

# The Power of Xylitol.

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Who would have thought dentists would be advocating the use of sweets in the prevention of early childhood tooth decay (ECC)? Sweets, that is, made from Xylitol, a nutraceutical with over 40 years of scientific research to substantiate its amazing claims. All in the dental world are aware of the "Turku Sugar Studies" (1972-75), conducted in Finland, where Xylitol was substituted for sucrose (sugar) in the diet. The decay rate dropped by an alarming 90%.

**Xylitol's dental benefits.** Fortunately, subsequent studies showed that a similar dental benefit could be achieved, not by total substitution, but to an optimum level (about 10g, or two teaspoons, per day). However, to be effective, it must be given frequently (preferably 5 times/day) and consistently (everyday) for years (preferably life-long). A good habit is to chew Xylitol gum for 5 minutes after every meal and snack.

**How Xylitol works.** Mouth bacteria, particularly the harmful disease-causing strains, are unable to metabolize Xylitol. In the presence of Xylitol, they have difficulty in attaching to the tooth surface and fail to build-up a thick plaque (biofilm), the precursor to tooth decay. Over time, the levels of these harmful bacteria in the mouth fall. This is critical in preventing the spread of dental disease.

**Mother to child transmission.** Tooth decay is an infectious, bacterial disease passed by droplet transmission from caregivers (mainly mothers) to babies from birth. If caregivers have high levels of these harmful decay-causing bacteria, this increases the baby's risk of developing early childhood decay. Dr. Eva Söderling's research (2000-2001), again in Finland, demonstrated that the mother's use of Xylitol gum prevented dental caries in their children. Although the mothers chewed Xylitol gum for only 2 years just after their babies were born, after 5 years these children had 70% less tooth decay than the children whose mothers had not received Xylitol. The conclusion was drawn that people in contact with children (parents, grandparents, siblings, childminders, teachers, etc.) would greatly benefit children's dental health by reducing their levels of harmful mouth bacteria. This is especially true during periods of tooth eruption in the children.

**Xylitol and ECC.** Early childhood caries is a disease affecting children under 6 years. Its incidence is rising, particularly in developing countries, as more babies are exposed to processed foods and drinks high in sugars and acids. Most of this disease is not being recognised nor treated resulting in chronic infections, failure to thrive, concentration and learning problems etc. Unfortunately, children under 3 years can't chew gum because of the



risk of choking. A recent study by Dr. Peter Milgrom\* (University of Washington) demonstrated that a Xylitol syrup prevented ECC effectively.

**Cleaning baby's mouth from Day 1.** Neonatal nurses need to show new moms how to clean the baby's mouth. This is an integral part of body hygiene. A sterile gauze square should be wet in cool, boiled water and wiped over the gums after each main feed. This removes milk residue, a perfect culture medium for mouth bacteria. A new product, Xgel, can be applied on an Xgel sponge to introduce Xylitol from birth. When teeth erupt (from about 6 months), Xgel is an ideal substitute for toothpaste. Many parents are justifiably concerned that their very young children, because of a poorly-developed swallowing reflex, are inadvertently swallowing toothpaste. The high levels of fluoride, as well as a myriad of chemicals (detergents, colourants, flavourants, preservatives, etc.) toothpastes contain, should certainly *not* be swallowed. On the contrary, Xgel is a *food* and as such is safe to swallow, especially in the small quantities recommended by dentists. Children love Xgel's sweet taste which makes it easy for children to comply with oral care routines.

**Meringues without the guilt.** Xylitol can be used in cooking and non-yeast baking. It can be sprinkled on cereal and fruits as well as in beverages. Meringues made with xylitol, instead of icing-sugar, are an excellent way to make a deliciously sweet treat. Given at the end of a meal as a 'dessert', they stimulate saliva (Nature's "cavity-fighter") as well as coat the mouth with Xylitol. If a child can't chew gum, these provide an excellent alternative.

**Xylitol's benefits are life-long.** Every parent wants optimal health for their child, yet this can't be achieved without oral health. Studies have shown Xylitol has a profoundly beneficial effect on oral health. When one considers its deliciously sweet cool taste, is it any wonder every one's smiling?

\* Ref: Milgrom, P. et al (2009): "Xylitol Pediatric Topical Oral Syrup to Prevent Dental Caries: a double blind, randomized clinical trial of efficiency".

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