

*Dr. Brett Taylor will be writing articles for The Burbs magazine to provide its readers with dental information regarding dental technology, tips to improve oral health, and other dental related topics.*

# Taking The Bite Out Of Carbs

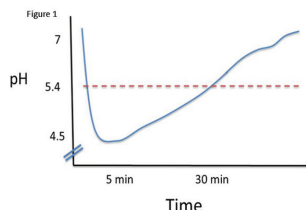
Submitted by:  
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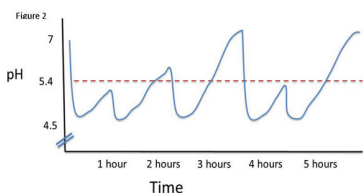
Brushing and flossing your teeth as well as not eating sugars are common instructions given by dentists to help reduce the risk of cavities. However, it is often forgotten that it's not just sugars but carbohydrates, both sugars and starches, such as milk, pop, raisins, bread, crackers, etc., that cause cavities as well. Surprisingly, the risk for cavities increases more with the frequency than with the amount of carbohydrates consumed.

To better understand, it is important to review how cavities begin. Cavities are formed when bacteria, found in plaque, break down carbohydrates to produce acids that stay attached to the teeth by the sticky plaque. The longer this plaque and acid stay on the tooth, the more the acid demineralizes and breaks down tooth structure, which ultimately leads to cavities.

Demineralization of enamel occurs when acid in the mouth reach a critical point, about pH of 5.4 or less (an acid has a pH less than 7), although this may vary from person to person. This acid attack occurs quickly after eating, but can take approximately 30-40 minutes to return to normal levels (see figure 1), when remineralization can occur.



As a result, a person who snacks often throughout the day is more likely to get cavities because the mouth is in this demineralizing acidic range for a greater period of time per day. The patient in the graph (figure 2) had two meals and three snacks in between those meals. Note that the pH in the mouth is below the critical 5.4 level most of the time, resulting in a dramatic increased risk of developing cavities.



On the other hand, if the person in the example would have consumed the same amount of carbohydrates in one sitting, the length of time the mouth would be acidic would have been reduced, resulting in less time for the acids to demineralize the tooth structure, and, ultimately, reducing the risk of cavities.

Although children routinely have snacks, many times an increase in cavities is found in adults due to more frequent eating, too.

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The best examples are adults who are eating smaller portioned meals for metabolism/dieting purposes or have busy jobs that do not allow time for full meals, only snacking throughout their shift.

Bacteria, however, is not the only cause for acidity in our mouths. Consuming acidic foods and beverages add to the acidity, which further drives this demineralization and cavity process. For example, Diet Pepsi has a pH of 3, Gatorade has a pH 2.9, Starburst candy has a pH of 2.4, and Sour Skittles have a pH of 2.2. To put these numbers into perspective, battery acid has a pH of 1.

Of course, there are many other interrelated factors in getting cavities, but monitoring the frequency at which carbohydrates and acids are consumed will decrease the risk of cavities and improve dental exams for both children and adults.

To help reduce the effects of carbohydrates and acids:

- Limit the frequency of snacks (unless more frequent eating is directed by your physician).
- Swish with water following eating and drinking to dilute the acids.
- Chew sugarless gum with Xylitol. Chewing stimulates saliva production, and the Xylitol has also been shown to help reduce cavities.
- Do not sip sugar and/or acidic drinks for extended periods of time because ongoing drinks prolong the sugar and acid attacks.
- Never drink pop, juice, or milk before bedtime.
- For adults, use a fluoride toothpaste and mouthrinse that can remineralize acid-effected enamel. Consult with your dentist before using a fluoride mouthrinse for your child.
- Maintain regular checkups with your dentist.