

PDF



SUGAR DETOX  
PROGRAM

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# THE SUGAR DETOX

I think we have all had our share of sugar cravings, desires and binges! I know I certainly have. I write this short booklet after years of living on a high carb diet and craving sugars, desserts, cereals, breads, pasta's and all the other good stuff associated with carbs and sugar!

When I finally made the decision that I was going on a real food, lower carbohydrate diet, it made a GIGANTIC difference! You can read all about my health story, going from sickness to life in the SuperCharged Healthy Recipe book.

All I can tell you is that if you commit to going 30-days without any processed foods, sticking to real foods through the recipes and ideas in this program, you will see dramatic changes in your quality of life.

## Testimonials From The 30-Day Sugar Detox Challenge:

"I sleep deeper at night and feel like I need less rest, yet I have tremendous energy all day long!" Yvette

"I have dropped 14 lbs during this challenge and am off my asthma, thyroid and acid reflux medications." Joyce

"I am down 22 lbs in 30 days and no longer have sleep apnea and I really don't crave sugars and breads anymore." Paul

"My energy is through the roof and my eczema is gone" April

"My blood sugar has been stable and I am no longer using my blood sugar and blood pressure medications. My doctor said my blood pressure is the best she has seen it." Mary

## This 30-Day Program Will Help You:

Improve Digestion	Balance Blood Sugar	Reduce Inflammation & Pain
Lose Weight	Improve Thyroid Function	Adapt to Stress Better
Improve Sleep	Reduce Sugar Cravings	Improve Memory
Breathe Deeper	Improve Skin Quality	Increase Your Energy Levels

The only question is: **Are You Up for the 30-Day Sugar Detox Challenge?**

\*This information is based on Peer Reviewed published studies and all references can be found on [DrJockers.com](http://DrJockers.com)

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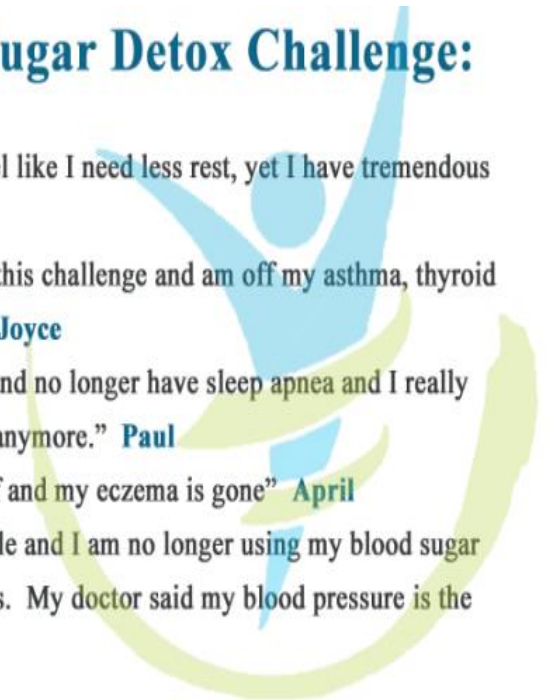
Reduce Sugar Cravings

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# THE SUGAR DETOX

The largest source of calories for individuals living in industrialized nations comes from sugar. Sugar increases insulin levels which promote fat accumulation and inflammation throughout the body. Sugar consumption and elevated insulin accelerate the aging process and create an environment conducive to degenerative disease.

Sweet foods were a rare delicacy for our ancient ancestors. Today, we have an unlimited supply of sugary foods and beverages at our disposal.

In the year 1700, the average individual consumed about 4 pounds of sugar each year. In 1800, it was about 18 pounds of sugar per year. In 1900, the average person ate 90 pounds of sugar per year. In 2009, the average individual consumes 150 pounds of sugar per year. Half of our society consumes ½ pound of sugar per day. Most of this is in unnatural, man-made forms such as sucrose and high fructose corn syrup.

Fructose is another simple sugar that is found in nature within fruits, honey and plant/tree nectar. This is metabolized differently than glucose and can cause even more hazardous effects when consumed in excess. Most plant based sweeteners such as agave nectar are extremely high in fructose. Agave was thought to be a good sweetener until health researchers found out the dangers of the nearly 80% fructose content within the plant.



## Sugar and Insulin:

Every living creature is designed to run off of a simple sugar called glucose. It is the primary unit in the study of metabolism. However, there are dangers involved with consuming too much glucose. Those dangers mostly involve elevated blood sugar and surges in the hormone insulin.

Insulin is the hormone that helps to bring sugar into the cells. Without healthy insulin signaling blood sugar remains elevated. Elevated blood sugar is poisonous to the body. Just look at what happens to someone with uncontrolled diabetes – they lose their vision, they have peripheral neuropathy, heart disease, etc.

When we consume a dose of higher glycemic food we have an insulin surge. The insulin comes out in order to buffer blood sugar. The insulin pulls the sugar out of the blood stream and into the various cells of the body.

Insulin is good, but insulin surges are destructive. When the body produces heavy amounts of insulin it fires up inflammatory pathways in the body. Insulin surges trigger fat accumulation, cellular inflammation and insulin resistance.

