Xylitol in Orthodontics and Dentistry

In my orthodontic practice, we are always looking for ways to improve oral health for our patients and to implement the latest proven methods to prevent the risk of tooth decay during orthodontic treatment. The use of Xylitol containing gum and mints for our orthodontic patients greatly reduces the risk of tooth decay or problems with tooth enamel during treatment. We have been on the cutting edge of Xylitol use and began implementing it in 2011. Xylitol, a natural sugar sweetener found in many fruits and vegetables, and hardwoods. In direct contrast to what many orthodontists recommend, we advise our orthodontic patients to chew xylitol containing gum during orthodontic treatment. Despite the fact that chewing gum may possibly lead to a loose brace on a tooth, the benefits of xylitol are so great that we will gladly fix a loose brace if it happens. Careful chewing gum has been clinically proven to reduce discomfort associated with orthodontic tooth movement and increases clearance/removal of plaque and food debris from around braces and orthodontic appliances.

Xylitol Has Several Benefits For Our Patients

Reduces Xerostomia (dry mouth) by increasing salivary gland production. A dry mouth is much more susceptible to tooth decay and producing a healthy amount of saliva is important for maintaining good oral health. Saliva contains a many beneficial immune system components that help to combat the bacteria in our mouth. Every day our salivary glands produce saliva and saliva production is at its peak around age 14. After about age 14 saliva production slowly declines with age. In general, the vast majority of saliva is produced while we are awake and production greatly reduces while we sleep. Many children and adults are on prescription medications that cause dry mouth as a side effect. Xylitol stimulates a beneficial increase in saliva.

Bacteriostatic: Streptococcus mutans, the primary bacteria involved in the caries process (tooth decay), fails to thrive well in the presence of xylitol. There are many studies that have demonstrated the benefits of xylitol to reduce tooth decay. In fact, xylitol has also been shown to greatly reduce otitis media (ear infections of the middle ear in children, eustachian tube bacteriostatic effect).

Enamel Remineralization: When acid is produced by bacteria in our mouths, or when we drink acid containing beverages like most sodas, our tooth enamel starts to become demineralized. This creates weak spots on our teeth that are susceptible to permanent enamel damage and tooth decay. Xylitol interacts with Calcium ions and facilitates preferential / faster enamel remineralization and repair.

Dr. McNutt’s recommended brand of Xylitol gum and instructions for orthodontic patients:

Hershey’s Ice Breakers Ice Cubes: contains 1 gram of xylitol per cube. Exposure of 2-3 grams per day in the oral cavity produces the clinically significant effects noted above. We advise our patients to chew 2-3 cubes per day for 30 minutes, preferably directly after finishing a meal.

Other Patient Populations In Dentistry Who Benefit From Xylitol:

- Pediatric Dental Patients at High Risk For Tooth Decay
- Middle Aged Adults and Geriatric Dental Patients (especially those with high potential for root caries and for those on prescription medications that cause dry mouth)
- Diabetics: Diabetes is an epidemic in our country. Xylitol sweeteners contain 33% fewer calories than sucrose and xylitol is absorbed slowly, and lessens the risk for an unwanted blood sugar spike.

To learn more about the Dental Benefits of Xylitol consider visiting xylitol.org on the web.