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Hype-Free Sassy Sweeteners

Your Guide to Understanding Sweeteners

Most of my patients have questions about sugar and natural sugar alternatives. Increased sugar consumption is a contributing factor to behavioral challenges, and it is a leading cause of many other health conditions as well. Because you might have chronic sinusitis, migraines, headaches or back pain, it is very important for you to understand why you need to be a label reader.

The average American consumes 149 pounds of refined sugar each year. If your body were to convert this, it would add 79 pounds of fat. By calculating the amount of sugar that comes from soda consumption, it is easy to see why our children are in a diminished state of health. Most Americans eat too much refined sugar, which travels through your mouth and stomach tissues right to your bloodstream. This wreaks havoc on your blood sugar levels and your immune system.

Our human instinct to seek sweeteners is so strong that an unborn baby will make swallowing motions when its mother is injected with a sweetener. Our intense instinct for sweeteners causes us to seek out sweet breast milk. Even in adulthood, sugar continues to be a common craving. How many of you had

something sweet to eat within the last 24-48 hours? If not, do you plan on having something sweet very shortly?

Sweet, appealing foods have become hopelessly intertwined with pleasure and euphoria. These foods are alluring, symbolizing reward or comfort. After a hard day at work or school, devouring a candy bar seems to be a valid reward (or a survival mechanism). Sugar causes our brains to release endorphins, a "feel good" chemical. Yet, it is not white sugar or derivatives that your body wants—it wants complex carbohydrates that are as whole as mother's milk.

All sugars are not created equal. Some would say there is no differentiation between natural or refined sugars because our bodies use both for energy. Sugars can be either simple or complex carbohydrates. Natural sugars are almost always complex carbohydrates; white (or refined) sugars are almost always simple carbohydrates. Complex carbohydrates (like those in beans, fruit, vegetables and whole grains) are made of long chains of simple sugar. Your body digests them more slowly and provides your blood with a more balanced sugar supply. Whatever sugar your body doesn't immediately need is stored in your liver as glycogen, an energy reserve for a rainy day.

You cannot have fat breakdown or fat metabolism with elevated insulin levels.

White sugar is a human invention, not a gift from nature. In 1795, Louisiana farmers devised a cheaper way to granulate sugar on a large scale, which made white sugar available to the masses.

Complex carbohydrates give you all the energy you need. When you are looking for something to satisfy your sweet tooth, however, turn to natural sweeteners like rice and barley malt syrups that are 50 percent complex carbohydrates. Our body's digestive enzymes break these two types of sugars down to glucose, a sugar that the body uses for energy.

The difference between simple and complex carbohydrates is how quickly each enters the blood stream and how each affects insulin in blood sugar levels, a real key to the reason I believe we have major problems with obesity in our society today.

Here is an example of the vicious cycle of refined sugar cravings:

First: Energy rush. Simple sugars go directly into your bloodstream, giving you a temporary high.

Second: There is a pancreatic panic. You may be feeling good, but your high blood sugar is causing your pancreas to scream "DANGER!" There is an enormous response from your pancreas. It dumps huge amounts of insulin into your blood, bringing your blood sugar level down again.

Third: This rush of insulin causes a fast crash. Blood sugar levels swing too low too fast, leading to the sugar blues (leaving one with fatigue and irritability and perhaps a hyperactive response).

You are trapped in a sugar rush cycle. Your energy crash will stimulate your need for another sugar rush to elevate your energy to normalcy. The vicious cycle continues…

There are long-term health hazards associated with refined sugar. Remember, sugar depletes your body of essential minerals and B vitamins. Refined sugar is actually a stripped carbohydrate. When sugar cane—the raw material for sugar—is turned into refined sugar, it is depleted of minerals and nutritional elements. Eating a depleted or stripped carbohydrate forces your body to use its own vitamins and minerals for digestion. Over time, excessive consumption of refined sugars can lead to nutritional deficiencies and serious problems like **osteoporosis**, gum disease and arthritis.

Your body can't produce enough digestive enzymes without the right balance of minerals and B vitamins. Compensating for

your sweet tooth by consuming extra healthy foods may be a losing battle since your body is no longer digesting or assimilating food efficiently. **This is another real challenge for children with hyperactivity, since they are already consuming food that is nutritionally stripped.**

Notice

☑ **Eating sugar puts stress on digestion**
☑ **Poor digestion can lead to allergies**
☑ **Sugar consumption results in poor health**

Sweeteners To Avoid

☑ What about other refined sugars? **Brown sugar** is simply refined sugar that is sprayed with molasses to make it appear more whole. **Turbinado sugar** gives the illusion of health, but is just one step away from white sugar. Tubinado is made from 95 percent sucrose (table sugar). It skips only the final filtration stage of sugar refining, resulting in little difference in nutritional value.