**More Sugar = More Insulin Surges = More Inflammation**

**Like Sugar?**  
**So Does...**

**CANCER**  
**DIABETES**  
**ARTHRITIS**

**INFLAMMATION**  
**YEAST**  
**INSOMNIA**

**...AND MOST OTHER DISEASES**

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SUPERFOODS FOR YOUR HEALTH

# SUGAR ADDICTION THE PERPETUAL CYCLE

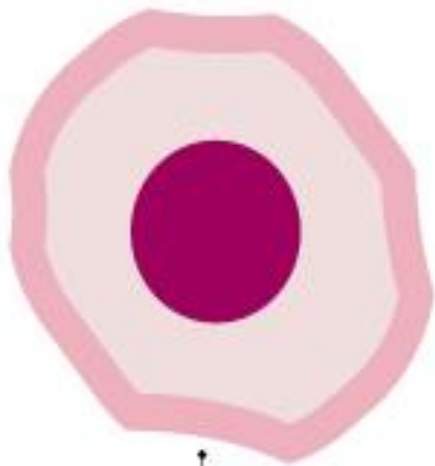


## The Major Problems with Elevated Sugar & Insulin Include:

1. Mal-coordinates the immune system and reduces its functional ability to destroy bacteria, parasites, viruses and abnormal cell growths.
2. Dehydrates the cells and depletes the body of critical electrolytes such as potassium, magnesium, calcium, & sodium leading to cell death and chronic muscle spasms.
3. Depletes the body of chromium, copper, & zinc and other trace minerals that help sensitize cells to insulin. This further accelerates cell membrane insulin resistance
4. Induces cancer cell division and proliferation and inhibits mechanisms that slow down tumor growth and inhibit cancer cell apoptosis (programed cell death)

5. Creates tissue damaging Advanced Glycolytic Enzymes (AGE's)
6. Depletes the body of anti-oxidants such as glutathione, vitamin C & vitamin E.
7. Inhibits Human Growth Hormone (HGH) and elevates cortisol levels
8. Inhibits cellular protein synthesis which results in dysfunctional bone, muscle, and joint chemistry. This accelerates the risk of osteoporosis, osteoarthritis, and chronic muscle and joint pain.
9. Promotes the growth of pathogenic bacteria and parasites such as Candida and other yeast like organisms. This also depletes the body of good bacteria and can lead to chronic infections in the gut, respiratory tissue and sinuses.
10. Leads to obesity, elevated triglycerides, abnormal LDL:HDL cholesterol levels, elevated arterial inflammatory risk factors.
11. Opens up the blood brain barrier, depletes the brain of trace mineral stores and allows toxins and other heavy metals to accumulate in brain tissue
12. Destroys nerves leading to chronic pain, neuropathies, vision disorders, and accelerated organ dysfunction

**Normal Cell**



Insulin Receptor

**Cancer Cell**



Insulin Receptor

# FRUCTOSE & MODERN DISEASE



## Fructose Consumption and Modern Disease:

The consumption of fructose has increased considerably over the last 40 years. During this same period the obesity rate has more than doubled from 15% in 1970 to over 32% in 2011. Although there are many lifestyle factors to consider with this increase, the increased usage of fructose must be considered.

Fructose is a monosaccharide that is naturally produced in fruits, honey and some vegetables like corn. Historically, humans did not consume excessive amounts of these foods but instead ate them occasionally. Today, man has found different ways to manufacture and utilize fructose.

## Government Subsidies:

The government began to subsidize farmers to produce food products such as corn and soy. Due to sugar tariffs and these governmental subsidies there was great incentive to make sugar alternatives out of corn. High fructose corn syrup (HFCS) burst onto the commercial scene in the late 1950's and began to grow in the 1970's.



Food processing companies love HFCS because of its extremely low cost and its liquid nature. The fact that it comes as a liquid makes it easy to utilize in soft drinks and other recipes. Regular HFCS is 55% fructose and 45% glucose which has a similar sweetness as table sugar. Other forms such as HFCS -90 are significantly sweeter than sugar.

HFCS is the preferred sweetener found in soft drinks, juices, teas, breakfast cereals, baked goods, condiments and other processed foods. Other major sources of fructose include processed fruit juices and agave nectar. Agave nectar is roughly 80% fructose and although it is considered low glycemic it is extremely dangerous due to the fructose content.

