

Sugar addiction and ‘Syndrome X’: Missing links in weight gain and chronic disease

By Lauren I. Mirkin

Ask yourself the following questions, and think carefully about your answers:

- Do you really like sweet foods?
- Do you crave bread, cereal, popcorn or pasta?
- Are you overweight and unable to lose the extra pounds?
- Do you avoid exercise because you haven’t got the energy?
- Do you drink soft drinks daily?
- Do your meals center on pasta, white rice or potatoes?
- Are convenience foods like pizza, deli sandwiches and hot-dogs a regular part of your diet?
- Do you have a close relative with heart disease, high blood pressure, adult-onset (type 2) diabetes, or obesity?
- Do you find it inconceivable to get through the day without sugar, chocolate or coffee?

If you answered yes to three or more of these questions, there’s a good chance you are sugar-sensitive or carbohydrate-addicted. You may even have what was termed in 1988 by a Stanford University endocrinologist “metabolic syndrome,” or, more popularly, “Syndrome X.”

Syndrome X is defined mainly by some form of sugar or carbohydrate dependence. Obesity researchers Richard and Rachel Heller, who have become known nationally for their work on carbohydrate addiction, define the problem as “a compelling, recurring, and at times escalating craving for starches such as bread or pasta; for snack foods such as chips or pretzels; or for sweets such as cookies, cakes or chocolate ... plus a tendency to gain weight easily.”

There are other distinguishing characteristics of Syndrome X. These include:

- Abdominal obesity.
- Elevated triglycerides and low levels of “good” HDL cholesterol.
- A phenomenon known as “insulin resistance.”

Syndrome X raises risk of diabetes, heart disease

You may have heard about insulin resistance in connection with type 2 diabetes, which is now estimated to affect as many as 17 million Americans, many of whom don't know they have the disease. Formerly known as "adult-onset" diabetes, this condition is today affecting more and more teenagers and even children, mainly due to dietary and lifestyle factors.

Insulin resistance comes about when abnormally high glucose levels in the blood trigger the release of extra insulin—a hormone produced in the pancreas—to remove this sugar from the bloodstream. But when this cycle happens repeatedly, the body's cells may eventually begin to ignore the extra insulin, allowing the blood glucose levels to rise and remain high. Over time, the cells become insensitive, or even resistant, to the hormone's effect.

This unfortunate cycle of events is found in many people who are overweight. When it is combined with high levels of blood fats, such as cholesterol and triglycerides, along with too much body fat and high blood pressure—a total picture we refer to as Syndrome X—this significantly increases the risk not only for diabetes, but for heart disease and other chronic illnesses.

So what should you do if you think you may be a Syndrome Xer, or a sugar or carbohydrate addict?

First, go to your physician for a check-up. This should include not only a physical exam with a weigh-in and blood-pressure reading, but blood tests, such as a blood-glucose test for diabetes, and a lipid panel to measure your levels of triglycerides and cholesterol.

The next steps are changes to your diet and activity level. Below are some general points you'll need to consider.

Start fighting Syndrome X by cutting the carbs

1) Avoid or drastically reduce your consumption of refined carbohydrates. In his book *Syndrome X*, nutrition researcher Jack Chellem says: "Syndrome X is caused primarily by a diet high in refined carbohydrates, which probably include many of your favorite and frequently eaten foods, such as cereals, muffins, breads and rolls, pastas, cookies,

doughnuts, and soft drinks. These refined carbohydrates not only raise glucose and insulin to unhealthy levels, but also fail to supply the many vitamins, minerals, and vitamin-like nutrients our bodies need to properly utilize these foods.”

Every time high-carbohydrate foods are eaten, the body moves quickly to get sugar out of the blood and, if it is not needed for energy, store it as fat. According to British nutritionist Patrick Holford in his newsletter *The Wellness Advisor*, “This is why controlling your blood-sugar levels is absolutely crucial if you want to avoid building up fat.”

Insulin, as we noted above, helps move sugar out of the blood. Every time you raise your blood sugar above what the body can handle, increased amounts of insulin are secreted. Part of what insulin does is cause sugar to be stored as fat. The more insulin you produce, the more sugar you store as fat.

This situation is aggravated by the consumption of trans-fatty acids, which are often found in refined carbohydrate-rich foods. Many brands of crackers are a good example. Trans-fatty acids are adulterated polyunsaturates that crowd out essential fats from the cell membrane. This makes cell membranes less fluid, and reduces the number and sensitivity of insulin receptors. As a result, trans-fatty acids promote insulin resistance. In fact, one study showed that women who ate margarine (which, unlike natural butter, is high in trans-fatty acids) four or more times per week had a higher than normal risk for high triglycerides, low HDL, and high total cholesterol. Trans-fatty acids may also increase the size of fat cells and allow them to store more fat.

