

Update and Caution on The Sugar Fix Report.

This report has some important updates to pay attention to. Specifically, the role of glucose, which the author of *The Sugar Fix* says is benign. Fructose is the culprit in his study of sugar.

My naturopath, Dr. Kevin Jackson, corrected me when I mentioned it. He pointed to studies he has access to showing glucose to be a culprit as well.

Further study of the Ketogenic Diet points out that the burning of ketones by the body instead of glucose has produced vibrant health for many.

With that in mind, here is the Special Report on The Sugar Fix.

-Matti

Are You Five Times More Likely to Develop Type 2 Diabetes and Twice as Likely to Have a Heart Attack?

[Take This Short Quiz and Find Out!](#)

“Metabolic Syndrome” is a Major Threat to Human Health AND it Gives You Advance Warning “Signs” of Dis-ease. Ignore it at Your Peril.

Metabolic syndrome is a collection of signs that indicate the body is at risk.

There are 5 signs of metabolic syndrome.

If you score at least 3 points out of 5 on this quiz, then you have metabolic syndrome and *your chances of heart attack double and chance of type 2 diabetes quintuple!*

(But don't panic, there ARE simple, effective and powerful solutions.)

Abdominal obesity. American Heart Association guidelines for this. For men, a waist 40 inches or more and for women, 35 inches or larger. **If that is you, add one point.**

Elevated triglycerides. Most of the fat in your body is in the form of triglycerides. When you eat more calories than you burn off, your liver converts the extra fuel into triglycerides, which are then stored in the fat cells for later use as energy.

You have this sign if your fasting triglycerides are over 150 milligrams per decilitre or higher or you take medication to lower elevated triglycerides. **Add one point.**

Low HDL cholesterol. HDL cholesterol carries cholesterol away from the arteries and back to the liver, which disposes of it. High HDL levels protect against cardiovascular disease while low levels encourage narrowing of arteries which precedes most heart attacks and strokes.

Add one point if:

Men: Your HDL is lower than 40 mg/dl

Women: Lower than 50 mg/dl. Or

you take medication to increase HDL.

High blood pressure. AHA guidelines: **Add one point if:**

Your systolic pressure, the top number, is 130 mm HG or greater and/or

Your diastolic pressure, the bottom number, is 85 mm Hg or greater or

You take medication to treat high blood pressure.

Elevated blood glucose. The carbs you eat break down into simple sugars like glucose and others before they get to the bloodstream. These simple sugars are the body's main source of fuel. When the body has what is called insulin resistance, cells are not able to absorb glucose from the blood. Insulin resistance precedes type 2 diabetes. Chronically elevated blood glucose is a sign of insulin resistance and can lead to diabetes complications such as blindness and nerve damage.

Add one point if

Your fasting blood glucose is 100 mg/dl or higher or

You take medication to lower blood glucose.

3 points or more indicate that you have metabolic syndrome.

Special blood tests showed that the participants' insulin became 25 percent less effective over the course of one week...This (and other studies) suggests that the rise in blood glucose that occurs when you eat a lot of starchy foods isn't necessarily harmful.

*What really matters is whether the cells in the body's tissue become resistant to insulin's effects. This is what happens when you gain weight, and it's what causes type 2 diabetes. **The science is clear on this point: Neither high glucose intake nor high blood glucose levels cause insulin resistance.**" (The Sugar Fix, by Dr. Richard Johnson)*

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*(My naturopath rightly pointed out that the Danish study was too small a sample to extrapolate to the general population. Back to our report.):*  
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Dr. Johnson's research indicates that overloading on fructose may slowly raise your risk for heart disease and diabetes...not just a larger waistline. A high fructose diet can develop a condition called *insulin resistance*.

Insulin resistance causes type 2 diabetes. And, again, a high starch diet by itself, without fructose, does *not* cause insulin resistance.

The Simple Test That Can Predict Heart Attack, Weight Gain and Diabetes...A Test Doctors Do Not Routinely Ask For!

"Turning Sugar Into Fat

It may seem odd that eating fructose, which is a carbohydrate, raises levels of a fat. But your body is constantly converting one compound into another to suit its needs. In the case, the transformation occurs in the liver, where most fructose ends up after a meal. The sugar is processed by an enzyme known as fructokinase, which breaks down fructose into smaller components. Your body uses these smaller parts to make either glycogen (the form glucose takes when it is stored) or triglycerides."

