

A Word about Artificial Sweeteners

Almost everybody likes the taste of sweets. While sweet is a natural flavor - fruit is sweet, even breast milk is sweet-tasting for babies' enjoyment -- in our culture, we have become accustomed to sweetening foods, sauces, condiments like ketchup and desserts beyond the level of sweetness created by nature. Sugar substitutes have been the response to a demand for beverages, desserts, and other products that give us our sweet 'fix' without the calories, and, ostensibly, without the health concerns of a high sugar diet. However, artificial sweeteners may take a larger toll on your body than the white sugar they were created to replace. These substances are created in laboratories and are chemicals, foreign to your body and the entire span of the body's evolution. We do not possess the proper processes to utilize these chemicals. These are not benign substances, and many have been shown to be dangerous to different aspects of health. Furthermore, sufficient research has not been studied as to the long term effects of some of these chemicals, especially on a developing fetus. Some of those sweeteners are explained here, but we believe that all synthetic chemical sweeteners should be avoided.

Splenda is sucralose. Sucralose is highly processed sugar added to chlorine. Chlorine is ubiquitous in our environment, and cannot be broken down very easily, therefore leading to a bio-accumulation in both our environment and our body fat.¹ One of the by-products of chlorine is dioxin, a highly toxic chemical found by the EPA to be 300,000 times more toxic than DDT, cause infertility, and alter fetal development. Dioxin has also been linked to diabetes, endometriosis, neurotoxicity, birth abnormalities, and reproductive impairment in men and women. When dioxins accumulate in our bodies, they mimic estrogen and therefore disrupt the hormone balance. Although you may be led to believe that dioxins are not absorbed by the body in 'significant' amounts, very small amounts can be significant to your health. 15% absorption is the reported, but your body could absorb less or more.

Aspartame is another popular artificial sweetener, most commonly known by its brand name, Nutrasweet or Equal. Aspartame contains methanol. Methanol is a simple alcohol that is volatile, flammable, colorless and poisonous. It is used as antifreeze, solvent, and fuel. Methanol also converts into formaldehyde and formic acid in the body. Formaldehyde is classified as a probable human carcinogen by the U.S. Environmental Protection Agency and as a known human carcinogen by the International Agency for Research on Cancer. At concentrations above 0.1 mg/kg in air, inhaled formaldehyde can irritate the eyes and mucous membranes, resulting in watery eyes, headache, a burning sensation in the throat, and difficulty breathing. In the human body, formaldehyde can cause proteins to irreversibly bind to DNA. It is especially hard for the liver to break down, and as such, tends to get stored in the body in fat cells. And while studies are still being conducted into formaldehydes full effects on the human body it may also be implicated in liver disorders such as

¹ Chlorine should not only be kept out of our diet, but out of our house too. It is important to drink filtered or spring water, and use hydrogen peroxide as a bleach alternative. Look for chlorine in hidden places like paper plates and bleached coffee filters, paper towels, and tissues. The dioxins produced by chlorine are readily absorbed through the skin.

liver cancer.²

Saccharin has been the source of much health controversy since its discovery in 1879. The sweetener behind the brand name Sweet-&-Low, saccharin has been shown in studies to produce bladder cancer in laboratory rats; however, the dosages at which the rats were fed saccharin were considered too high to be conclusive. A health warning was once mandated on all food items containing saccharin. The health warnings have since been repealed. The verdict is still very much out on saccharin's effects on the human body. However, it is important to note that there are politics to food substances being labeled as "carcinogens". The consumer advocacy group called the American Council on Science and Health, was reported in 1985 by Howard Kurz of the Washington Post to be funded by Coca-Cola, Nutrasweet, Pepsi, and the National Soft Drink Association in its attacks against saccharin as a carcinogen. While research at this point remains unclear, saccharin is still not a whole food; in other words, it is an artificial sugar substitute whose chemical structure may not be recognizable to your body as food. As such, we recommend it be avoided at present.

Now for the good news: While artificial sweeteners may be injurious to your health, there are a number of sweet alternatives to white sugar that are found in nature, and may be used *in moderation* in place of white sugar for an occasional sweet treat. Such natural sweeteners include:

- Stevia
- Agave Nectar
- Honey
- Maple Syrup
- Brown Rice Syrup

Many of these sweeteners can now be found at grocery stores such as Central Market and Whole Foods, or at your local Farmer's Market. What many of these sweeteners have in common is a low glycemic index in comparison to white sugar - this means that it takes your body longer to break these foods down into simple sugar, which avoids a spike in your insulin levels (one of the great health concerns surrounding white sugar). What *all* of these sweeteners have in common is that they are substances that naturally occur in nature. Your body can recognize them as food, and they impart health benefits as well as taste. One thing to consider as you embrace natural sweeteners, however, is that these foods still break down into sugar quickly relative to other foods such as complex carbohydrates, proteins, and beneficial fats. As such, they should still be used in moderation.

² Like chlorine, formaldehyde should be avoided in other products, as well as in artificial sweeteners. Formaldehyde is used as a preservative in vaccines and in many toothpastes, and formaldehyde resins are used in many construction materials, including plywood, carpet, and spray-on insulating foams. While it has been argued that formaldehyde may be safe in small doses, it should be noted that anyone who has ingested formaldehyde is considered at risk of high blood acidity, rapid breathing, coma, and death. (Wikipedia, "Formaldehyde: Health Effects", November, 2006).