**The Truth about High Fructose Corn Syrup**

**Sweet Surprise or Health Demise?**

**-- By Becky Hand, Licensed & Registered Dietitian Taken from http://www.sparkpeople.com/resource/nutrition\_articles.asp?id=486**

If you had asked me five years ago if I thought there was something unique about high fructose corn syrup (HFCS) that could lead to weight problems, I would have said “yes.” In fact, I was one of those Registered Dietitians who encouraged families to beware of the "evil" high fructose corn syrup.   
  
Today I am here to confess that as a trained, nutrition professional, I blatantly ignored the No. 1 rule of providing reliable nutrition education for the public. I forgot to rely on published research and evidence for my nutrition recommendations! So today, I am going to set the record straight after reviewing not just one research study but all of them. Read on to find out whether high fructose corn syrup deserves its bad rap and how it really compares with regular sugar.   
  
**What is High Fructose Corn Syrup?**   
High fructose corn syrup (HFCS) is a calorie-providing sweetener used to sweeten foods and beverages, particularly processed and store-bought foods. It is made by an enzymatic process from glucose syrup that is derived from corn. A relatively new food ingredient, it was first produced in Japan in the late 1960s, then entered the American food supply system in the early 1970s. HFCS is a desirable food ingredient for food manufacturers because it is equally as sweet as table sugar, blends well with other foods, helps foods to maintain a longer shelf life, and is less expensive (due to government subsidies on corn) than other sweeteners. It can be found in a variety of food products including soft drinks, salad dressings, ketchup, jams, sauces, ice cream and even bread.   
  
There are two types of high fructose corn syrup found in foods today:

* HFCS-55 (which is the main form used in soft drinks) contains 55% fructose and 45% glucose.
* HFCS-42 (which is the main form used in canned fruit in syrup, ice cream, desserts, and baked goods) contains 42% fructose and 58% glucose.

**Sugar & High Fructose Corn Syrup**  
Table sugar (also called sucrose) and HFCS both consist of two simple sugars: fructose and glucose. The proportion of fructose and glucose in HFCS is *basically* the same ratio as table sugar, which is made of 50% fructose and 50% glucose. Both sweeteners contain the same number of calories (4 calories per gram).   
  
But the fructose and glucose in table sugar are chemically bonded together, and the body must first digest sugar to break these bonds before the body can absorb the fructose and glucose into the bloodstream. In contrast, the fructose and glucose found in HFCS are merely blended together, which means it doesn't need to be digested before it is metabolized and absorbed into the bloodstream. Because of this, theories abound that HFCS has a greater impact on blood glucose levels than regular sugar (sucrose). However, research has shown that there are **no significant differences** between HFCS and sugar (sucrose) when it comes to the production of insulin, leptin (a hormone that regulates body weight and metabolism), ghrelin (the "hunger" hormone), or the changes in blood glucose levels. In addition, satiety studies done on HFCS and sugar (sucrose) have found no difference in appetite regulation, feelings of fullness, or short-term energy intake. How can that be?   
  
Well, the body digests table sugar very rapidly. And both HFCS and table sugar (sucrose) enter the bloodstream as glucose and fructose—the metabolism of which is identical. There is no significant difference in the overall rate of absorption between table sugar and HFCS, which explains why these two sweeteners have the same effects on the body.   
  
**HFCS and Obesity**  
HFCS hit the food industry in the late 1970s, right when the waistlines of many Americans began to expand. During this time, many diet and activity factors where changing in society. It is a well-researched fact that the current obesity crisis is very much a multi-faceted problem. The American Medical Association (AMA) has extensively examined the available research on HFCS and obesity. This organization has publicly stated that, to date, there is nothing unique about HFCS that causes obesity. It does not appear to contribute more to obesity than any other type of caloric sweetener. However, the AMA does encourage more research on this topic.   
  