A **high uric acid level in your blood** is the indicator and it is a test Dr. Johnson says *was a standard test until the 1980s, when we switched our attention to cholesterol.* His benchmark is, for men: 5.5 mg per dl and for women 5.0 mg per dl or lower.

Even if you are not overweight, excess uric acid can damage fat cells through what is called **oxidative stress**.

Uric Acid Link to High Blood Pressure

Studies conducted by Dr. Johnson and his colleague Dr. Feig, as well Turkish and Egyptian studies link uric acid and high blood pressure.

What Else is Bad About Uric Acid

It shuts down production of nitric oxide, which means blood vessels cannot relax and dilate, which raises blood pressure.

As early as the 19th Century, a Dr. Alexander Haig at London's Metropolitan Hospital linked uric acid to high blood pressure, diabetes, gout, anemia, asthma, bronchitis, depression, epilepsy, kidney disease and rheumatoid arthritis.

His book **Uric Acid as a Factor in the Causation of Disease** was very popular and reissued several times.

Oxidative Stress

This is where free radicals damage tissue. Free radicals are unstable particles that are missing electrons.

They try to steal electrons from anything in its path. They can oxidize cholesterol, which then can clog arteries.

This appears to be the problem with cholesterol...**Oxidation!**

(This is **the clinical definition of stress**: not necessarily muscular stress which you can feel, but blood vessels which are unable to contract and expand. This is silent and can't be felt and therefore all the more dangerous.)

Uric acid also produced subtle damage to the kidneys, by causing them to retain sodium. Higher blood pressure is also the result here.

Here's some good news:

If You Are Overweight, It's Not Your Fault!

It's **not** because you don't have discipline or self-restraint or backbone!

So, if on some level, you have not been able to lose weight and are beating yourself up for it, **stop right now!**

There is evidence, persuasive evidence, that fructose "tricks" your body into gaining weight and keeping that weight on.

This evidence shows:

* fructose makes food tastier,

* **fructose does not trigger the hormone that controls appetite!!**

* over time, too much fructose may **block** your body from responding to the hormone that controls appetite...*even when you eat foods that don't contain fructose,*

* fructose damages healthy fat cells, causing them to fill up with excess fat,

* fructose raises critical enzymes, which exaggerates the effect of even small amounts of fructose,

* and fructose may alter how efficiently your body burns calories.

OK, so why don't I just cut back on sugar and solve the problem?

Cutting back on fructose will NOT reverse this process!

Here is why.

Fructokinase or fructose enzyme turns fructose into energy. But there is a price to pay: burning fructose generates uric acid.

If you eat large amounts of fructose (and most of us do...see sugar consumption sidebar), your body responds by producing large amounts of fructose enzymes.

This makes your cells highly sensitive and your body produces a lot of uric acid every time you eat fructose.

It's as if ***your body is stuck in high gear*** producing this fructokinase...this cascades into producing high amounts of uric acid.

Now, when the body is “stuck in high gear” producing fructokinase, **even a small amount of fructose will continue this production.**

Sugar consumption:

William Dufty, in his 1970s book “Sugar Blues” detailed how the Arabs used sugar as a medicine. If a patient did not respond to all the other remedies, he was given 2 or 3 grains of sugar to effect a cure and it is recorded, it often worked.

Sugar (sucrose is a pure chemical (C12, H22, O11), with a powerful effect on the human body. Around 1900, we were consuming about 90 pounds of sugar per year per capita. By the 70s, Dufty found we were up to about 110 pounds.

Now, with the super size drinks and sugar, or worse, High Fructose Corn Syrup, in many prepared foods, we are up to about **150 pounds per year per capita.**

The Solution?

So, the solution is ***a two week fructose-free diet.***

That enables the body to turn off the massive overproduction of fructokinase.

I'll get to the solution shortly. First, a few more reasons to “get straight” with your relationship with fructose.

And, by the way, you ***will*** be able to eat fructose again...just in moderate doses.

How Fructose Makes You Age Faster

Advanced Glycation End Products (AGEs) damage collagen, the material that makes up 30% of the protein in your body.

Collagen is the main component of the connective tissue in ligaments, tendons, blood vessels, cartilage, organ walls and the inner portion of bones.

Lots of AGEs also can mean more *oxidative stress* and *inflammation*.

Israeli researchers showed faster aging in lab rats with more AGEs as a result of drinking fructose laced water.

“..research suggests that fructose is up to 10 times more efficient at producing AGEs.” (-Sugar Fix, Dr. Richard Johnson)

Got that? Up to 10 times more AGEs = faster aging.

Fructose Makes You Dumber?