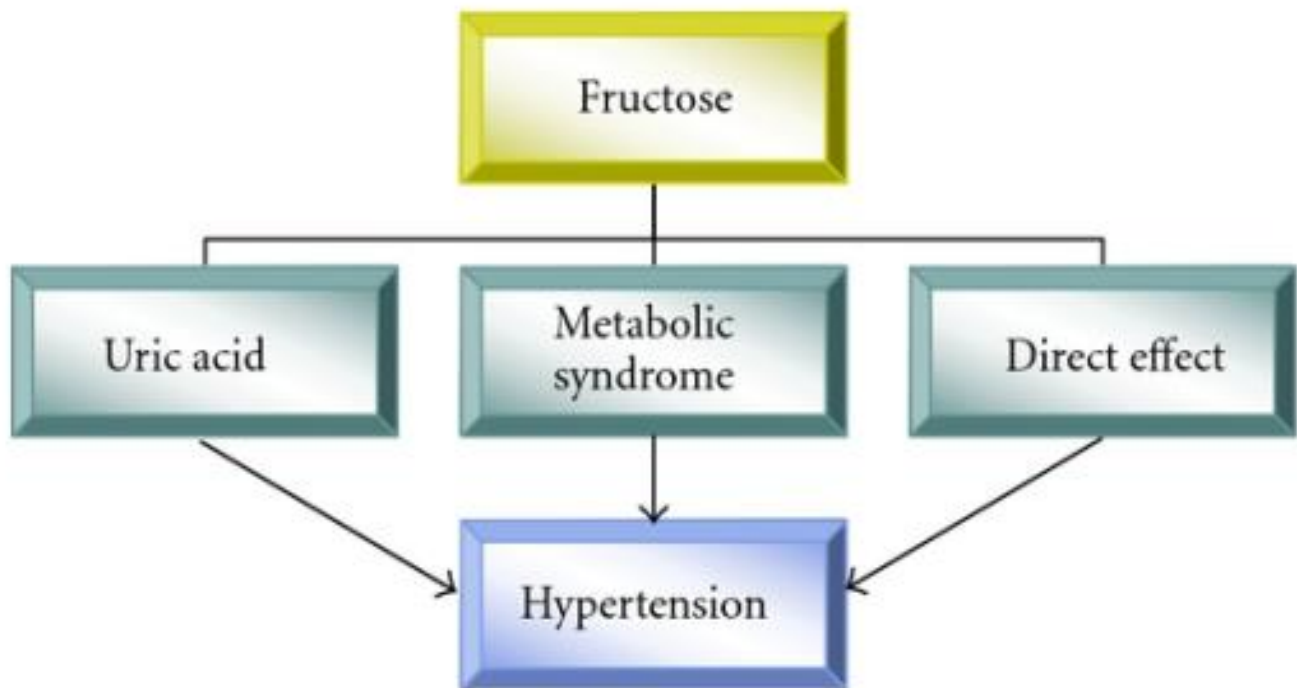
Source	Total sugar per 100g sample	Total fructose (g)	% fructose
Agave syrup	73	51-65.7	70-90%
Sugar	97	48.5	50%
Honey	82	43.2	52.6%
Maple syrup	85	41.8	49%
Apples	10.3	9.3	90.3%
Mango	13.6	7.9	58%
Grapes	18.1	7.9	43.6%
Pears	10.5	7.3	69.5%
Oranges	9.2	4.6	50%

## Fructose Metabolism and Triglycerides:

Fructose metabolism leads directly to triglyceride formation. Elevated triglycerides leads to weight gain, obesity, type II diabetes & heart disease. In 2009, Georgia State University researchers found that the elevated triglycerides formed through fructose metabolism cause insulin resistance in the brain. This leads to decreased learning and memory and accelerated brain tissue degeneration.

Fructose stimulates the body's hormonal system much differently than glucose and other forms of sugar. Fructose turns off the natural appetite-control system by forming sugar molecules without stimulating insulin. Typically, as insulin rises in the body it suppresses the hormone ghrelin (which initiates hunger) and stimulates leptin (which signals satiety).

Fructose disrupts this natural hormone messaging. The result is that the individual eats more food and produces more triglycerides which damage cells and leads to insulin resistance.



## Fructose Creates Uric Acid Toxicity

Fructose is primarily metabolized by the liver and creates stress on the liver detoxification system. Some researchers compare fructose metabolism to ethanol alcohol metabolism due to the toxic effects they have on the liver. One of the major toxic byproducts is uric acid.

When cells become damaged and are replaced their DNA/RNA degrade into purine molecules which are then metabolized into uric acid. High fructose consumption causes cells to burn up their energy stores and go into a state of shock that leads to massive cellular death. This cellular die-off leads to excessive increases in uric acid.

## Excessive Uric Acid Production:

Uric acid is an inflammatory factor that increases free radical stress throughout the body. It depletes nitric oxide levels which leads to chronic tension and contraction in the arterial smooth muscle cells. This process leads to arteriosclerosis and elevated blood pressure.

These sort of changes do not occur with normal starch or glucose consumption. The average individual consumes over 40 grams of fructose daily with less than 13 grams coming from natural sources such as fruit and raw honey. Many health experts believe that fructose is highly dangerous when consumed in excess of 25 grams per day.

Fruit	Serving Size	Grams of Fructose
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

Fruit	Serving Size	Grams of Fructose
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



Growing up, my mom used to limit the amount of sugar my family would consume. We rarely had processed desserts, candy and cupcakes. She did her best to keep sugar out of the house and bought foods we all assumed were part of a balanced, healthy diet.

Unfortunately, my mom, like most mothers' throughout the world, was unaware of all the hidden sources of sugar found in many "healthy foods." This hidden sugar can add up and cause significant inflammatory activity within the body.

