

The Wellness Family

Dr. Cuperus Keeps You Informed

High Fructose Corn Syrup and the Aware Parent

Obesity rates for adults and children remain a growing concern. With the rate of obese adults reported to have doubled in the past 30 years and the rate of obese children tripling in the same amount of time, there are several factors that may have led to these statistics.

While we know that sedentary lifestyles and poor dietary choices are a definite area of concern, research is showing that the actual manufacturing and production of some food items that are considered staples in many diets could be a primary factor.

The History of High Fructose Corn Syrup (HFCS)?

Until the year 1957, high fructose corn syrup (HFCS) didn't exist. It wasn't until a couple of researchers named Marshall and Kooi developed an enzyme called glucose isomerase that could work on corn syrup to rearrange the molecular composition of glucose and convert it to fructose.

Glucose isomerase causes the isomerization, or rearrangement, of glucose. When natural glucose in corn syrup is converted to fructose, the syrup becomes sweeter. High fructose simply means that the percentage of fructose is higher.

The significance of being able to genetically alter corn syrup from a mildly sweet syrup to a profoundly sweet syrup was not lost on the corn growers and it couldn't have come at a better time.

In 1977, new tariffs and sugar quotas made importing sugar more costly. With the increase of sugar costs, production costs on new dietary staples rose significantly. The producers of these items needed a more cost effective alternative sweetener.

It was in 1984, when soft drink makers like Coca-Cola and Pepsi began using high-fructose corn syrup, that it really jumped in general acceptance. Production grew from about 3 million tons in 1980 to about 8 million tons in 1995.

Redefining the Sweetness Scale

In 1974, an article appeared in Time Magazine that described the astonishment of the sugar producers when they noticed that sugar consumption was falling. The author said, "It was like telling them that people were breathing less air." A USDA report from 1997

stated that in 1970 sucrose (or table sugar) accounted for 83% of the sweeteners consumed by Americans, but by 1997 sucrose was down to 43% and HFCS consumption was up to 56% or basically accounted for the rest.

Regular unaltered corn syrup is glucose, which measures 70-80 on what those in the sweeteners business call "the sweetness scale", and so could never be considered a true rival for sugar until it was genetically altered. Suddenly it was a contender.

The new existence of high fructose corn syrup had a major influence on the sweetness scale. Refined or table sugar, sucrose, on the relative sweetness scale was always considered the highest you could get and so was measured at 100. Suddenly there was



"Corn syrup could never be a true rival for sugar until it was genetically altered."

something sweeter than sugar, as high fructose corn syrup measures 120-140 on that scale. It was less expensive to make, and so over the span of 30 years it began to replace sugar in the manufacturing of many processed foods and drinks.

The two standard high fructose corn syrups sold today are 42% or 55%, meaning that 42 or 55 percent of the glucose has been chemically altered. The most commonly used in commercial production today is 42%, measuring about 120 on the sweetness scale.

Mercury in HFCS

A genuine concern regarding the consumption of high fructose corn syrup came with the results of a new study published by the Minneapolis-based non-profit Institute for Agriculture and Trade Policy (IATP).

A commercial lab was asked by David Wallinga, MD, the director of IATP's food and health program, to test 55 products that listed HFCS as first or second on their list of ingredients, meaning that HFCS would be a leading ingredient in these products.

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“Overall, we found detectable levels of mercury in 17 of 55 samples, or around 31%,” writes Wallinga and colleagues of their test results.

Chemically Altered

High fructose corn syrup should be a concern, if for no other reason than because it is made by genetically altering the basic chemical make-up of another product – corn syrup. This means that it is not a natural food item and therefore our body doesn't react to it like a normal food item.

Most carbohydrates containing sucrose, glucose and unaltered fructose cause our pancreas to create insulin. This in turn allows these sugars to be broke down into energy and then triggers our brain that we are full. High fructose corn syrup, on the other hand, does not cause the pancreas to produce insulin. Additionally, while natural carbohydrates are digested normally, HFCS goes straight to the liver where it is then treated like a chemical and turned to fat.

Debate Rages

A recent study from Princeton University suggested that high fructose corn syrup caused a more significant weight gain in laboratory animals than regular table sugar. This had many in the food and science industry upset and claiming that the researchers were trying to demonize HFCS while absolving cane sugar of all responsibility for the obesity trends.

Author, Elizabeth Abbott, contends that both sides of the debate are in error because “neither of them is good for you.”

It's not a matter of which is good and which is bad, sugar in all forms will cause weight gain and should not be consumed daily.

What's in a Name?

The LA Times recently reported that the Corn Refiners Association is trying to have the name of high fructose corn syrup changed to “corn sugar” in an attempt to overcome its “bad reputation”.

There will be no difference in the chemical make-up or resulting health concerns related to this genetically altered sweetener, only the name.

Making the Change

While there may not be a scientifically proven link between either high fructose corn syrup or table sugar and the growing rate of obesity, the fact is that since 1977 more food items consumed contain sugar. Whether it is fructose, glucose, sucrose or high fructose corn syrup, the average person consumes sugar at least once a day and this was not the case 50 years ago. As the use of sweeteners in manufactured foods has increased so has the obesity average.

Some items that not surprisingly include high fructose corn syrup would be most sugary cereals, toaster pastries, soft drinks, juice pouches and boxes, jams and jellies, salad dressings, sauces, ketchup, canned fruit, cookies and crackers.

Some unexpected sources of high fructose corn syrup would be many canned ravioli and pasta meals, canned soups, peanut butter, breakfast or snack bars, boxed stuffing, vegetable drinks, coffee and energy drinks.

It's time to start reading labels more carefully but more than that it's time to stop buying products with labels. If it has a package or a label then it has been altered in some way. You can't go wrong going with the basics, such as: fresh vegetables, fruits, meats and grains. These are going to be sold in their native form, not packaged, not altered and not sweetened.

Dear Parent,

Dr. Cuperus is dedicated to providing you with the absolute best in family wellness care. So take a moment today to discuss with your Family Wellness Chiropractor any concerns you may have regarding your family's overall health and wellness.

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