A 2007 study showed that people with high uric acid tested poorly for cognitive skills. A Johns Hopkins University study showed that those with high uric acid were up to five times more likely to score below average on memory tests.

The study also showed potential damage to small blood vessels. This may contribute to vascular dementia, the second most common form of dementia after Alzheimer's disease.

Not enough yet for you to take action? I am writing this for you in hopes that you take action and improve your health.

That's why I am harping on so many negatives here.

Bear with me...solutions shortly.

I just want to make sure you are **truly motivated**.

Gout and Fructose

If you know anyone with gout, you know it can be painfully debilitating.

Fructose is sometimes called “fruit sugar” and is in high quantities in fruit, some fruits more than other.

One study shows that person who eats just one apple or orange a day is 60% more likely to develop gout than a person who eats no fruit.

Whoa, hold on, don't panic and throw out the baby with the bath water.

I know what you may be thinking: “That's it. This guy has lost it. I know fruit is good for me. Now, he's telling me not to eat fruit. That goes against everything I have heard, read and even instinctively know.”

No one is suggesting you should not have fruit as part of a healthy diet.

We will explore this more in the solution section.

Kidneys

Yes, you guessed it: lab animals developed kidney disease when fed large amounts of fructose.

Your Liver

Lab rats fed a high fructose diet developed fatty liver or Non Alcoholic Fatty Liver Disease (NAFLD).

NAFLD is actually common in people with metabolic syndrome and the link is actually again supported by science.

Your Digestion

Some people don't absorb fructose as well as others. For them, they may develop Irritable Bowel Syndrome or IBS. A 2006 study found that 74% of IBS patients who cut back on fructose found relief of symptoms.

The Big C: Cancer

Dr. Johnson indicates the evidence is not clear on fructose causing or contributing to cancer.

But Dr. Simoncini in Italy claims from his research that “Cancer is a Fungus.” (The name of his book) And that sugar feeds the fungus.

Your Eyes

A Canadian study shows that rats given fructose were more likely to develop cataracts.

Your Teeth

Fructose is a carbohydrate. Bacteria in your mouth thrive on all carbs. The bacteria eat the carbs and produce acid that eats away at your teeth. Citric acid, incidentally also erodes the enamel of the teeth. So, citrus fruit can contribute to tooth decay as well. Be sure to at least rinse after eating carbs or citrus fruit.

Other Ways to Decrease Uric Acid

A diet rich in fructose causes the body to continually produce uric acid...*even when you eat just a small serving of fructose.*

But, there are other ways uric acid is produced.

Purine Rich Foods to Stay Away From or at least strictly limit.

These are the foods highest in purines:

Beer (sorry beer lovers), Brewer’s yeast, anchovies, clams, herring, lobster, mackerel, mussels, oysters, sardines, scallops, shrimp. Meat and poultry: organ meats, meat extract, gravy, game meats, goose and mincemeat.

Moderately high purine foods: Salmon, tuna, most beef, pork, lamb, beef soup and broth, pheasant, asparagus, cauliflower, green peas, mushrooms and spinach.

Sustained vigorous exercise also creates uric acid in the body.

Marathon running and cycling are two examples.

A study of 38 men in a 230 kilometre race in the Austrian Alps showed a 42%

They *do* want to control insulin production.

For others, focusing on the Low Fructose Lifestyle is more important.

There are two phases to this solution.

Phase One: A two week period of next to no fructose at all. This is designed to reduce the fructose enzymes (fructokinase) in your body. You will recall that once the fructokinase production is ramped up, it's like the accelerator in the car is stuck on full throttle. Therefore, we need a drastic measure to unstick the throttle.

Two weeks without fructose has been shown to do that.

Phase Two: Following that initial two weeks, we can adopt a Low Fructose Lifestyle, where we can eat foods with fructose in moderate amounts. Instead of counting calories, we will be counting fructose grams. The goal will be to keep our diets below 25-35 grams a day.

Phase One

Goal: Keep fructose consumption to absolute minimum, lower uric acid level in the body and lower the amount of fructose enzyme in the body.

There is no counting of calories, carb grams or fat grams. All we count is grams of fructose...and that count, for two weeks, is zero!

Avoid High Fructose Foods:

Fruit, fruit juices, sugars in all varieties, honey, soft drinks, candy, cookies, cakes, pies, other baked goods.

You will have to be careful to read all labels. Many prepared foods contain High Fructose Corn Syrup (HFCS), to be avoided during Phase One and *forevermore*.

Recall why?