Here is a list of foods most households are consuming and giving to their children thinking they are making healthy choices

## 1. Smoothies:

When I was 20 years old, I took a part-time job at a Smoothie King because I loved exercise and nutrition and thought it would be cool to get a free smoothie every time I worked. Most people in society believe that stopping in to get a lunch time smoothie is a very healthy activity. The truth is that the average smoothie contains 40-80 grams of sugar. The most popular drink

on the menu, the Angel Food, contains 75 grams of sugar in the 20oz (the size small) cup. Much of this from added sugar in addition to the bananas and strawberries.

**My Recommendation:** Avoid all the smoothie shops and make your own smoothie at home with frozen berries, coconut milk, coconut oil, high quality protein powder and possibly even an avocado for extra fat. You will feel satisfied and should be able to go 4-6 hours after this without feeling hungry.

## 2. Yogurt:

My family consumed yogurt daily. We loved all the different types but my favorite was the Breyer's fruit on the bottom. Unfortunately, most of these contain up to 30 grams of sugar, often in the form of high fructose corn syrup.

Today, most people assume that yogurt is healthy because it contains calcium, magnesium, protein and probiotics. Unfortunately, the amount of sugar within these acts as an anti-nutrient, increasing the utilization rate of these key nutrients. Even Greek yogurt, which is touted as the healthiest form of yogurt contains 6-9 grams of sugar in a serving. This is much better than sugar sweetened yogurts but still more than most people realize.

**My Recommendation:** Use unsweetened coconut yogurt. You can find the So Delicious brand of Coconut milk yogurt in an unsweetened vanilla form and it tastes good and contains 1 gram of sugar per serving.

## 3. Protein Bars:

These are often marketed as healthy because they contain nuts and seeds that have beneficial qualities to them. Unfortunately, they are too often full of honey, high fructose corn syrup and other sugar sources. I have seen them with anywhere from 10-30 grams of added sugar.

In the health food industry, there are greens bars and other superfood bars that are full of date sugar or honey that are simple sugars that cause inflammation and blood sugar imbalances. These also contain 10-30 grams of sugar in a simple bar.

**My Recommendation:** Stick with organic beef or turkey jerky or do veggies and guacamole. We have tons of snack ideas in the Sugar Detox recipe book.

## 4. Ketchup and BBQ Sauce:

Ketchup was a regular item in my house growing up. We would use it on eggs, have it with bean burgers (when my family was vegetarian) and even on potatoes at times. Many people in our society use ketchup on a wide variety of things. In 2 tablespoons of ketchup, you can easily get 9-10 grams of sugar.

BBQ sauce has even more added sugar than ketchup and 2 tbsps will typically give you around 12-15 grams of sugar.

**My Recommendations:** Use a ketchup source that is low in sugar and uses natural ingredients such as Tessemae's [here](#) and a sugar-free BBQ sauce like Simple Girl's [here](#)



## 5. Fruit Juice:

My family loved orange juice growing up. We would have this special treat on the weekends and would down a few gallons in those 2 days. 1 cup of Tropicana orange juice may contain 110% of your recommended amount of vitamin C, but it also contains 22 grams of sugar. That sugar content will deplete more vitamin C from your body than you are getting out of the juice!

In the health realm, there are all kinds of green juices but most of them use a fruit juice as a base. Most of these have 20-30 grams of sugar per cup. I don't care how many superfoods they put in these drinks, that level of sugar acts as an inflammatory stimulant and depletes the body of vital nutritional stores.

**My Recommendation:** Make a natural lemonade with filtered water, fresh squeezed lemon or organic lemon juice and stevia. This is a great tasting and refreshing drink. You can also add in ginger for even more health benefits.

## 6. Salad Dressings:

Most people assume that eating a salad is healthy and we certainly did in my family. We would get a big bowl full of romaine lettuce, baby spinach, tomato, cucumber and onion. Then we would smother on the French, Russian or Thousand Island Dressing or the Raspberry vinaigrette.

Unfortunately, these all contain 10-12 grams of sugars in 2 tbsps. They often have added sugars in the form of "corn syrup solids." Even typical commercial balsamic vinaigrettes contains 5 grams of sugar in the form of cornstarch in a 2 tbsp serving.

**My Recommendation:** Skip the fancy dressings and use olive oil and either fresh squeezed lemon or apple cider vinegar with dried herbs as your dressing. It tastes great and will help improve your metabolism and digestion.

## 7. Special Sauces:

Most restaurants have special sauce recipes they put on the various meat dishes to dress them up and give them unique and exotic flavors. Unfortunately, most of these special sauces contain a high amount of added sugars in the form of corn starches, corn based maltodextrin and high fructose corn syrup.

Any sort of dish that uses the term “glazed” is going to contain added sugars. It is much better to stick with meat that has been grilled, baked or broiled.

