



Healthy for Life Newsletter
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Sugar and Sweeteners

There has been nothing more controversial or more confusing than the issue of sugar, high-fructose corn syrup, fructose, aspartame, Splenda, stevia and the list goes on and on. In this month's newsletter, I am going to weigh in on this issue and explain my view on this subject. If you have done any reading or research on the Internet in regards to this issue, I am sure you have some of your own opinions.

This issue seems to have all started when a few researchers around 2003 came to the conclusion that the consumption of high-fructose corn syrup was the reason for the obesity and diabetes epidemics. They based this on the fact that the soda manufacturing companies switched from sucrose (table sugar) to a less expensive and more abundant sweetener for their sodas, which was high-fructose corn syrup. This also was about the time that the incidence of obesity and diabetes was going through the roof. Recent articles have now detailed the fact that all of these researchers have backed off their earlier conclusions and now feel that it is the consumption of too much of all sweeteners as the cause of the significant increase in both obesity and diabetes and not the result of the consumption of just high-fructose corn syrup. Now there are still

some individuals who still feel that fructose is the enemy and needs to be avoided at all cost. The primary individual who is always quoted in this situation is Dr. Mercola. So let's really take a logical look at this entire issue.

Sucrose versus High-Fructose Corn Syrup

High-fructose corn syrup just happened to be more abundant and less expensive. It was an ideal change for the soda industry. In the age of the "Big Gulp" the consumption of sodas and therefore high-fructose corn syrup went through the roof. Therefore, it has naturally become a target from the health care Community. However, it is important to take a closer look at this entire situation.

Sucrose is what we refer to as table sugar. It is a disaccharide or in other words a sugar that is made up of two molecules, a molecule of glucose and a molecule of fructose. Therefore, sucrose is 50% glucose and 50% fructose. High-fructose corn syrup ranges from 42% to 55% fructose and 45 to 55 %glucose. This amount of fructose has really not changed compared to just the use of table sugar. Fructose has come under tremendous criticism; however, glucose has essentially been ignored and all the blame for our present problems has been leveled at fructose. Is this justified? Well, today most researchers agree that it is not justified and that the problem is the consumption of just too much sugar in all forms. They reason

that sugar and high-fructose corn syrup are basically just empty calories. In other words, they do not contain any minerals, vitamins, fiber, or antioxidants, but instead, are just sweet and are high-caloric.

Is Fructose Bad?

Fructose has been criticized as a bad sugar primarily because it needs to be metabolized in the liver before it can be used by the body. In contrast, glucose is used by every cell in the body and is readily available after consumption in any form. This is the reason why glucose has a glycemic index of 100 while fructose has a glycemic index of only 19. Therefore consumption of fructose will not spike your blood sugar; while glucose will always spike your blood sugar.

Fructose is initially metabolized in the liver to restore our glycogen stores. Once the glycogen stores are filled, it is primarily converted into the form of triglycerides, another fat in the body. Fructose has been blamed for fatty liver, insulin resistance, gout, and a host of other problems. However, I strongly disagree with these assumptions. I have now completed three different clinical trials where the consumption of fresh fruits and vegetables along with meal and snack replacements that primarily contained fructose has shown just the opposite effect. Participants were able to reverse their insulin resistance, lower their insulin levels, improve glycemic control, lower blood pressure, significantly decrease triglyceride levels, and lower total and LDL cholesterol. There is no way this could have happened if fructose was the underlying cause of all these problems.

What is the highest ingredient in an apple, orange, grape, or banana? Well it is fructose. Is an apple bad? Are oranges and grapes bad for you? Fructose occurs as free

fructose in these fruits. They are metabolized in the liver because this is the way God designed the body to handle fructose. Certainly fruits also contain vitamins, minerals, fiber, and are high in antioxidants. They are not “empty” calories. Fear of fructose would naturally create a fear of fruit and even vegetables. When fructose is combined with good fats, good proteins, and fiber, in fruits, vegetables, and even meal and snack replacements, it is not only low-glycemic, but an excellent source of carbohydrates.

Most will say that fructose is good only when found in fruit and vegetables and not consumed in too great of quantities. However, anything can be bad if consumed in too great of quantity. Even water, if it is consumed in too great of quantities can be dangerous and even lead to death. However, I do not see any solid evidence that too much fructose can lead to liver damage, fatty liver, or even the metabolic syndrome.

Artificial Sweeteners

Aspartame

One of the most common artificial sweeteners in our foods and drinks today is aspartame marketed under the name of NutraSweet by Monsanto Corporation. The FDA approval of this product was done under a cloud of suspicion in regards to its safety. There were many researchers who felt that aspartame could cause optic neuritis, a false MS syndrome, chronic headaches, along with many other problems. However, it was approved very easily without much scrutiny. However, I reviewed many of the studies and am very concerned the safety of consuming too much of this artificial sweetener. I personally believe that we should be concerned about this sweetener.