Because it turns off the "satiety switch."

Eating HFCS means your body will not know when it has had enough and you will want to keep eating.

There are many ways sugar is hidden in the ingredient list. Here is a partial list of names to look out for. (Avoid)

Beet sugar, brown sugar, cane sugar, corn starch, corn sweetener, corn syrup, demerara sugar, fruit juice concentrate, granulated sugar, high fructose corn syrup, honey, invert sugar, maple syrup, molasses, muscovado sugar, raw sugar, sucrose, syrup, table sugar, tagatose, turbinado sugar.

Avoid High Purine Foods

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Moderate high purine foods: Salmon, tuna, most beef, pork, lamb, beef soup and broth, pheasant, asparagus, cauliflower, green peas, mushrooms and spinach.

Foods to Eat:

These are the foods you can feast on

(If you feel hard done by limiting yourself to these foods, keep in mind two thirds of the world's population goes to bed hungry every night and would love to have your problem. This would be an incredible feast for them...count your blessings...and while you are at it, eating in an unhurried place and time and with an attitude of gratitude can only do good.)

Meat: Chicken and turkey. Organic is best in order to avoid hormones and antibiotics

often used on feed lot animals. Beef, lamb and pork have no fructose, but are on the purine list.

Fish: Halibut, trout, sole, other white or lighter flesh varieties. Salmon is on the purine list above, so it's a no-go during Phase One.

Legumes: Adzuki beans, black beans, chick peas or garbanzo beans, black-eyed peas, lentils, fermented soybean products (miso, tempeh).

Nuts and Seeds: Almonds, brazil nuts, hazelnuts (filberts), macadamia nuts, pecans, pumpkin seeds, sesame seeds, sunflower seeds, walnuts.

Dairy: Cheese (I recommend full fat variety and from Europe to minimize possibility of hormones and antibiotics.) Goat cheese and cheeses from local artisans, full fat organic milk, full fat plain yoghurt.

Grains: Barley, bulgur, rice (brown is better, and wild is great).

Breads and Pasta: Whole grain pastas, rye bread and organic breads made from wheat, kamut or spelt...as long as there is no sugar in the ingredients. If in doubt, leave it out.

Vegetables: Alfalfa sprouts, artichokes, avocados, brussels sprouts, cabbage, celery, collards, endive, garlic, green beans, kale, leeks, lettuce (all varieties), mushrooms, mustard greens, okra, olives, parsley, potatoes (russet only), radishes, rhubarb, sauerkraut, squash (yellow), Swiss chard, turnip greens, watercress, yams.

Fats and Oils: Olive oil, coconut oil, butter, ghee. Dr. Johnson mentions no specific limitations. Wise to read "Fats that Heal, Fats That Kill" by Udo Erasmus.

Condiments: Garlic, lemon juice, mustard (no added sweetener), salsa (check ingredients!), Tabasco sauce (ditto), vinegar.

Snacks: Popcorn

Drinks: Water, seltzer, coffee and tea.

Tips for Phase One

With no fruit for two weeks, you may be missing some important nutrients. Consider a multi vitamin/mineral supplement and vitamin C during this time.

The vitamin C guy, Linus Pauling, recommends 3,000 milligrams of C a day. Ideally, 500 mg every 4 hours. Practically, divide it up as best you can throughout the day. (Elsewhere, I will explore more about Vitamin C.)

Avoid any packaged food that does not have an ingredient list. If it doesn't say, assume it has fructose.

When in doubt, leave it out.

No restaurants or take out food. The likelihood of it containing sugar and/or HFCS is just too high.

Sweeteners:

If you cannot live without sweeteners, here are a couple of suggestions.

Stevia and Xylitol are in a family called "sugar alcohols." Others in this family include maltitol, mannitol and sorbitol.

Stevia is from the stevia plant, is considered many times sweeter than sucrose or table sugar and does not contain fructose.

Xylitol is from the inner bark of the birch tree, although I understand it is now produced by altering the chemical structure of carbs, like the other sugar alcohols.

Sorbitol converts to fructose in the body, so it is a no-go,

Sugar alcohols do not react with the bacteria in the mouth, so they do not cause tooth decay. And they do not elevate blood sugar.

Be careful with portions, some sugar alcohols can cause bloating and diarrhea.

Alcohol: Drinking alcohol produces uric acid. But Dr. Johnson says *the impact is small and it is the other ingredients that are the bigger problem.*

Beer is high in purines so it is out, unfortunately for long time beer lovers such as

myself.