**My Recommendation:** Get your meat grilled, baked or broiled and tell the serving staff to hold the extra sauces and glazes. Instead, add fresh or dried herbs, vinegar or lemon juice and olive oil or butter

## 8. Whole Wheat Bread:

Growing up my parents would never get white bread. We always got some sort of whole wheat bread. We thought this was much healthier, but we know that 2 slices of whole wheat bread can raise your blood sugar more than 2 tbsps of table sugar.

Many people also believe that sprouted grain breads such as Ezekial bread are good, but unfortunately, these two are loaded with carbs that drive up your blood sugar.

**My Recommendation:** Avoid the bread and stick with a diet rich in good fat sources, lots of veggies, occasional fruit and healthy meats. For a bread alternative, try making coconut flour bread. You can also use coconut flour wraps for a take to work lunch.

## 9. Dried Fruit:

Most people think that having a handful of raisins or craisins (dried cranberries) are a healthy snack. Many granola’s are full of dried fruit. These are loaded with added and concentrated sugars. One quarter cup of craisins contains 29 grams, nearly 6 tsps, of sugar!



**My Recommendations:** Avoid dried fruit sources and consume either whole fruit sources which have more anti-oxidants, enzymes and fiber.

## 10. Nut Butters:

People like nut butters that are sweet. Your typical Jif has 3-4 grams of added sugar in it and when people want a healthier alternative to the trans-fat rich commercial peanut butters, they still want the sweet taste.

Even great brands such as MaraNatha use organic evaporated cane sugar as one of the top ingredients. Be sure to check your nut butter in order to avoid these added sugars.

**My Recommendations:** Stick with pure organic nut butters and raw nuts that are free of added sugars and toxic oils.

### THE BOTTOM LINE:

Technically, raw nuts rule. They're an amazing source of vitamins, nutrients, healthy fats, and straight-up fuel. But you can indulge in satisfying oil-roasted nuts without sacrificing much! If roasting makes you more inclined to munch on nuts, then roast away.

**WHAT TO BUY:** Whenever oil is concerned, go organic. Nuts are sometimes roasted in soybean or canola oil, which is often GMO. And make sure your nuts are just lightly salted (or, even better, contain no added salt).



**RAW NUTS WIN!**

**JUST SO YOU KNOW...** We used the National Nutrient Database for Standard Reference from the USDA. These figures reflect your average raw and oil-roasted cashews.

## Conclusion:

As you can see, many of the foods we once thought were awesome, are actually full of added sugars. Consuming too many sugars inflames our body and leads to major health issues such as unnecessary weight gain, insulin resistance, joint pain, auto-immune conditions, leaky gut syndrome and neurological degeneration.



## Safe Natural Sweeteners in Order

Natural sweeteners can be used effectively in moderation to provide the sweetness that most people crave. Here are the best natural sweeteners ranked in order based on low glycemic index and additional health benefits.

### **Lo Han Extract:**

A fruit plant that grows native in Southern China/Northern Thailand. Lo Han has a very low glycemic index and low sugar content. It gets the majority of its sweetness from a glycoside nutrient called mogrosides.

These mogrosides are 300 times sweeter than sugar and act as anti-oxidants that have shown abilities to inhibit cancer cell formation. This is a wonderful sweetener but it can be hard to find and expensive.

### **Stevia:**

Processed from the leaf of the stevia plant which is native to South America. This herb derivative has no effect on blood sugar, insulin signaling and triglyceride formation. It develops most of its sweetness from glycosides called stevioside and rebaudioside.

These compounds are 250-300 times sweeter than sucrose and they have the ability to withstand heat and have a long shelf life. Studies have even shown the stevia leaf to have beneficial effects at improving cellular insulin sensitivity and reduce the risk of type II diabetes and high blood pressure.

Stevia is an herb of the sunflower family, native to subtropical and tropical regions from western North America to South America.

The plant is used extensively by the Guarani Indians of South America for more than 1,500 years, and the plant has a long history of medicinal use in Paraguay and Brazil.

The leaves have been traditionally used for hundreds of years in Paraguay and Brazil to sweeten local teas, medicines and as a sweet treat.

Carbohydrates

Iron

Vitamin C

Potassium

Zinc



Calcium

Magnesium

Other Minerals

Vitamin A

Proteins

The leaf of the stevia plant has sweet tasting compounds known as steviolglycosides, including Stevioside and Rebaudioside A the sweetest and best tasting of the compounds

Very high purity (95% or higher) extracted from the stevia leaf is known as Reb A, which is used in powder or liquid form to raise the intensity of sweeteners in a food, beverage or tabletop sweetener and to improve taste.



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## Coconut Nectar:

This is a very low glycemic liquid sweetener derived from the liquid sap of the coconut blossoms. The glycemic index is 35 making it one of the lowest of natural sweeteners.

The fructose levels with coconut sugar are very low at 10% and it contains a wide variety of anti-oxidants, minerals and other nutrients that enhance blood sugar stability. It can be found in health food stores but is somewhat pricey.

## **Yacon Syrup:**

Yacon syrup is extracted from the roots of the Yacon plant which grows throughout the Andes mountains in South America. This plant has a long history as a powerful food that has been eaten and used for medicinal purposes in South America.

