



The Sweeter Side
of Blood Sugar
Management

by Caroline Wallace



The Real Scoop About Sugar

Can you recall the last time you ate sugar? Was it in your morning muffin? Perhaps it was in your salad dressing at lunch? Was your afternoon snack suspiciously sweet? In 2000, we Americans ate an average of 31 teaspoons of sugar a day, and every year we can expect that number to rise. (1)

You might be surprised to know that most of our daily sugar intake comes from processed foods. Take a look at food labels and you'll see how many of our prepared foods contain added sugar or other caloric sweeteners. While foods such as cookies or soda are obvious sources, other processed and refined foods that we consume on a daily basis contain hidden sugars. This over consumption of sugar contributes to higher rates of obesity, disease and death in the United States.

Striving for Balance: Why We Go From High to Low

FACT: Our bodies need sugar to survive.

Blood sugar, or glucose, is the main source of energy used by the body and without it we could not survive. All the glucose we need is in complex carbohydrates like whole grains, nuts, legumes and vegetables. We never need to eat any kind of concentrated sweetener, processed or natural, to provide our body with glucose, not even fruit!

In order to understand the link between our culture's high sugar consumption and disease it is important to understand the complex relationship that exists between food, blood sugar, insulin, and fat in your body. When you eat, glucose is released into the blood stream and blood sugar levels go up. In response to this, your pancreas secretes the hormone insulin which tells the cells to receive the circulating glucose. Extra glucose is stored in your liver and muscles as glycogen. When the liver can no longer store glycogen, remaining glucose is stored as fat, often leading to weight gain.

Between meals, when blood sugar levels are low, your pancreas secretes another hormone called glucagon which transforms the glycogen back into glucose, providing stored energy to your body. When your body has used up its stores of glycogen, it uses fat as its energy source.

Foods high in sugar or refined carbohydrates, such as pasta or bread, break down very quickly in the body and high amounts of glucose flood the blood stream. Initially you will feel more energized, but this spike in sugar levels is overwhelming to your system. Your pancreas overcompensates by secreting too much insulin into the bloodstream. The result? Glucose is absorbed so quickly that the result is low blood sugar or hypoglycemia. When you are experiencing low blood sugar you may feel fatigued or hungry. In order to boost your energy levels you may be tempted to reach for a sugary snack or food high in refined carbohydrates thus creating a constant state of fluctuation in blood sugar levels. These extreme highs and lows are very hard on your body and can eventually lead to other health problems.

What's in your breakfast bowl?

Did you know that some of the breakfast cereals you enjoy contain higher ratios of unhealthy processed sugars with empty calories, as well as other ingredients that cater for pleasant taste rather than nutrition? Many cereal products, including granola and granola bars, contain added cane sugar (sometimes up to four teaspoons per serving), saturated fats and sometimes even dangerous trans fats. (2) As an alternative to sugary cereals or granola, enjoy a cup of whole-milk organic yogurt with chopped nuts, fresh blueberries and a light sprinkling of cocoa powder.

Diabetes: The New Epidemic

Even though our body strives to maintain normal blood sugar levels, this constant fluctuation eventually results in a condition called insulin resistance. If you have insulin resistance, your body will make more and more insulin, but because the tissues don't respond to it, your body won't be able to use sugar properly. Over time cholesterol levels rise and you may notice you are gaining weight. When insulin resistance is seen in conjunction with other symptoms such as obesity, high blood pressure, high LDL and low HDL cholesterol, kidney disease, and/or hardening of the arteries it is referred to metabolic syndrome which, if gone untreated, can then lead to diabetes. Advanced diabetes can eventually cause blindness, kidney failure and severe nerve damage. People with diabetes are also two to four times more likely to die of heart disease and experience stroke. (3)

Today, more than 20.8 million Americans, or seven percent of the population, have diabetes; While 14.6 million people are diagnosed, 6.2 million people don't know they have the disease. (4) If the spread of Type 2 diabetes continues at its present rate, the number of people affected in the United States will increase from about 14 million in 1995 to 22 million in 2025, making the disease the country's fastest-growing public health problem. (5) Though the statistics are daunting, the good news is that diabetes and its precursor metabolic syndrome, can be controlled and even reversed with a healthier lifestyle that includes maintaining a healthy weight, regular exercise and better choices in the foods that we eat. Even better news is that you don't have to give up all the foods that you currently enjoy. The key is to learn about and include in your diet healthier substitutions and additions to your meals and snacks that will help support and maintain normal blood sugar levels which lead to overall better health and vitality.