What is the glycemic index?

2) At each meal choose your carbohydrates according to the glycemic index (GI). This is a way of classifying foods according to their effect on blood sugar. Foods with a high GI release sugar quickly into the bloodstream, causing blood-sugar levels to spike. Chellem calls these foods “some of the most dangerous substances you can put in your mouth.” Given the prevalence of serious chronic diseases such as diabetes and heart disease in our nation, this may not be a radical statement.

A table showing how various food rank on the GI is available in many nutrition books. Your meals should feature low-GI, non-starchy vegetables such as salad greens, asparagus, broccoli, cauliflower, cabbage, mushrooms, tomatoes, cucumbers, spinach and zucchini. Make sure you get at least two cups' worth of these.

Use only small quantities of carbohydrate-dense foods such as breads, yams or grains. This means about a half cup to a cup, depending on your level of insulin resistance.

Equally important is to include at each meal 20 to 30 grams of protein, or about 4 to 6 ounces of meat, poultry or fish, along with an additional 1 to 2 tablespoons of fat, such as good-quality olive oil or avocado slices.

By including adequate protein and fat, you ensure the release of a hormone called cholecystokinin, or CCK. CCK goes to the brain and announces that food is coming. But this hormone is not released by eating carbohydrates.

Endocrinologist Diana Schwarzbein explains this in her book *The Schwarzbein Principle*. "Carbohydrates must enter the bloodstream before triggering the release of insulin, which causes a temporary release of serotonin in the brain, signaling the beginning of satiety. Next, the sugar leaves the liver and goes to the brain. Your brain-sugar level rises, signaling that you are fully satiated. But carbohydrates have to go through the entire digestion and absorption process before the brain understands it is getting food and stops sending hunger signals. By that time you could have eaten an entire box of cereal. Whereas eating protein and fats signals the brain early on to stop demanding food, with carbohydrates there is no early regulation to say, 'Don't eat more.'"

A high-carbohydrate, low-fat diet is not the best way to correct insulin resistance. In fact, nutrition scientist Robert Crayhon, in his book *Nutrition Made Simple*, states that "Many obese people with high insulin levels require a diet that is no more than 40 percent carbohydrates."

The benefits of natural foods for battling Syndrome X

3) Eat foods as close as possible to their natural and fresh state. When foods are processed, their GI rises. So applesauce has a higher GI than apples, and apple juice has a higher GI than applesauce. The whole apple still has its fiber intact; this fiber slows the entry of glucose into the bloodstream, an important consideration in overcoming insulin resistance. An apple is also nutrient-dense; it packs greater amounts of nutrients relative to its carbohydrate content. Lastly, natural foods also have a high potassium-to-sodium ratio, which encourages normal cell function and helps decrease Syndrome X factors. For example, an apple has a potassium content of 152 mg and a sodium content of 1mg, whereas apple pie has 80 mg of potassium and 301 mg of sodium.

4) Avoid soft drinks, fruit juices, alcohol and other highly processed drinks. “Liquid candy,” as soft drinks have been called, quickly raise glucose and insulin to high levels. These beverages are among the greatest contributors to insulin resistance in the United States, especially in children and teens.

5) Become more active. Regular structured activity is great, but even simple steps like taking the stairs instead of the elevator, or walking to school instead of driving, can help. As the Hellers write, “Even mild or moderate activity or movement can help to reduce your insulin levels and decrease your body’s insulin resistance.”

A good way to motivate yourself to increase your level of activity is to get a pedometer with step-count function. This is a small electronic that you wear on your belt to measure how many steps you take throughout the day. *Prevention Magazine* reports that sedentary people who wear pedometers and set daily goals become more active all day and see improvements in fitness and body fat comparable to those seen in people doing more structured exercise. One study reported in the *International Journal of Obesity* found that people who take at least 9,000 steps a day are more likely to be classified as normal weight, while people who take fewer than 5,000 steps daily are more likely to be classified as obese.

One of my nutrition clients recently told me, “I can’t believe how motivating this tiny beeper-looking thing is. I’ve become very competitive [with myself] and I always want to beat yesterday’s total.”

Regardless of your individual level of sugar sensitivity or carbohydrate addiction, you will find that increasing your physical activity and eating balanced, regular meals of protein, fat, and *lower carbohydrates* will allow your body to function better and give you the physical energy to pursue your spiritual purpose in life.

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