Yacon syrup is rich in prebiotic fibers (roughly 40-50%) called inulin and fructooligosaccharides (FOS) which are undigestible by the body but feed healthy gut bacteria. Yacon does contain a small amount of sugar through fructose, glucose and sucrose but the rich fiber within it makes it a very low-glycemic sweetener. The use of Yacon syrup has been shown to reduce obesity and insulin resistance.

## **Organic, Raw Honey:**

This superfood does have an effect on blood sugar and contains approximately 53% fructose so one should only consume this in moderation. Honey contains a wide array of trace minerals such as calcium, iron, zinc, potassium, phosphorus, magnesium, copper, chromium, manganese and selenium. These nutrients are critical for healthy cellular insulin sensitivity and blood sugar balance.

Raw honey is also extremely rich in anti-oxidants and natural enzymes. Honey contains flavonoid anti-oxidants such as pinocembrin and pinostrobin that help reduce oxidative stress in the body and promote better enzyme activity.

## **Organic Blackstrap Molasses:**

Molasses is a byproduct of the processing of sugar. It does have an effect on glycemic index and must only be consumed in moderation. Blackstrap molasses is a very rich source of iron, copper, manganese, potassium, magnesium and selenium.

## **Organic Grade B Maple Syrup:**

This syrup is a dark sap from the xylem of maple trees. It does contain sucrose, glucose & fructose and therefore has an effect on blood sugar and insulin levels. Please use in

moderation. Maple syrup contains significant amounts of zinc, calcium, manganese and antioxidant phenol vanillin.

## **Sugar Alcohols:**

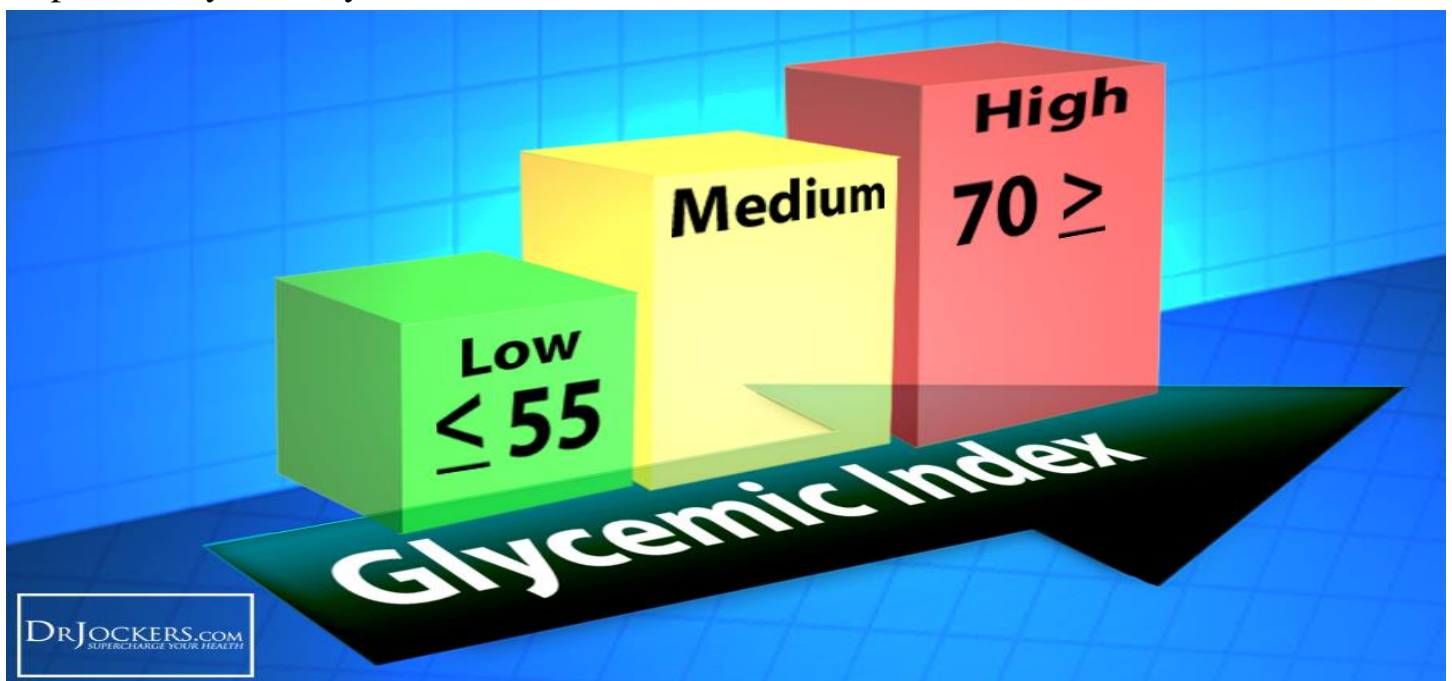
These include xylitol, glycerol, sorbitol, maltitol, mannitol, and erythritol. Sugar alcohol is supposed to just pass through the body unrecognized and unmetabolized. This causes no blood sugar imbalances and is considered a safe sweetener.