A Small Step for Greater Change

*A new study found that just three weeks of a high fiber and plant based diet, with low sugar and low saturated fat consumption reversed the clinical diagnosis of Type 2 diabetes – or its precursor, called metabolic syndrome. The program worked in half of the overweight patients following it. Christian Roberts at the University of California, Los Angeles, US, who led the study says, “The study shows, contrary to common belief, that type 2 diabetes and metabolic syndrome can be reversed solely through lifestyle changes.” (6) **Are you ready to take a step in a new direction?***

Think Outside the Cereal Box

The Standard American Diet, or SAD diet, often includes sugar-sweetened cereal or pastry for breakfast, a sandwich of lunch meat and cheese on white bread with a soda for lunch, cookies or crackers for a quick snack, and turkey pot pie for dinner, with some Oreos on the sly. Or it might be a bagel with cream cheese and juice for breakfast, a burger on a bun with fries for lunch, and pasta primavera for dinner. The white flour and sugar in these foods translate into glucose overload and high blood sugar.

In general, it is best to avoid eating processed and packaged foods such as the ones mentioned above, but if you do, read the label and look for hidden ingredients. Learn to identify terms that mean added sugars, including sugar, white sugar, brown sugar, confectioner's sugar, corn syrup, dextrin, honey, invert sugar, maple syrup, raw sugar, beet sugar, cane sugar, corn sweeteners, evaporated cane juice, high fructose corn syrup, malt, molasses, and turbinado sugar. (7)

Just a Spoonful of Sugar...

Eating just two teaspoons of sugar is enough to throw our blood chemistry out of balance. The resulting biochemical chaos can last for 6-8 hours. If you eat sugar (or other refined carbohydrates) morning, noon, and night, your body chemistry is in chaos 24 hours a day. (8)

Also look for and avoid trans fat, or trans-fatty acids. Trans fats are formed when oil is hydrogenated, a manufacturing process in which hydrogen atoms are mixed with non-saturated liquid oil from plants like corn or soy beans. The result is fat that stays relatively solid at room temperature giving products a longer shelf life. Think of trans fat essentially as shortening or margarine. On food labels look for partially hydrogenated oil in the ingredient list. Trans fats are prevalent in fast food, baked goods, chips and crackers, spreads, sauces and mixes and other unexpected places like breakfast cereals, breakfast bars, some energy bars, tortillas, microwave popcorn, fish sticks or other breaded frozen food. (9)

When making decisions about what not to eat, use your best judgement. If you are eating out, choose a balanced plate of lean protein and healthy fats paired with a vegetable or salad with a vinaigrette dressing. When shopping for food, stay on the perimeter of your local health food store where you will find fresh produce, organic meats and whole grains, legumes and nuts in bulk. Better yet, take a trip to your local farmers market and buy the freshest foods possible when they are in season and their flavors and nutritional benefits are at their peak. The easiest way to avoid the temptation of a high carb or high sugar snack is to avoid buying those products all together. Instead, fill your refrigerator and pantry with whole fresh foods, complex carbohydrates and healthy meats and fats that slow the release of glucose into the bloodstream, bringing you an even energy supply throughout your day.

Foods for Health

There is no single blood sugar diet that will suit every person with blood sugar problems, but there are general guidelines. Ideally you should meet with a nutrition consultant to plan an individualized diet within the guidelines that takes into consideration your own specific health needs.

Enjoy a variety of vegetables. Be sure to include as many fiber-rich vegetables as possible and, on occasion, enjoy low sugar fruits, such as green apples or dark berries. When choosing vegetables, include as many colors of the spectrum as possible; green, orange and yellow veggies are high in vitamins, minerals and antioxidants. For added fiber, include a daily choice of nuts, seeds, or legumes.

Choose complex carbohydrates. Choose complex carbohydrates found in whole grains such as brown rice and millet over the carbohydrates found in starch-heavy foods, such as pastas, white-flour products, white rice and potatoes. Complex carbohydrates are also a great source of fiber, which is extremely important in any health diet.

Healthy fats and oils. In selecting fats or oils, choose monounsaturated and polyunsaturated fats that protect your health by improving your cholesterol profile such as olive and coconut oils. Avoid saturated fats (found in animal products) and trans-fatty acids (hard margarines, commercial products, fast foods). When including dairy in your diet, always go for the organic products.

Clean sources of protein. In selecting animal protein, look for lean meat. Choose organic and free range whenever possible. One of the best sources of animal protein is fish as it is high in essential fatty acids, particularly Omega 3s. Good sources include fatty fish such as salmon, tuna, sardines, and mackerel.