Wine is acceptable, the drier the better.

Sweet wines will be higher in fructose. Spirits are also allowed, but obviously not with the mixers that are sweet.

Phase Two

Phase two is basically the same as Phase one, except now you can add fruit and other fructose containing foods, with a maximum of 25 grams of fructose a day. And an **absolute** maximum of 35 grams a day.

You can use the table below to help you count your fructose grams:

<u>Fruit</u>	<u>Serving Size</u>	<u>Grams of Fructose</u>
Limes	1 medium	0
Lemons	1 medium	0.6
Cranberries	1 cup	0.7
Passion fruit	1 medium	0.9
Prune	1 medium	1.2
Apricot	1 medium	1.3
Guava	2 medium	2.2
Date (Deglet Noor style)	1 medium	2.6
Cantaloupe	1/8 of med. melon	2.8
Raspberries	1 cup	3.0
Clementine	1 medium	3.4
Kiwifruit	1 medium	3.4
Blackberries	1 cup	3.5
Star fruit	1 medium	3.6
Cherries, sweet	10	3.8
Strawberries	1 cup	3.8

Cherries, sour	1 cup	4.0
Pineapple	1 slice (3.5 x .75")	4.0
Grapefruit, pink or red	1/2 medium	4.3
Boysenberries	1 cup	4.6
Tangerine/mandarin orange	1 medium	4.8
Nectarine	1 medium	5.4
Peach	1 medium	5.9
Orange (navel)	1 medium	6.1
Papaya	1/2 medium	6.3
Honeydew	1/8 of med. melon	6.7
Banana	1 medium	7.1
Blueberries	1 cup	7.4
Date (Medjool)	1 medium	7.7
Apple (composite)	1 medium	9.5
Persimmon	1 medium	10.6
Watermelon	1/16 med. melon	11.3
Pear	1 medium	11.8
Raisins	1/4 cup	12.3
Grapes, seedless(green or red)	1 cup	12.4
Mango	1/2 medium	16.2
Apricots, dried	1 cup	16.4
Figs, dried	1 cup	23.0



Motivation

That's the program. And you really need to know...except...

Sugar is as addictive as cocaine and coming off it may be challenging. It may cause some reactions, both physical and emotional. (Think how cranky a smoker can be when they are kicking their habit.)

If that happens to you, come back here for more reading below...and inspiration and motivation to keep going. What we are talking about is really getting your life back

from a major addiction...an addiction that can ruin your life. So, let's not underestimate the size of the task.

“I never said it would be easy. I just said it would be worth it.” -Bikram Choudhury, founder of Bikram's Hot Yoga.

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Many thanks to Dr. Mercola for alerting me to this. Check out his excellent website and newsletter: <http://www.mercola.com/>

A HUGE thank you to Dr. Richard Johnson and his co-author, Timothy Gower.

Where to buy the “Sugar Fix” book: <http://joyenergyandhealth.com/>

[More Information, Motivation and Inspiration](#)

Obesity rates and sugar consumption have gone hand in hand and obesity has sharply increased over the past century.

Hypertension was also rare prior to the twentieth century: In 1900, only 5 percent of the population had a blood pressure of 140/90 or higher. By 1939, 10 percent of adults had blood pressures above 140/90.

Today, **31 percent of adults are hypertensive.**

In 1950, there were 500 cardiologists in the United States. Now there are 35,000.

Cardiologists perform more than one million heart surgeries annually.

What is driving this eruption of cardiovascular disease? One key factor: the explosion of sugar in the Western diet. Prior to 1800, Americans were consuming only about 4 pounds of sugar per person, per year. By 1800, that number had increased to 18 pounds as sugar plantations began to emerge. And by 1900, it was 90 pounds.

Today, **the average American is consuming 152 pounds of sugar annually.**

10 to 20 percent of children's calories come from sugar. It is no accident that childhood obesity is at a record high and life expectancy for the youngest generation is, for the first time, lower than that of their parents.

Diabetes Was Linked to Sugar Back in the 1800s

Diabetes has shown similar historical trends. In 1892, there were just two cases of diabetes per 100,000 people, according to a famous medical textbook by Sir William Osler, *The Principles and Practice of Medicine*.

Today, the rate is 9 percent across all age groups. The stats are worse when it comes to the prevalence of pre-diabetes, what is known as "Metabolic Syndrome." Almost 26 percent of U.S. adults over the age of 20 are pre-diabetics, and more than 35 percent of seniors, 60 and older.

