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Heart, Hope, Healing

Sugar is a Toxin

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The Straight Facts About Sugar

Sugar is essential for life but in very small, micronutrient doses, not in the massive quantities that average Americans consume. We were designed to manufacture all of the sugar our bodies need for energy production from a “real food” plant and protein-based diet. Take a look at diabetes, for example, an epidemic in our culture and cause of great human misery. Insulin resistance, the process that leads to diabetes in genetically susceptible over-consumers of sugar, was actually adaptive for our hunter-gatherer ancestors who did not feast on sugar. This physiological state was indeed necessary to their survival, when they would face long periods of time without access to plant-derived carbohydrates. Insulin resistance is what allowed them to survive when food was scarce, shunting all available sugar to the brain and vital organs. In today’s world, the abundance of sugar combined with insulin resistance is lethal. Sugar, in excess of our needs, is as toxic as any environmental chemical that we are exposed to. In fact, it has the opportunity to become the most ubiquitous and harmful toxin known to mankind due to its abundance and massive consumption by people worldwide.

Sugar Leads to Bad Health

Cane sugar and high fructose corn syrup (HFCS) are the sugars most associated with our current epidemic of obesity and related disorders such as high blood pressure, fatigue, liver disease, diabetes, arthritis and mood disorders. The average American consumes about 130 pounds of sugar per year. Most of this comes in the form of regular soft drinks sweetened with HFCS, sugars, candy, baked goods and fruit drinks. The average teenager consumes 2 HFCS-containing sports drinks daily.

High Fructose Corn Syrup is the Biggest Villain

All sugar in excess is bad, including that derived from “natural” sources such as honey, agave, maple syrup, fruit and starchy vegetables. While all sugar is bad in excess, likely the biggest villain is HFCS. Like table sugar, or sucrose, HFCS is made up of glucose and fructose in roughly equal amounts. Sucrose is one glucose molecule linked to one fructose molecule. The bond between them must be enzymatically broken in the digestion process before being absorbed and entering our circulation. HFCS is made up of free glucose and fructose, does not require digestion, is freely absorbed, rapidly making its way to the liver via the portal vein. There is no hormonal feedback associated with its consumption to control intake. So large quantities can be consumed without the usual signaling that alerts us about having had enough and it is rapidly converted into fat within the liver where it is dumped immediately after consumption.

HFCS is produced as a sweetener that is economical, stable and easy to add to processed food. It has become ubiquitously available in the industrial food supply and meets the needs of the developed world’s desire for a high degree of sweetness in its food and drinks. The problem is that we can now practically mainline sugar right into the liver. The liver tries its best to transform this sugar into fat to keep blood levels down and conserve it for the times of scarcity that never come. This makes us fat and sick. HFCS is found in highly processed, nutrient void foods and its composition is not regulated. It has been found to be a source of toxins such as mercury and other contaminants. HFCS is a really dangerous food.

Grains are Sugar

It’s important to consider the impact of processed grains in our discussion about sugar. Grain that has been pulverized to create flour products used in breads, cereals, crackers and other food products are digested very rapidly into sugar and absorbed into the body as such. The glycemic index (amount of sugar made available to the body by the food in comparison to table sugar, sucrose) is actually higher for processed grains than for sucrose itself. In addition, most modern grains have been extensively genetically altered to increase their carbohydrate content. So even “healthy” whole grains have high sugar contents and have joined the ranks of problematic foods.

Sugar in excess is a toxin which is why a great deal of physiological energy goes into keeping our blood levels stable. Glucose gloms onto proteins, all of our proteins, and changes their function. This is how the devastating end-organ complications of long standing diabetes evolve. Change of function gradually leads to irreversible damage and an upregulated immune response to the “advanced glycosylation end products” that are produced and sensed as foreign protein because their structure has been so completely altered from normal. Even in the absence of full-blown diabetes, there is inflammation creating havoc, aging, loss of reserve, and susceptibility to the whole host of age-related degenerative disorders.

Bottom Line

Sugar, like all food, is information. The message is abundance—abundance that leads to obesity, inflammation, vascular disease and much human suffering. It’s best to leave it alone.

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Karyn Shanks, MD, is a physician who lives and practices in Iowa City. Her work is inspired by the science of Functional Medicine, body-mind principles, and wisdom gleaned from the transformational journeys of thousands of clients over her twenty-five-year career. Her work honors each individual and the power of their stories, their inner wisdom, and innate healing potential. She believes that the bones of healing are in what we do for ourselves. She is the author of *Liftoff*, a manual of energy recovery and healing through essential self-care practices.

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