However, many individuals have reported significant gastrointestinal distress that includes cramping, bloating, gas & diarrhea. Some individuals have no digestive complaints and tolerate it quite well.

## **The Glycemic Index:**

Sweet foods and starches are not genetically congruent to eat on a regular basis. Our ancestors looked at these as rare delicacies. Most people in our society today are raised on a steady diet of sugars, grains and other starches. Here are the best strategies to lower the blood sugar/insulin response when consuming carbohydrate rich foods.

Foods are measured for their effect on blood sugar through the Glycemic Index (GI). The GI ranges from 0-100. Foods that have a GI index under 55 are considered low GI. A range of 56-69 is considered medium GI while 70+ is considered high. It is recommended to eat foods that are low GI and utilize different strategies to lower and/or buffer these GI responses in your body.



# Glycemic Index vs. Glycemic Load:

Another way of ranking the blood sugar response of different foods is through the Glycemic Load (GL). The GL measures how long the food will release sugar into the system. Many foods may be high GI but low GL.

An example of this would be fruit such as watermelon. Other foods are low GI but high GL such as oatmeal which releases sugar into the system for an extended period of time.

A GL of 20 or more is high, a GL of 11-19 is medium and a GL of 10 or less is low. High GL foods are inflammatory in nature so it is advisable to stick with foods that are low GI and GL as much as possible or use advanced strategies to buffer the glycemic response in the body.

## The formula for calculating glycemic load (GL)

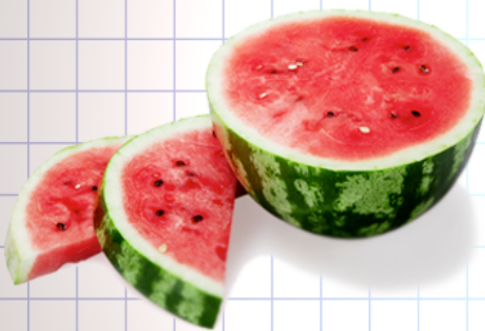
$$GL = (GI \times \text{carbohydrates less fiber}) / 100$$