Supplements for Support

Many nutritional supplements are known help regulate blood sugar levels. Educate yourself about the different herbs and supplements that have helped people with diabetes achieve better health. Consult your doctor or naturopath to discuss which herbs and supplements might be good additions to your diet.

The following is a list of some of the vitamins, minerals, amino acids, and other herbal supplements that have been extremely helpful with symptoms and deficiencies associated with diabetes: Chromium, Magnesium, Niacin, Alpha Lipoic Acid, Glutamic Acid, L-carnitine, Vitamin C, Vitamin B, Vitamin E, Zinc, Vitamin D, Fish Oil, Vanadium, Manganese, Taurine, Inositol and Evening Primrose Oil, American or Siberian Ginseng, Gymnema Sylvestre, Garlic, Royal Jelly, Digestive Enzymes and Omega 3 Fatty Acids. (10)

Befriend New Foods

With a change in diet and lifestyle comes many positive changes, including new foods, new tastes and new experiences. It is important to broaden your horizons when it comes to the items you put in your shopping cart. Many of the foods that you currently enjoy may already help support blood sugar levels, however there is a wide variety of delicious whole foods in your local grocery store that you may not be familiar with. At first, start with two to three new items and continue to add new foods and alternative ingredients as you become more familiar with them. Below are a few items that should find a new home in your kitchen. Some are common items and others may just become your new favorite foods.

Flax Seeds - A great source of Omega 3s. Great for smoothies and baking.

Chia Seeds - Add to water for extra energy, hydration and Omega 3s. Try in puddings!

Green Magic Powder - Contains 17 of the most nutrient dense foods on the planet. Great in smoothies!

Spirulina - Coined a 'superfood', it is the highest protein food and richest beta carotene food.

Dulse Flakes - A versatile sea vegetable that is approximately 22% protein. Use instead of salt.

Stevia - A naturally sweet herb that does not affect blood sugar levels. Use as a natural sweetener in place of sugar or honey. Not a substitute for sugar in baked goods.

Brewer's Yeast - Contains high levels of chromium which helps maintain normal blood sugar levels. Sprinkle on foods for added flavor and nutrition. Also a good source of B vitamins often lacking in vegetarian diets.

Sea Salt or Real Salt - Unrefined, unprocessed salts with a variety of important minerals not found in table salt.

Glutamic Acid - Reduces sugar cravings and increases energy. A great addition to any smoothie.

Gymnema Sylvestre - Effectively blocks sweet tastes in the mouth and lowers blood sugar levels

Tumeric - A powerful antioxidant, anti-inflammatory, and anti-carcinogenic spice. Used in curries.

Fenugreek - An Indian spice used in curries that helps balance blood sugar and has beneficial effects on triglycerides.

Cinnamon - A common spice that reduces blood glucose levels as well as triglycerides and cholesterol.

Cayenne/Chili Peppers - Contains high amounts of capsaicin which is being explored as a cure for diabetes.

Jerusalem Artichoke (or Sunchoke) - A tuber that stimulates insulin production. Use in place of a potato.

Green Beans - The pods of green beans contain an insulin like hormone that helps control diabetes.

Quinoa - An amino acid-rich (protein) seed which is considered a grain. A filling alternative to pasta.

Millet - A heart healthy gluten free grain. Can be prepared creamy like mashed potatoes or fluffy like rice.

Brown Rice - A concentrated source of fiber and manganese, a mineral that helps produce energy from protein and carbohydrates. Use as an alternative to white rice.

Coconut Oil - Coconut stabilizes blood sugar levels, helping with diabetes. A high heat oil good for cooking.

Olive Oil - This popular oil is thought to benefit people at risk for or with diabetes. Not good for high heat.

Nuts and Nut Butters - Good high protein, high fiber snacks and spreads.

5 Day Menu Plan

Day 1 Steel Cut Oatmeal with Green Apples, Cinnamon and Cardamom
Spiced Chai Tea with Almond Milk (Sweetened with Licorice Root and Stevia)
Butternut Squash Bisque
Apple Cabbage Nut Salad
Snapper simmered with Curry and Spices
Aromatic Jasmine Brown Rice

Day 2 Spinach and Goat Cheese Omelet with Kalamata Tomato Salsa
Mixed Greens with Lemon Vinaigrette
Onion Soup with Emmental Cheese
Green Beans with Sweet Shallots and Slivered Almonds
Barley Mushroom Risotto
Italian Mozzarella Salad with Cherry Tomatoes

