

The Sarkissian Report

Pediatric Edition 2

Early Childhood Caries

Early Childhood Caries (ECC), or previously known as "bottle decay" is a phenomenon poorly understood, but still widespread, despite improved consciousness and education on oral hygiene and diet. Many parents today are perplexed by their 2-4 year olds developing widespread cavities on their front teeth, in spite of the fact that they claim to follow strict sugar-free diets and practice prolonged nursing.



In the past ECC was associated with babies sucking on their formula milk bottle in bed and going to sleep with it. Toddlers are heavy salivators and are constantly chewing on objects, which not only has a cleansing and massaging effect on their teeth and gums, but also neutralizes acids within plaque. During sleep, the mouth does not produce saliva, thus creating an environment for the decay-causing bacteria to thrive on the pooled milk on the surface of their teeth, resulting in fermentation and acids. This is thought to be the main cause of ECC.

EARLY COLONIZATION: Right after birth, decay-causing bacteria such as *Streptococcus mutans* are transmitted from the mother to the baby, resulting in early colonization of their oral cavity. These aggressive bacterial strains, along with other strains, are known to contribute to the risk for developing ECC.



Nowadays there seem to be other aggravating factors involved, and thorough attention has to be given by parents to keep the teeth clean from the bacteria that cause this condition. Diet, proper oral hygiene, Xylitol oral gels, some homeopathic remedies and proactive dentistry can all be used to prevent or slow down this condition.

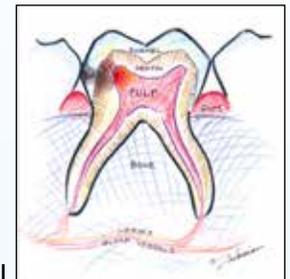


Dr. Joseph Sarkissian

The Importance of Saving Baby Teeth

It's Dr. Sarkissian's policy, and hopefully of many other dentists, to always attempt to save all primary (baby) teeth by treating cavities early. Baby tooth cavities look surprisingly deceiving. Once they penetrate the dentin, they spread out and before you know it, will soon breach the nerve if untreated.

In larger cavities, if the nerve is still alive, Dr. Sarkissian performs a laser pulpotomy. The tooth is then restored with a bonded composite rather than an ugly stainless steel



crown. If, however, the nerve in the primary tooth is so infected that the surrounding bone is affected, the tooth will have to be extracted.

The excuse that primary teeth "will be eventually lost", therefore parents should not invest in restoring them is a fallacy and may culminate in higher long-term costs as well as needless suffering for the child. It will result in premature extraction of the tooth, and a collapse of the jaw-size, therefore a costlier and more protracted orthodontics in the near future.

Some Quick Facts about “Bottle Decay”

- **BACTERIA:** The bacterial colonies covering the teeth, known as plaque, will process sugars coming into contact with them and produce acid as a by-product, which in turn will cause enamel to become softer and porous. These white chalky lesions will then progress into the more advanced decay seen in rotting teeth, especially in upper incisors of children between the ages of 2 and 4.
- **PERINATAL AND SOCIOECONOMIC** associations with increased risk for ECC are premature birth, low family income, maternal prenatal smoking and child obesity. Some ethnic groups were independently associated with severe ECC.
- **BREASTFEEDING:** Past research shows that breastfeeding itself is not associated with the risk for ECC. However, some recent studies

showed that breastfeeding longer than 12 months and nocturnal (nighttime) breastfeeding increased ECC rates. Another study showed that breastfeeding more than 7 months resulted in increased caries at 30 months. A Japanese study discovered an association between nocturnal breastfeeding and snacking habits and the risk of ECC in 18- to 23-month-old Japanese children.



- **EATING HABITS:** Other factors associated with eating habits contributing to ECC are: Toddlers keeping food longer in the mouth while eating or snacking; Toddlers eating more and also more frequently; Toddlers snacking out of boredom.

Thumbsucking

Dr Sarkissian believes that thumbsucking beyond age 3 is not normal, and has deleterious effects on the growth of the facial structures. The American Dental Association believes that under age 6 there is no lasting dental damage from thumbsucking. They recommend that the habit be abandoned by age 4. From a wider jaw orthopedic perspective, thumbsucking after age 2 is harmful. ▶▶▶



■ The Effect of Diet

The data compiled by WESTON PRICE in the early part of the 20th century on indigenous cultures and tribes not yet subjected to the modern consumer diet, and nutrition solely based on their



indigenous primitive diet, shows that they had large and strong jaws, healthy postures, robust lungs, and stronger immune systems. Prolonged thumbsucking was not known during those times. He documented skeletons from those tribes that reveal large jaws, a full set of teeth with no crowding, and hardly any caries.

■ FAQ About Baby Teeth

Q: Are permanent teeth affected by abscesses in baby teeth?

A: Only when the abscess is not treated for a long time, and the resulting bone infection under the baby tooth extends to the capsule of the underlying permanent tooth.

Q: Can cavities in baby teeth be reversed?

A: There are many online accounts of decay reversal through diet, ozone applications or other natural methods. There may be merit in these claims, but these apply more to flat-surface early cavities that have not penetrated dentin, and many times real-life conditions, compliance and time, do not permit decay reversal. It is just too risky to avoid restoring these teeth, because once the decay invades the tooth, it will spread fast and undetected, and before we know it, will invade the nerve and cause pain and suffering.