The examples below are based on GL ranges of low, moderate, and high

**Low GL < 10**

**Moderate GL 10-14**

**High GL > 15**



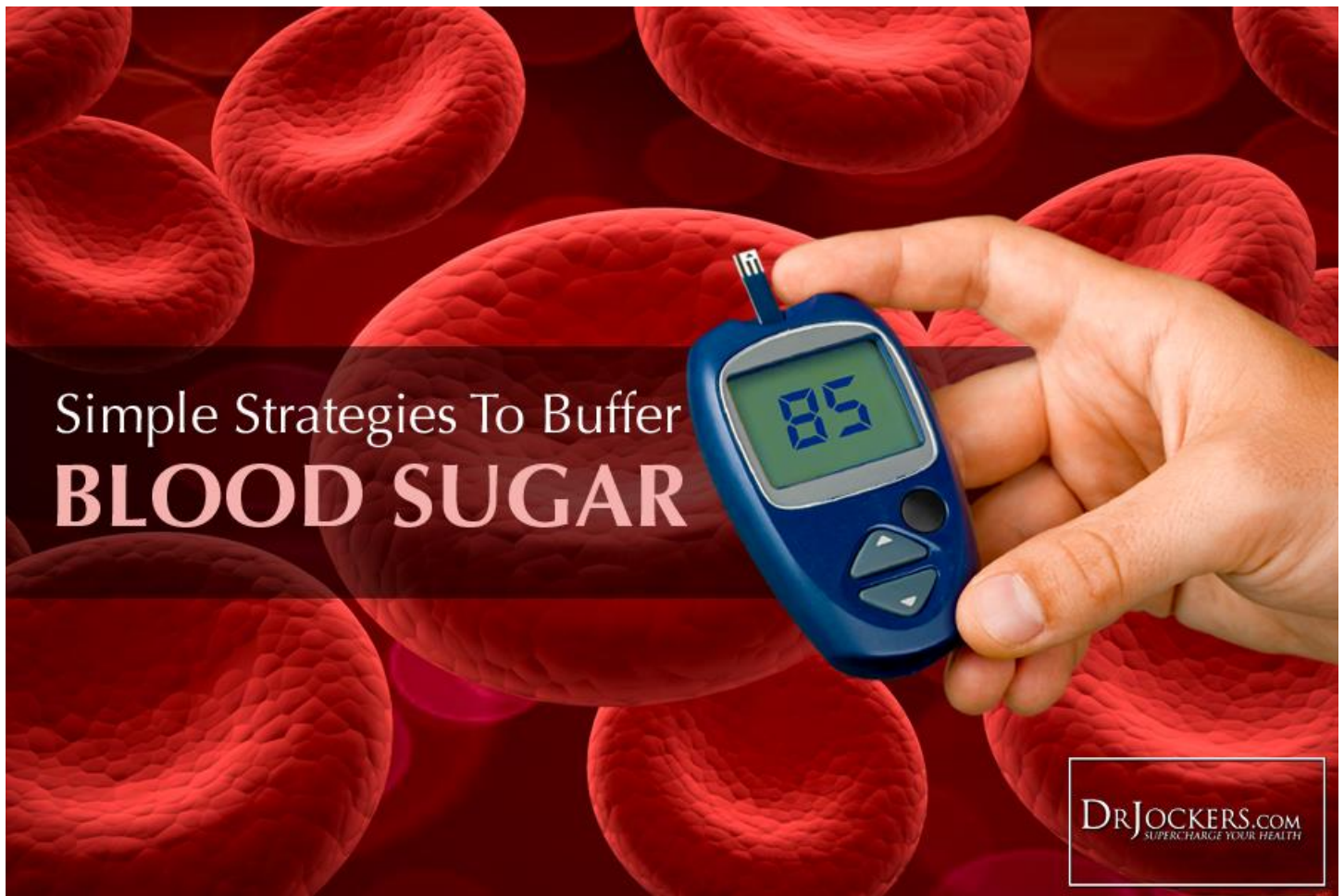
### Example of a high-GI/low-GL food

A 120-gram serving of watermelon has a GI of 72 and the available carbohydrate is 6 grams (the amount of fiber contained in this serving does not warrant inclusion in the calculation). Therefore, the GL of watermelon is:  $(72 \times 6) / 100 = 4.3$ .



### Example of a low-GI/high-GL food

A 180-gram serving of cooked whole wheat spaghetti has a GI of 37. The amount of available carbohydrate is 36 grams (42 grams of carbohydrate minus the approximate 6 grams of fiber content). Therefore, the GL of whole wheat spaghetti is:  $(37 \times 36) / 100 = 13$



## Simple Strategies to Improve Blood Sugar

- 1. Use Lemon:** The citric acid in lemon helps to buffer the release of blood sugar. Additionally, the anti-oxidants and trace minerals within lemon help to improve insulin signaling, boost liver function and stabilize blood sugar. Squeeze a lemon on as many foods as possible and drink it fresh squeezed in purified water.
- 2. Use Apple Cider Vinegar:** Vinegar is very high in acetic acid. This acid has been shown to reduce the glycemic response of a typical carbohydrate based meal by 31%. Another study reduced a carbohydrate meal from a typical glycemic index of 100 to 64. Apple cider vinegar (ACV) also provides enzymes, probiotics and trace minerals that enhance blood sugar signaling. Use ACV on as many foods as possible.
- 3. Use Fermented Foods:** This would include coconut kefir, sauerkraut, pickles, & kimchi. Raw, grass-fed fermented dairy such as yogurt, kefir, amasai, fermented whey & raw cheese.

These foods have a natural acid to slow the release of blood sugar and they provide enzymes, probiotics and other bioactive nutrients that enhance blood sugar signaling. Use a variety of different fermented foods every day.

**4. Use Cinnamon:** Cinnamon has been shown to reduce gastric emptying rate, improve insulin receptor sensitivity and inhibit enzymes that inactivate insulin receptors. Cinnamon is also an extremely powerful anti-oxidant potential that prevents inflammatory conditions that damage cell membranes and insulin receptors.

**5. High Quality Multi-Vitamin with Chromium:** High quality, bioavailable multi-vitamins help the body by supplying tons of easily absorbable trace minerals and B vitamins that are critical for healthy blood sugar balance. One such nutrient is chromium which both increases the production and activates the glucose transport molecule GLUT-4.

Chromium activates GLUT-4 to shift its location from deep within the cell to a position on the cell membrane. This opens a window in the cell that allows glucose to flow into the cell through a concentration gradient where it can be metabolized for energy while lowering circulating blood sugar to stable levels.

You want a minimum of 125-250 mcg of chromium to get a desirable blood sugar balancing effect. Most multi-vitamins do not contain anywhere near this amount. I recommend taking 1-2 caps of [high energy support](#) with each meal depending upon how many carbohydrates in your meal.





## About Dr David Jockers DC, MS, CSCS

**Dr. David Jockers** is a Maximized Living doctor, functional nutritionist and corrective care chiropractor. He currently owns and operates Exodus Health Center in Kennesaw, Georgia and runs one of the hottest natural health websites in DrJockers.com

His experience working with thousands of individuals has given him a level of expertise in the field. He has had the privilege of traveling to London with the Maximized Living wellness advisory council to help the USA athletes win the gold in 2012.

He is a leading writer for “Primal Docs,” “Organic Life Cancer” which are three of the top online health publications in the world. He is also on the expert panel for the popular “South African Journal of Natural Medicine.” He has well over 1200 professionally published natural health articles all over the internet and in-print magazines



Dr Jockers is the author of “**SuperCharge Your Brain: The Complete Guide to Radically Improve Your Mood, Memory and Mindset.**” He has also authored “**The SuperCharged Recipe Plan: 180 Recipes to SuperCharge Your Health.**”

He is a sought after speaker around the country on such topics as weight loss, brain health, functional medicine, natural detoxification and disease prevention.

Dr Jockers does local and long-distance consultations to help customize specific lifestyle plans to improve performance and beat chronic disease.

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