☑ **Corn syrup** is found everywhere. It is used in everything from bouillon cubes to spaghetti sauce and even in some "natural" juices. Corn syrup processed from cornstarch is almost as sweet as refined sugar and is absorbed quickly by your blood. Corn-derived sweeteners pose other problems: they often contain high levels of pesticide residues that are genetically modified and are common allergy producers. This is a cheap and plentiful sweetener often used in soft drinks, candy and baked goods. Corn syrup is very similar to refined sugar in composition as well as effect.

☑ **Aspartame**, which is a common synthetic sweetener, affects the nervous system and brain in a very negative way. Aspartame is made from two proteins, or amino acids, which gives it its super sweetness. Aspartame has many harmful effects: behavior changes in children, headaches, dizziness, epileptic-like seizures and bulging of the eyes to name a few. Aspartame is an

"excitotoxin", a substance that over stimulates neurons and causes them to die suddenly (as though they were excited to death). One of the last steps of aspartame metabolism is formaldehyde. The next time you consume diet soda, think. You are literally embalming yourself. **I WOULD AVOID SPLENDA, ALSO!**

☑ **Sucrose** is found in white sugar and maple syrup. Sucrose requires very little digestion and provides instant energy followed by plummeting blood sugar levels. It stresses the entire body system.

☑ **Glucose** is also called dextrose. When combined with sucrose, glucose subjects your blood sugar to the same up and downs. In whole food form—in starches like beans and whole grain breads; they are also rich in soluble fiber—glucose takes longer to digest, resulting in more balanced energy.

☑ **Sorbitol, Mannitol & Xylitol** are synthetic sugar alcohols. Although these can cause less of an insulin jump in glucose to sugar, many people suffer gastric distress. You see these sugars listed as ingredients in foods.

☑ **Unrefined cane juice.** This is sugarcane in crystal form. Nothing more, nothing less. Unrefined cane juice is brown and granulated, contains 85 percent to 96.5 percent sucrose, and retains all of sugarcane's vitamins, minerals and other nutrients. Cane juice has a slightly stronger flavor and less intense sweetness than white sugar. Look for the brand names Sucanat® and Florida Crystals®.

☑ **Crystalline fructose.** This refined simple sugar has the same molecular structure as fruit sugar. It's almost twice as sweet as white sugar, yet releases glucose into the bloodstream much more slowly. Extra sugar gets stored in your liver as glycogen instead of continuing to flood your bloodstream. Thus, crystalline fructose appeals to diabetics and hypoglycemics.

Star Sweeteners

The Best of the Naturals

Become sugar savvy! The term "natural," as applied to sweeteners, can mean many things. The sweeteners recommended below will provide you with steady energy because they take a long time to digest. Natural choices offer rich flavors, vitamins and minerals, without the ups and downs of refined sugars.

Sugar substitutes were actually the natural sweeteners of days past, especially honey and maple syrup. Stay away from man-made artificial sweeteners including aspartame and any of the "sugar alcohols" (names ending in "ol"). In health food stores, be alert for sugars disguised as "evaporated cane juice" or "cane juice crystals." These can still cause problems, regardless what the health food store manager tells you. My patients have seen huge improvements by changing their sugar choices.

- ☑ **Brown rice syrup.** Your bloodstream absorbs this balanced syrup, high in maltose and complex carbohydrates, slowly and steadily. Brown rice syrup is a natural for baked goods and hot drinks: it adds subtle sweetness and a rich, butterscotch-like flavor. To get sweetness from starchy brown rice, the magic ingredients are enzymes, but the actual process varies depending on the syrup manufacturer. "Malted" syrups use whole, sprouted barley to create a balanced sweetener. Choose these syrups to make tastier muffins and cakes. Cheaper, sweeter rice syrups use isolated enzymes and are a bit harder on blood sugar levels. For a healthy treat, drizzle gently heated rice syrup over popcorn to make natural caramel corn. Store in a cool, dry place.
- ☑ **Devansoy™** is the brand name for powdered brown rice sweetener, which contains the same complex carbohydrates as brown rice syrup and a natural plant flavoring.

☑ **Barley malt syrup.** This sweetener is made much like rice syrup, but it uses sprouted barley to turn grain starches into a complex sweetener that is digested slowly. Use barley malt syrup to add molasses-like flavor and light sweetness to beans, cookies, muffins and cakes. Store in cool, dry place.

☑ **Amasake** is an ancient, oriental whole grain sweetener made from cultured brown rice. It has a thick, pudding-like consistency. Baked goods benefit from amasake's subtle sweetness, moisture and leavening power.

☑ **Stevia** is a sweet South American herb that has been used safely by many cultures for centuries. Extensive scientific studies back-up these ancient claims to safety. However, the FDA has approved it only when labeled as a dietary supplement, not as a sweetener. Advocates consider stevia to be one of the healthiest sweeteners as well as a tonic to heal the skin. Stevia is l50 to 400 times sweeter than white sugar, has no calories and can actually regulate blood sugar levels. Unrefined stevia has a molasses-like flavor; refined stevia (popular in Japan) has less flavor and nutrients.

