

Killer Sugar! Suicide With A Spoon

by Bill Misner, Ph.D.

Sugar, an aldehyde or ketone derivative of polyhydric alcohol, mostly shows up as either disaccharides($C_{12}H_{22}O_{11}$), or monosaccharides($C_6H_{12}O_6$) found in foods such as candy, fruit, salt, peanut butter, canned vegetables, bouillon cubes, medicines, toothpaste, vitamins, and almost all processed "fat-free" products.

The health dangers ingested sugar creates when habitually imposed upon human physiology are certain. Simple sugars have been observed to aggravate asthma, muster mental illness, move mood swings, provoke personality changes, nourish nervous disorders, hurry heart disease, deliver diabetes, grow gallstones, hasten hypertension, add arthritis, and on top of all of that...It will kill you!

Certain harmful refined dietary sugars (which are specifically discussed below) almost always turn directly into fat! Glucose, Fructose, Sucrose, Galactose, Maltose, and Lactose are digested and absorbed with such speed that the body must convert them into saturated fats. Saturated Fatty Acids are "sticky" by nature, and, when introduced into the vascular system, clog arteries, increase the chance of stroke, diabetes, and definitively decrease athletic performance.

High Sugar Intake Corrupts Muscle Performance And Impedes Strength Development Dramatically!

Muscle mitochondrial cells (internal energy cell units that produce muscle movement) breakdown 6-carbon glucose molecules for all muscle energy. One of the byproducts of the energy cycle is a 2-carbon acetate, vinegar.

Acetates form the building blocks for cholesterol. If Acetates are produced faster than they can be burned, enzymatic reactions within our cells "Join" Acetates end-to-end to make excess cholesterol and saturated fat, which makes red blood cells sluggish, sticky, and inefficient, deposits excess saturated fatty acids around organs and in subcutaneous skinfolds, or, deposits clogs of cholesterol within the vascular system, impeding blood transport of vital nutrients and oxygen to peripheral muscle cells.

Unfortunately for those of us who enjoy the moment of sweet taste, this process tends to go one way, i.e. sugar transforms to fat; but fat tenaciously tends to remain as fat deposits, and only severe starvation or extreme caloric expenditures will mobilize it as a burnable fuel source.

Most of our organs burn off fat for their fuel needs, which is why master's aged athletes store more fat around organs than do younger athletes, simply from the passing of time and the nature of human physiology.

The brain, as an organ, commands a pre-eminent role in the sugar equation. Human survival and efficient maximal performance depends upon this organ's need for specific fuels such as glucose, glutamic acid, or ketones to be constantly supplied.

If glucose is absent, low from a dietary insufficiency, or perhaps from high caloric expenditure during intense muscular exercise, the body must harvest or convert it from two tissue stores: amino acids found in lean muscle mass, or chemistry from the adrenal glands (activity/secretion) initiates a conversion process which transforms liver and/or muscle glycogen stores into glucose.

A diet high in refined carbohydrates stimulates an abnormal pancreatic insulin response in order to moderate blood sugar levels, while high sugar intake may also increase adrenal cortisone and cholesterol levels fourfold. Constant high intake of simple dietary sugar over-stimulates or "burns out" normal, healthy pancreas and adrenal function.

Sub-normal or lackluster performance of these two important endocrine glands leads directly to adult-onset diabetes, cardiovascular complications, hypoglycemia, and chronic fatigue. The direct result of high sugar intake is a significant increase in blood serum saturated fatty acids, which depresses the oxygen transport system dramatically during athletic performance.

Red blood cells stick together and move slower, delaying delivery of much needed oxygen to muscle cells. Cellular hypoxia is the constant companion of numerous degenerative diseases previously mentioned.

Because refined dietary sugars lack vitamins and minerals, they must draw upon the body tissue micronutrient stores in order to be metabolized into the system. When these storehouses are depleted, metabolization of fatty acid and cholesterol are impeded, contributing to higher blood serum triglycerides, cholesterol, promoting obesity due to higher fatty acid storage around organs and in subcutaneous tissue folds.

Increased obesity contributes to increased cholesterol levels by lowering resting metabolism. A lower resting metabolic rate has been implicated directly to feelings of fatigue or lack of energy, increased rate of aging, arthritis, and coronary heart disease. Athletes need a high metabolic rate for a minimal body fat percentage and explosive energy expenditure upon demand.

