

What's The Big Deal About Sugar?

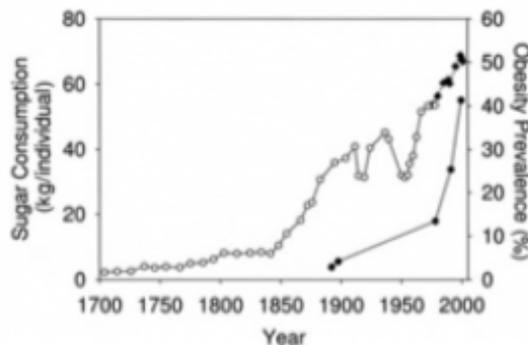


The modern diet is the main reason why so many people throughout the world today are fatter and sicker than ever before. Obesity, diabetes and heart disease are growing at alarming rates. Of course there are many things that contribute to this, but without doubt the increase in consumption of processed foods that are high in sugar and refined grains and vegetable oils are a large factor. It is the reason why at Active8me we teach you and encourage you to embrace clean eating.

The Problem With Sugar

Sugar is only one part of the problem, but the reason it is getting so much attention is because it affects the body in a powerful way and we are consuming more of it now than ever before. And at the same time it has lots of other negative impacts. Let me explain.

Today, instead of most of the food available being fresh and grown locally, it is processed and filled with sugars and chemical additives. This has coincided with skyrocketing obesity rates and other preventative health issues like Type 2 diabetes, hypertension, heart disease, liver disease and other metabolic problems. Consider the following graph taken from Richard Johnson et al in the [American Journal of Clinical Nutrition](#) (2007).



What is Sugar?

Sugar in itself isn't a food group. It is the generalised name for sweet soluble carbohydrates. There are various types of sugar that are derived from different sources.

Three of these forms of sugar – sucrose, glucose and fructose are commonly referred to as simple sugars. Let's quickly look at these three.

Sucrose is commonly known as table sugar – the white powdered or granular sugar you can buy at the shops. Structurally it is made up of roughly 50% fructose and 50% glucose. It is obtained from sugar cane or sugar beets and is often added to processed foods to sweeten them and increase flavour. This added sugar is pretty much void of any benefit to your body and doesn't give your body the nutrients it craves. It spikes your blood sugar levels giving you that 'sugar high' followed by a sudden dip. This dip creates a heightened desire for foods that are high in added sugar again. You will see from below that this has a number of negative impacts on your body.

Glucose is found in every living cell on the planet. Your body processes most carbohydrates you eat into glucose, either to be used immediately for energy or to be stored in muscle cells or the liver as glycogen for later use. If we don't get it from the diet, our bodies produce it.

Fructose is a sugar found naturally in many fruits and vegetables. It is also commercially processed to make high fructose corn syrup and added to many drinks such as soda, fruit juices and other sweetened drinks. Fruits and vegetables carry essential vitamins and minerals such as vitamins A and C, potassium, magnesium and copper. They are also loaded with fibre that keeps our intestines healthy. Fructose eaten from these foods is recommended, but fructose from highly processed foods isn't. It will lead to unnecessary weight gain.

Added sugars (like sucrose and high fructose corn syrup) contain a whole bunch of calories with NO essential nutrients. For this reason, they are called "empty" calories. Of all the sugar sources in the diet, sugar-sweetened beverages are the worst.

What Excess Sugar Does to Your Body

Whenever you have filled your body with more fuel than it actually needs (and this is very easy to do when eating foods with high sugar content), your liver's sugar storage capacity is exceeded. When the liver is full, the excess sugar is converted by the liver into fatty acids (that's right – fat!) and returned to the bloodstream, where it is taken throughout your body and stored as fat. And when these regions are full of adipose tissue, the fatty acids begin to spill over into your organs (like the heart, liver, and kidneys). This reduces organ ability, raises blood pressure, decreases metabolism, weakens the immune system and contributes to a host of health concerns.

That's not all though. After added sugar spikes your blood sugar levels and gives you that 'sugar high', it is followed by a sudden dip. This is because there is a slight delay in the feedback mechanism for the body to know when to stop producing insulin and turn the glucose into energy. This dip causes (1) an immediate increase in appetite, which is usually remedied by eating more food (2) the production of cortisol in order to bring the blood sugars back up. Together, they begin the whole excess sugar / fat storage / metabolic decrease again.

Excess sugar can cause insulin resistance. The hormone insulin is produced by the pancreas and released into the body when you ingest simple carbohydrates (fruit juice, white bread, white rice, coke, chips, lollies etc). It shuts down the body's fat burning process so that the sugar that has just been ingested from the food we eat can be immediately used for energy.

Then, insulin takes all that sugar and puts it into your muscles. If your muscle energy stores are full, as described in the point above, the excess sugars are converted into fat.

This presence of extra sugar (glucose) in the bloodstream can then cause the body to work overtime to produce more insulin so the body can convert it into energy and keep blood sugar levels down.

With insulin resistance, the cells, despite the presence of insulin, don't become 'unlocked' and don't let enough of the glucose in the blood into the cells. Eventually, as insulin resistance becomes progressively worse, the pancreas can't keep up with the demand of producing enough insulin to keep blood sugar levels down.

At this point, blood sugar levels skyrocket and a diagnosis of type II diabetes follows.

Because sugar causes a massive dopamine release in the brain (the “sugar high” we all know too well), it is highly addictive.

There are also a host of other negative impacts from excess sugar (fructose) consumption. [Check out this link](#) for a host of research and studies into these impacts – from cholesterol, to hypertension, to hyperactivity, to heart disease and cancer.

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