Space Maintenance

When a child loses a primary molar through decay or abscessing, an empty space is created. The adjacent teeth will very soon drift and encroach into this



space. This will create a future orthodontic nightmare, since one of the main purposes of primary teeth is to hold spaces for incoming permanent teeth. When this space is reduced, the permanent tooth will not fit and will either be diverted into a twisted or crowded position, or will remain trapped inside the bone.

Traditionally, within a few weeks after extraction a pre-fabricated stainless steel band



or crown with a space-holding loop is fitted and cemented over the tooth behind the space. The loop touches the tooth in front of the space and prevents the space from closing up, until the permanent tooth comes in.

A metal-free bonded space maintainer is another alternative Dr. Sarkissian uses which involves bonding a narrow "bridge" made by a fiberglass ribbon and composite onto the teeth adjacent to the space. There is no drilling involved. Instead, the fiberglass is adapted over the side walls and reinforced with some composite. The result is much more hygienic, metal-free, esthetically pleasing and very durable. It can also provide additional chewing support just like a regular bridge.



Thumbsucking (cont.)

Here are some points on the subject:

- The jaws are growing at a very fast rate from the moment of birth to the moment that the permanent teeth erupt. This RATE of development is faster after birth and slows down towards adolescence, which implies that 80% of jawbone growth is consummated by age 10. Therefore any interruption on the functional forces that influence this growth will alter the inherent growth pattern of the jawbones.

- Thumbsucking is a major interrupter of the forces acting on the jawbones which STIMULATE the bones to grow. BREASTFEEDING exerts the earliest natural forces on the jaw, providing the very first impetus for growth from virtually nothingness to one of the strongest bones in the body. Later on after the



breastfeeding phase, jaw growth depends heavily on constant pressure from the tongue acting upon the roof of the mouth. Provided the child is breathing through the nose, the forces directed by the tongue at rest, as well as upon swallowing, are less upwards, but more outwards in the middle section of the palate. The lower jaw is also held forward. These (nasal breathing and proper tongue posture) provide the best conditions for proper upper and lower jaw development to their maximum potential. >>>

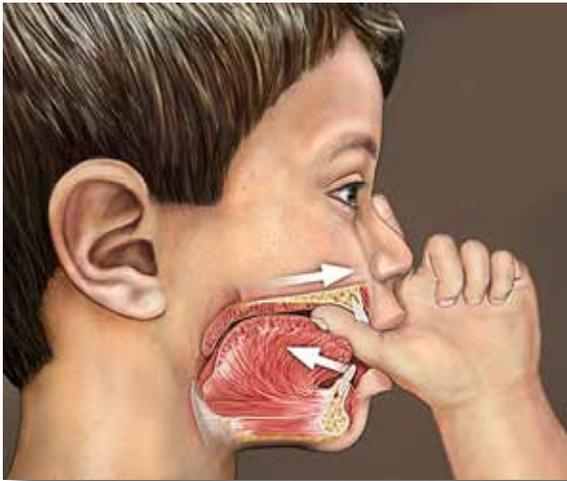


When a baby tooth is lost, the space has to be kept open. Bonded space maintainers such as this one look more esthetic and do not irritate the gums, contrary to those with metal bands or stainless steel crowns.

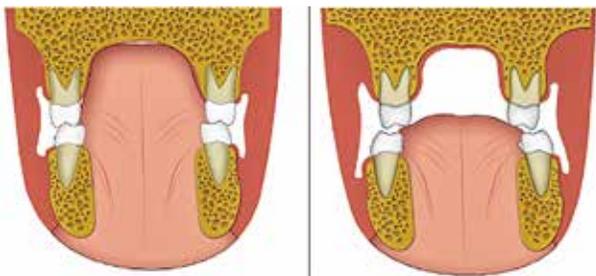


Thumbsucking (cont.)

• **NEGATIVE EFFECTS ON THE UPPER JAW:** A finger wedged between the upper and lower jaws will interrupt the natural growth process. It will direct an UPPER force in the forward section of the palate, and prevent the tongue from exerting its natural forces. Therefore the palate will buckle UPWARDS and the side walls will fold inwards, constricting the upper arch, buckling the floor of the nose, reducing nasal airway space, and pushing the upper front section of the jaw forward to a point.



The following illustration shows (left) the position of the tongue in a healthy posture during nose breathing, leading to a wide palate and (right) the tongue in an unhealthy posture in a thumbsucker and/or mouth breather with resultant small upper jaw and a dental crossbite.



• **NEGATIVE EFFECTS ON THE LOWER JAW:** The action of the wedged finger will also keep the mouth more open than normal, and direct the lower jaw backwards, thus altering the path of its growth from a forward/downward direction to a downward/backward direction. This growth pattern is so deleterious

to facial growth, that its far-reaching consequences can be summarized as follows:

- Blocked airway
- Elongated face
- Future jaw-joint problems
- Small jaw very hard to treat orthopedically and orthodontically
- An open bite



• Psychologists say that thumbsucking is considered normal during the oral stage of the child's development. Studies show that it boosts the child's comfort level and independence. However, if prolonged after age 3, it is deemed as a fixation, and is comparable to addiction. They also say that weaning off a child from thumbsucking should be associated with positive reinforcement and reason, rather than fear, scolding or dominance.

Thumbsucking Incidence

The incidence of thumbsucking has statistically been more prevalent under the following circumstances:

- Prolonged breastfeeding
- Prolonged bottle-feeding
- Children used to the pacifier
- Children of parents from higher socioeconomic status.



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