Little Sugar Can Cause All Of That?

Dietary sugars feed harmful intestinal yeasts, fungi, toxic organisms, and all forms of cellular cancer. Sugar and Vitamin C utilize the same transport system, but not at the same time! If Vitamin C is disabled from reaching tissue folds

where it is needed to control or eradicate the virus, fungi, or cancerous organisms that feast on sugar, they will multiply exponentially.

It is very important that the first four steps during the hydrolysis process of Vitamin C are allowed transportation in maximum dose for tissue antioxidation and restoration of cells damaged by intense workouts or accumulated daily stress.

Dietary sugars have been observed to cross-link proteins, which leads to increased skin fold wrinkles and general aging of our largest vital organ, the skin. Because sugar is devoid of vitamins, minerals, fiber, and has such a deteriorating effect on the endocrine system, major researchers and major health organizations (American Dietetic Association and American Diabetic Association) agree that sugar consumption in America is one of the three major causes of degenerative disease.

In the last 20 years, we have increased sugar consumption in the USA 26 pounds to 135 lbs. of sugar per person per year! Prior to the turn of this century (1887-1890), the average consumption was only 5 lbs. per person per year! Cardiovascular disease and cancer was virtually unknown in the early 1900's.

When one compares the rates of degenerative diseases to the rates of total fat consumption, sugar consumption and altered fat consumption during the past 100 years, altered fat is #1, sugar is #2, and total fat is #3.

Where It Comes From And How Dangerous It Is There are 5 classes of simple sugars which are regarded by most nutritionists as "Harmful" to ideal health and optimal athletic performance when prolonged consumption in amounts above 15% of the carbohydrate calories are ingested. Sucrose, fructose, honey, and malts are the classes reviewed in order of the real and present dangers they impose on our health and therefore physical performance.

Sucrose Class: Public Enemy #1!

Sucrose is found in almost all processed foods such as plain table sugar, dextrose, raw natural sugar, blackstrap molasses, maple syrup, or sorghum molasses. Taken from sugar beets or sugar cane, this disaccharide is composed of glucose and fructose. Because it contains NO vitamins or minerals it must rob them from the body in which it is assimilated, (like a parasite leaching the "life" from its victim).

Dextrose, D-glucose monohydrate, is a monosaccharide known as glucose, and comes from the hydrolysis of cornstarch, and is found as a prime ingredient in many processed foods. Dextrose is mentioned in the Sucrose Class because it acts very much like the vitamin-mineral parasite, sucrose; in order to be

assimilated after digestion, it must rob the body of its valuable micronutrient stores.

Raw or Natural Sugar is a white sugar that is also mostly sucrose. While it costs more than sucrose, raw/natural sugar is 96% less-processed sucrose, as compared to the purified/bleached table sugar's 99% sucrose content. The empty calories from this so-called natural product perform exactly the same as sucrose.

Blackstrap Molasses is made from the "liquid leftovers" of processed table sugar (sucrose). It does contain small amounts of iron, calcium and B vitamins, but this token "good" is offset with 65% sucrose content.

An extraction process performed on sorghum stalks makes sorghum Molasses. Unless this molasses produce is enzyme treated and heated, it will ferment very rapidly. However, this process "kills" the small amount of vitamins and minerals which pass through the initial extraction process, allowing only a small amount of dietary iron and pesticide spray to act as companions to its "sweet" 65% sucrose solution.

Maple Sugar or Syrup also contains 65% sucrose content. Several processing techniques cause lead contamination: such as boiling the maple sap in lead buckets, which allows lead to leach into the syrup or sugar-finished product for market.

Formaldehyde pellets placed in the sap holes in maple trees to keep the sap flowing often leach into the sap and the final product. Other "nasties" found in maple syrup/sugar products are chemical anti-foaming agents, polishing chemicals, and animal fats. Add cooking the sap over oil fires in lead buckets and your final product becomes a delectable sweet-tasting yummy laced with poisons!

Fructose Class: A Not-So-Distant #2...