Many of my patients who suffered from chronic headaches with no known cause have had significant improvement once they cut out their diet sodas that contained aspartame.

There is also evidence that although there are no calories in aspartame that it has an affect on certain areas of the brain much as sugar does. It may lead to overeating and weight gain. In fact, individuals who consume a lot of aspartame have more weight problems than those who consume sugar in their sodas.

Splenda

This product is marketed as a natural sugar under the name of sucralose. However, it is a chemically altered sugar with chlorine atoms that prevents its ability to be utilized by the body. It is not a natural sugar and this claim was even taken to court with an undisclosed settlement. A Duke University study also showed that in rats the consumption of sucralose altered the flora of the bowel and led to absorption problems and metabolism problems. In any event, it seems like every artificial sweetener comes under more intense scrutiny after they hit the market. I am sure in the future there will be more studies that will show concerns with the use of this sweetener.

Stevia

Stevia is the newest sweetener to hit the marketplace. It comes from the leaves of tropical plants and is known as sweet leaf or sugar leaf. It is about 300 times sweeter than sugar and the sweetness tends to last longer. It has been marketed heavily because it seems to be more natural and does not contain any calories. This is the sweetener I have recommended for the past several years. However, now that the Coca

Cola company has decided to use this sweetener

In some of its drinks, it is also coming under attack. The verdict is still out with this sweetener; however, to date I believe it is the best sugar substitute on the market today.

The True Cause of Insulin Resistance and the Diabetes/Obesity Epidemics

I spent over three years researching the medical literature in regards to the underlying cause of insulin resistance. This research led to the writing of my book *Healthy for Life* where I have nearly thirty pages of medical references. The diabetes and obesity epidemics have the same underlying or root cause, which is insulin resistance. This basically means that you are not as sensitive to your insulin as you once were. This is the result of repeatedly spiking your blood sugars and inactivity. Once you understand the glycemic index, you begin to realize that foods like bread, flour, rice, cereal, potatoes, and pasta actually spike your blood sugar faster than if you were spooning sugar on to your tongue. In other words, these foods are actually worse than sugar. Now that does not make sugar good. The medical community has been recommending that we should be eating 8 to 11 servings of these grains, potatoes, and breads (it makes up the base of the USDA food pyramid) while the peak of the food pyramid contains those fats and sugars that should be avoided. I agree with Dr. Walter Willett, who is the head of the department of nutrition and preventive medicine at Harvard, that the food pyramid is all wrong. The base of the food pyramid should actually be placed above sugars to form a "T", because they are worse than sugar.

When you repeatedly spike your blood sugar two things happen, you cause inflammation

of your arteries and you over stimulate the release of insulin. It is a lot like hollering wolf all the time. Over the years you just become less and less sensitive to your own insulin. You will eventually “tip over” into an abnormal metabolic state called the metabolic syndrome or pre-diabetes. In this state, you cannot utilize calories normally and many of the calories are converted to fat, which leads to an unusual central weight gain. The body compensates for this situation by making more and more insulin. However, as blood insulin levels rise, your blood pressure goes up, your cholesterol and triglyceride levels increase, your blood sugars begin to rise and eventually you will become diabetic.

Simply Too Much Sugar

My message to you is the fact that we are just consuming too much sugar. Our desire for the sweetness in our drinks and foods is overwhelming our society. There is very little in nutritional value of table sugar, aspartame, Splenda, or even stevia. It creates a craving for needing to have something sweet all the time. It has really no health benefits and is not essential for our body. I wish we all could eliminate all the sweeteners and artificial sweetener from our diet. However, I do feel that the glucose and fructose that is contained in our fruits and vegetables is good and healthy because of the vitamins, minerals, fiber, and other nutrients they contain. Now I don't even have a problem with using meal and snack replacements that use fructose as their main source of carbohydrates as long as they also contain those good fats and proteins along with at least some additional fiber, minerals, antioxidants, and vitamins. I have used these kinds of meal and snack replacements very successfully in my clinical practice and clinical trials. They are a great behavioral modification because they get my patients

out of their normal eating pattern and they are low-glycemic.

When you begin to decrease the amount of sweeteners of all kinds from your diet, you will begin to appreciate the fact of how delicious and sweet fruit tastes. You will begin to note that you don't crave food as much. You see some foods addict and other foods satisfy. Fruit satisfies and cookies and donuts addict. Have you ever tried to eat 2 or 3 bananas in a row? Most can't because eating fruit satisfies. However, just look at how many people are totally hooked on their sodas (regular and diet), candy, cakes, donuts, and cookies. Wouldn't it be nice to be freed up to eat healthy delicious food? Well, take a look at the Healthy for Life Program located at www.releasingfat.com. We will take you by the hand and lead you step by step into those new, healthier lifestyles that allow you to lose weight effectively as you decrease your risk of developing diabetes.