☑ **Fruitsource®.** This brand-name sweetener combines the sweetness of grape juice concentrate with the complex carbohydrates of brown rice syrup. *FruitSource* is light amber in color and 80 percent as sweet as white sugar. *Liquid Plus*, a similar product, better matches the sweetness of white sugar. Look for *FruitSource* in liquid and granulated form. Whichever form you choose, the options are better for your blood sugar than refined sugar!

☑ **Whole fruit.** For baking, try fruit purees, dried fruit and cooked fruit sauces or butters. The less water remaining in a fruit, the more concentrated its flavor and sugar content. You'll find fiber and naturally-balanced nutrients in whole fruits like apples, bananas and

apricots. To add mild sweetness and moisture to baked goods, mix in the magic of mashed winter squashes, sweet potatoes and carrots!

☑ **Fructose** in whole foods provides balanced energy.

☑ **Honey.** It takes one bee an entire lifetime to produce a single tablespoon of honey from flower nectar. But that small amount goes a long way! Honey is mostly made of glucose and fructose and is up to twice as sweet as white sugar. Honey enters the bloodstream rapidly. Look for raw honey, which still contains some vitamins, minerals, enzymes and pollen. Honeys vary in color (according to their flower source) and range in strength from mild clover to strong orange blossom. A benefit of eating honey produced in your geographical region is that it may reduce hay fever and allergy symptoms by bolstering your natural immunity. Note: raw honey can lead to a toxic, sometimes fatal form of botulism in children under one. Limit honey consumption, as it results in similar results as sucrose.

☑ **Maltose** is the primary sugar in brown rice and barley malt syrups. Maltose is a complex sugar that is digested slowly. It is the sugar with "staying power."

☑ **Maple Syrup.** It takes about 10 gallons of maple sap to produce 1 gallon of maple syrup. Like honey, a little goes a long way. Maple syrup is roughly 65 percent sucrose and contains small amounts of trace minerals. Maple syrup has a rich taste and is absorbed fairly quickly into the bloodstream. Select real maple syrup that has no added corn syrup. Also, look for syrups that come from organic producers who don't use formaldehyde to prolong sap flow. Grade A syrups come from the first tapping: they range in color from light to dark amber. Grade B syrups come from the last tapping; they have more minerals and a stronger flavor and color.

☑ **Date sugar.** This sweetener is made from dried, ground dates, is light brown and has a sugary texture. Date sugar retains many naturally-occurring vitamins and minerals, is 65 percent sucrose and has a fairly rapid effect on blood sugar. Use it in baking instead of brown sugar, but reduce your baking time or temperature in order to prevent premature browning. Store in a cool, dry place.

☑ **Concentrated fruit juice.** All concentrates are not created equally. Highly-refined juice sweeteners are labeled "modified." These sweeteners, similar to white sugar, have lost both their fruit flavor and their nutrients. Better choices are fruit concentrates that have been evaporated in a vacuum. These retain rich fruit flavors and aromas and many vitamins and minerals. Carefully read labels on cereal, cookie, jelly and beverage containers, then choose products with the highest percentage of real fruit juice. Beware of white grape juice concentrates that aren't organic; their pesticide residues can be high!

☑ **Blackstrap molasses.** Molasses, a by-product of sugar production, is a highly-processed simple sugar that enters the bloodstream rapidly. Molasses may also contain chemical residues associated with the growing and refining of white sugar. If you grew up on conventional molasses, your taste buds may have to adjust to the softer bite of **blackstrap molasses, which contains high amounts of balancing minerals such as calcium, iron, potassium, magnesium, zinc, copper and chromium.** Use it as a sweetener in cakes, pies and cookies. Barbados molasses is sweeter and more syrupy than blackstrap; it is perfect for baking but lacks blackstrap's minerals. **(Note: Diabetics should not use any type of molasses.)**

Sugar Substitution

Amount Indicates the Equivalent of 1 Cup of White Sugar

Sweetener	Amount	Liquid Reduction	Suggested Use
Honey	1/2 - 2/3 cup	1/4 cup	All-purpose
Maple syrup	1/2 - 3/4 cup	1/4 cup	Baking & desserts
Maple sugar	1/2 - 1/3 cup	None	Baking & candies
Barley malt syrup	1 - 1 1/2 cups	1/2 cup	Breads & baking
Rice syrup	1 - 1/3 cups	1/2 cup	Baking & cakes
Date sugar	2/3 cup	None	Breads & baking
Blackstrap Molasses	1/2 cup	1/4 cup	Breads & baking
Fruit juice concentrate	1 cup	1/3 cuup	All-purpose
Stevia	1 tsp/cup of water	1 cup	Baking

(Note: If you have a serious blood sugar regulation problem, such as diabetes or hypoglycemia, see your Health Care Practitioner to determine the type and amount of sweeteners your body can handle.)

See Recipes in Chapter 19