Day 3 Green Ribbon Rainbow Chard with Spicy Almond Sauce and a Poached Egg
Avocado and Berry Smoothie with Glutamine (Sweetened with Stevia)
Turkish Kabobs with Spicy Chickpea Sauce
Quinoa Tabbouleh
Cauliflower and Artichoke Gratin with Pearled Barley
Celery Root Salad with Mustard and Parsley

Day 4 Almond Flour Pancakes with Coconut Cream and Fresh Seasonal Berries
Warmed Almond Milk with Chia Seeds and Cinnamon (Sweetened with Stevia)
Moroccan Chicken Salad with Pine Nuts and Green Apples in Lettuce Cups
Curried Lentils
Sunchoke and Sweet Potato Puree with Scallops and Chive Oil
Fennel and Green Olive Salad with Lemon Mint Dressing

Day 5 Shrimp and Asparagus Crepe with Yogurt Herb Sauce
Rooibos Tea with Vanilla and an Orange Twist
Leek and Sweet Potato Rösti with Goat Cheese
Warm Baby Spinach and Frissee Salad with Tarragon Vinaigrette
Minestrone Soup
Poached Whitefish with Caper and Anchovy Sauce served on wilted Totsoi

Dessert Options

Sweet Potato and Coconut Mousse
Yogurt with Berry Sauce
Ricotta Lemon Cream

Snacks

Savory Flax Crackers with Spicy Garlic Yogurt Dip
Spinach Onion and Dill Dip with Baked Kale Chips
Green Apple slices with Almond Butter and Ground Flax Seeds
Nori Roll with Vegetables, Mint and Spicy Almond Sauce

The “Diabetes Diet”: Not Just for Diabetics

Most experts would agree that the general guidelines for following a “diabetes diet” is not something that only people with diabetes or metabolic syndrome should follow. Reducing sugar intake and increasing fiber helps to reduce the risk of many of the diseases that Americans suffer from today. Understanding the difference between healthy and unhealthy fats, and eliminating the latter from our diet, would also positively impact our health as a nation. So rather than looking at a sugar controlled diet as a burden that only people with diabetes must follow, consider the fact that this way of eating is really a lifestyle that prevents disease and promotes healing, vitality and longevity in all people.

As you begin to learn more about the impact of sugar on your body and begin to experience greater health through better eating habits, you may want to encourage others to take a closer look at reducing sugar intake and including more whole foods in their diet as well. Through your quest for better health, you can help encourage more positive eating habits and better health for your friends and family.

Naturally Sweet

People who crave sweet foods will often look to sugar to satisfy their cravings, unaware of the fact that that same sweetness is inherent in a variety of fresh organic whole foods when prepared properly. When sugar laden foods are replaced by whole foods sugar, cravings will become less frequent.

Experience the Benefits, Stay Motivated

The motivation to stick with your diabetes diet will improve as you begin to experience the benefits of new eating habits. Ultimately you will feel better, decrease your risk of fluctuating blood sugar levels, better control your weight and maintain greater control of diabetes and related symptoms. The motivation you need to succeed will come from within. You have to believe that what you’re doing matters — and understand, that above all else, small steps to a healthier lifestyle today will be rewarded with vitality and good health both today and in the future. ~

Bibliography

1. U.S. Department of Agriculture/U.S. Department of Health and Human Services
Home and Garden Bulletin No. 232. Fourth Edition. (December 1995).
2. Cautions About Those Convenient Bars
<http://www.natureschoice.co.za/granola.htm> (Natures Choice 2002).
3. Women's health risks
Mayo Clinic.com (Mayo Clinic, February 2007)
4. Total Prevalence of Diabetes in the United States, All Ages, 2005
"National Diabetes Statistics fact sheet: general information and national estimates on diabetes in the United States, 2005".
Department of Health and Human Services, National Institute of Health, 2005.
5. King H, Aubert RE, Herman WH.
"Global burden of diabetes, 1995-2025: prevalence, numerical estimates, and projections."
Diabetes Care (1998): 21:1414-31.
6. Bhattacharya, Shaoni. "Three-week diet curbs diabetes".
NewScientist.com (New Scientist, January 2006)
7. Find the Hidden Sugars
thewashingtonpost.com (March 2003)
8. Sugar: The Inside Scoop
Nutrition News. Vol XXIX, No. 7 (2005)
9. Severson, Kim. "Clues on labels reveal hidden trans fats."
San Francisco Chronicle, San Francisco, CA. (Wednesday, July 31, 2002)
10. Diabetes and Nutritional Supplements and Herbs (Puritan.com)
http://www.puritan.com/vf/healthnotes/HN75_english/Center/Diabetes_Supp_Herb.htm