All in all, the reality is that *one in every four* Americans is now either diabetic or pre-diabetic.

The worst type of sugar you can ingest is fructose

This may surprise you because it is derived from fruit. Fructose turns you into a uric acid factory.

It's been known for ages that meats and purine-rich foods can raise uric acid. What was **not** known is consuming fructose is one of the most powerful ways to raise uric acid levels.

The chemical name for regular table sugar is sucrose, which is made up of two simple sugars, fructose and glucose.

Glucose and fructose are different types of simple sugars. After they are separated

apart and broken down in your body they are metabolized using completely separate pathways. Glucose is utilized by every cell in your body. In fact, glucose is what your body uses for energy.

But fructose breaks down into a variety of waste products that are bad for your body, one of which is uric acid. And, **uric acid drives up your blood pressure.**

Uric acid inhibits the nitric oxide in your blood vessels, and nitric oxide helps your vessels maintain their elasticity. Nitric oxide suppression leads to increases in blood pressure.

Thanks to Dr. Johnson's research, we now know that fructose generates uric acid within minutes of ingestion. High levels of uric acid are normally associated with gout, but it has been long known that people with high blood pressure and kidney disease, and people who are overweight, often have elevated uric acid levels.

Uric acid levels have been increasing for the past hundred years.

When your uric acid level exceeds about 5.5 mg per dl, you have an increased risk for a host of diseases, including:

- ☞ Hypertension
- ☞ Kidney disease
- ☞ Insulin resistance, obesity, and diabetes
- ☞ Fatty liver
- ☞ Elevated triglycerides, elevated Low Density Lipoprotein (LDL...the "bad" cholesterol), and cardiovascular disease

Glucose Makes Fructose Even More Potent!

Fructose consumption clearly causes insulin resistance, whereas straight glucose does not. Insulin resistance can eventually lead to full blown diabetes.

AND, glucose actually speeds up fructose absorption. So when you mix glucose and fructose together, you absorb more fructose than if you consumed fructose alone.

Remember, sucrose, or table sugar, is exactly this blend: fructose plus glucose.

You *can't* be saying *fruit* is bad for me, surely?

No, of course not. What has happened, though, over a couple of centuries is that we have overdone fructose through our consumption of sucrose, common table sugar.

And the massive amounts of fructose, including from fruit, we have taken in has caused an increase in fructose enzyme. It is this fructose enzyme level in our bodies we need to lower.

Once lowered, we can once again eat fructose in moderate amounts, without triggering the overload of fructose enzyme. If you give yourself a sugar holiday for even a couple of weeks, you will be amazed at how much those sweet cravings will decrease.

However, for most people it would actually be wise to limit your fruit fructose to 15 grams or less, as it is virtually guaranteed you will consume hidden sources of fructose from most beverages and just about any processed food.

If you feel you must have a sweetener, here are a few guidelines to follow:

☞ Avoid ALL artificial sweeteners.

☞ Avoid all foods containing high fructose corn syrup (HFCS).

☞ Limit sugar of all types as much as possible. You can buy pure glucose (dextrose) as a sweetener for about \$1 per pound, which has none of the adverse effects of fructose if used moderately. It is only 70 percent as sweet as sucrose, so you'll end up using a bit more of it for the same amount of sweetness, making it slightly more expensive than sucrose -- but still well worth it for your health.

☞ You can use raw honey in moderation or avoid it completely as it is 70 percent fructose which is higher than HFCS. However the fructose is not in its free form so

that moderates the damage. But each teaspoon of honey has nearly four grams of fructose so you will want to carefully add the total grams of fructose (including fruits) and keep them under 15 grams a day.

☞ Use stevia or xylitol in moderation.

☞ Lo Han is another excellent natural herbal sweetener.

☞ Exercise can be a very powerful tool to help control fructose in a number of ways. If you are going to consume fructose it is BEST to do so immediately before, during or after INTENSE exercise as your body will tend to use it directly as fuel and not convert it to fat.

Further, exercise increases your insulin receptor sensitivity and help modulate the negative effects of fructose. Lastly exercise will also help to blunt your appetite and control your sweet tooth.

If you have fasting insulin levels, high blood pressure, high cholesterol, diabetes, or if you're overweight, it may be wise to avoid all sweeteners, including stevia, since any sweetener can decrease your insulin sensitivity.

I wish you good health: May you live long and prosper!

-Matti Anttila freedombalance@shaw.ca

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* These statements have not been evaluated by the Food and Drug Administration. This information is not intended to diagnose, treat, cure or prevent any disease