**But Is It Natural?**   
High fructose corn syrup has received a lot of blame and bad press lately. Recent marketing campaigns funded by the Corn Refiners Association have tried to improve the reputation of high fructose corn syrup, calling it "natural" among other things. However, it's important to note that the word “natural” doesn't mean much. This common [food-labeling term](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=153) is NOT regulated by the Food and Drug Administration (FDA). Let’s face it: Neither table sugar nor HFCS would exist without some human interaction. Both require processing. You cannot just go to a field and squeeze corn syrup out of corn or sugar out of sugar beets or sugarcane. "Natural" or not, too much sweet stuff can't be good for you—even if it comes from what you might think of as [natural sweeteners](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=1203) like honey, agave syrup or raw sugar.   
  
**Spark Action: What This Means for You**  
At least for the past five years, I have been providing accurate nutrition education by stating, “We are eating too much of the sweet stuff, no matter what the source.” When it's added to your morning coffee, hidden in your can of soda, or baked into your chocolate brownie, sweetened foods are everywhere. The typical American over the age of two consumes more than 300 calories daily from sugar and other caloric sweeteners. That's 19 teaspoons (75 grams) a day! One-sixth of our calorie intake is coming from a food ingredient that provides absolutely no nutritional benefit! This is definitely affecting our weight and overall health. It is time to take charge and cut back! The most recent recommendations suggest:

* Healthy adults who consume approximately 2,000 calories daily should limit the amount of all caloric sweeteners to no more than 32 grams (8 teaspoons) of sugar daily.
* For SparkPeople members who are consuming approximately 1,200-1,500 calories daily, this would equate to about 19-24 grams (5-6 teaspoons) of sugar each day.

Please note that doesn't only apply to sugar that you to your morning coffee or oatmeal; it applies to all ["hidden" sugars](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=616), too, which are found in other processed foods and drinks that you may purchase.   
  
To help curb the sugar monster so you can keep your weight and health in check, follow these tips.

* Always read the ingredients list. Foods you might not even realize are sweetened (like bread, dried fruit and crackers) might be hiding added sugars. Learn to identify terms that mean added sugars on the ingredients list, including sugar, white sugar, brown sugar, cane sugar, confectioner’s sugar, corn syrup, crystallized fructose, dextrin, honey, invert sugar, maple syrup, raw sugar, beet sugar, cane sugar, corn sweeteners, evaporated cane juice, glucose-fructose, granulated fructose, high fructose corn syrup, fructose, malt, molasses, and turbinado sugar. Try to limit foods that have any of these “sugars” as one of the first three ingredients.
* If you take your coffee with sugar, try adding a small piece of cinnamon stick or vanilla bean to your cup. It adds flavor without adding caloric sweeteners.
* When baking, reduce the amount of sugar in the recipe. Most of the time you can reduce the sugar by up to one-third without noticing a difference in the taste or texture of the final product. Now that's sweet!
* Sweeten other food items with vanilla extract or other "sweet" spices instead of caloric sweeteners. Many times cinnamon, nutmeg, cloves, and allspice can naturally sweeten a recipe.
* Substitute homemade fruit purees for sugar and syrups in recipes. Applesauce (look for varieties made without added sugar) can be substituted for some of the sugar in muffins, breads and baked desserts.
* Top your breakfast waffles or pancakes with fresh fruit compote instead of syrup.
* Limit the amount of regular soda and caloric-sweetened beverages. While [artificially sweetened](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=289) "diet" beverages aren't exactly health foods, they are one way to cut calories. The healthiest choice is always water. To add a splash of flavor to your water, add lemon or lime juice, other types of 100% fruit juice, or pieces of frozen fruit.
* Skip the calorie-sweetened [yogurts](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=1280) that use sugar, honey, syrup, fruit juice, fruit juice concentrate, sugar and HFCS. Buy plain, natural yogurt and sweeten it yourself with fresh fruit, frozen fruit or fruit canned in its own juice.
* [Select breakfast cereals](http://www.sparkpeople.com/resource/nutrition_articles.asp?id=427) with 5 grams of sugar or fewer per serving. Add sweetness with fresh, frozen, or fruit canned in its own juice. Try sliced bananas, canned peaches, frozen blueberries, or fresh strawberries.
* If you're a juice drinker, buy 100% fruit juices and limit it to 1 cup daily for adults and ½ cup daily for children. Beware of juice "drinks," fruit punches, and juice cocktails; these contain only a small amount of juice and the rest is water and added caloric sweeteners.

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