Fructose is "natural" only when found in fresh fruits that contain all the enzymes, vitamins, and minerals to effectively assimilate it as a rich nutrient for human consumption. About 20 times sweeter than table sugar, processed fructose is used as an additive to sweeten all sorts of packaged foods.

Without enzymes, vitamins, and minerals, it, like the sucrose class, robs the body of its micronutrient treasures in order to assimilate itself for physiological use. As a sweetener additive, enzymes are added to corn syrup starch, which produces "High Fructose Corn Syrup" (always check ingredient lists on all labels).

Fructose does not raise blood sugars significantly, but does raise blood serum triglycerides significantly! As a left-handed sugar, fructose digestion is very low.

For complete internal conversion of fructose into glucose and acetates, it must rob ATP energy stores from the liver.

Processed, metabolized, and converted to small glycogen stores (by the liver for itself and the muscles) digestion is hindered, blood serum triglycerides are raised, body stores of vitamins, enzymes, minerals, and liver stores of ATP are scavenged from the body so that the "eater" may enjoy a moment of sweet taste.

Honey Class: A Surprise #3

Even "Natural Honey" May Only Befriend The Bees! It is no wonder that the honey bear is the only animal found in nature with a problem with tooth decay (Honey decays teeth faster than table sugar)!

Honey has the highest calorie content of all sugars with 65 calories per tablespoon, compared to the 48 calories found in table sugar! The increased calories are bound to manifest increased blood serum fatty acids, and weight gain, on top of the likelihood of more cavities.

Pesticides (carcinogens) used on farm crops and residential flowers have been found in commercial honey. Honey can be fatal to an infant whose immature digestive tracts are unable to deal effectively with Botulinum Spore growth.

What enzymes or nutrients raw honey contains are destroyed by manufacturers who heat it in order to give it a clear appearance for enhancing \$ale\$. Some beekeepers feed their bees sugar water for enhanced production and flavor, while others add sugar syrup to the product for the same ridiculous reason.

The Three "Tols": Xyli, Sorbi, & Manni, #4.

Xylitol is extracted from birch cellulose and is considered to be a carbohydrate alcohol. While it has the same amount of calories as sucrose, it metabolizes in a dissimilar manner and may be used safely for diabetics and hypoglycemics. Bacterial salivary organisms do not feed, grow or ferment on xylitol as they do on other simple aforementioned sugars.

"Sugar-Free" chewing gum contains xylitol because it does not produce the bacterial support for increase of cavity causing acids. Studies show that prolonged use or large intake may produce the following side effects: weight gain similar to that associated with high/prolonged sucrose intake, diarrhea, tumor growth, and liver/kidney/brain dysfunction. Many manufacturers have withdrawn xylitol from their product formulation!

Sorbitol and Mannitol are industrial sweet alcohols made from hydrogen and commercial glucose, extracted from corn sugar. Slow absorption makes them attractive for use in "sugar-free" gums and candies. Both are known to nourish

and increase the count of mouth bacteria, namely Streptococcus Mutans that tend to stick to the teeth.

When other sugars are eaten, these bacteria proliferate, manifesting the perfect chemistry for increasing the rate of tooth decay beyond the normal rate. While research has not documented this conjecture, some believe that carcinogenic or mutagenic properties may be consistent with the behavior of this altered nutrient.

Perhaps the stomach has already testified to this: gastric distress, diarrhea, or laxative effects, as each 1-2-3 will result with prolonged or high dietary intake.

Malt Syrup Class: Last And Least, #5.

Most Malt Syrups added for sweetening flavor do elevate blood sugar/triglycerides response. Many rice syrups, rice honey, and other malt sugars have significant amounts of glucose, maltose, and corn syrup ADDED to heighten their sweetness index.

Unfortunately, such formulation creates a blood serum response similar to sucrose and "robs" vital enzymes, minerals, and vitamins from the body for digestive assimilation. Only 100% Barley Malt Syrup has a minimal effect on internal healthy physiology, but its expense may be prohibitive for most at just under \$1.00 per ounce!

Simple sugars in reasonably lenient amounts are safe sugars IF they have enough fiber, enzymes, and vitamins/minerals to moderate their effect on absorption, blood chemistry, and viable assimilation into the energy cycle in order to support both health and dynamic muscular development.