, it is the topical effect of fluoride on the tooth surfaces that has the most beneficial effect on the prevention of dental decay.

For more information, parents are advised to **visit our website at** *www.nqsurgicaldentistry.com.au* and investigate the extensive information available in the patient information areas on **preventive dental care**, **care of children's teeth**, **tongue and lip tie**, and many other areas of interest for patients.

REFERENCES:

1. WHO. United Nations Children's Fund: Global Strategy for Infant and Young Child Feeding. Geneva, Switzerland

2. Drane D (1966). The effect of use of dummies and teats on orofacial development. Breastfeed Rev. 1996; 4(2):59-64

3. Peres KG, Cascaes AM, Nascimento GG, Victora CG. Effect of breastfeeding on malocclusion: a systematic review and meta-analysis. Acta Pediatr Suppl; 2015:104(467):54-61

4. Peres KG, Peres MA, Thomson WM, Broadbent J, Hallal PC, Menezes AB. Deciduous-dentition malocclusion predicts orthodontic treatment needs later: findings from a population-based birth cohort study. Am J Orthod Dentofacial Orthop; 2015147:492-8

5. Tham R, BowatteG, Dharmage SC, et al. Breastfeeding and the risk of dental caries: a systematic review and meta-analysis. Acta Pediatr; Suppl 2015; 104: 62-84

6. Rugg-Gunn A, Roberts GJ, Wright WG. Effect of human milk on plaque pH in situ and enamel dissolution in vitro compared to bovine milk, lactose, and sucrose. Caries Res: 1985; 19:327-334

7. Arnold R, Cole M, McGhee A. Bactericidal effect for human lactoferrin. Science; 1977; 263-265