

Nutriline Audiofile #23: The Effects of Sugar Diabetes

This is Dr. Chet Zelasko.

This may date me a bit, but when I was growing up people didn't use the term diabetes. Instead, they used the expression, "They have sugar." We're a lot more sophisticated today when it comes to medical lingo. But, it does raise a question – is calling diabetes "sugar" accurate? What happens to your body when you "have sugar"? Let's find out.

When you have diabetes, your blood glucose – the amount of sugar in your blood – is greater than it should be.ⁱ So, calling diabetes "sugar" isn't *technically* incorrect.

What does the excess sugar do in the blood stream? It combines with proteins and other substances in the blood to produce something called "Advanced Glycation End Products".ⁱⁱ Basically, these form a sugar-coated lining in your body's blood vessels. I'll call these "sugar" from here on out, but now you know it's a little more complicated than that.

Sugar damages or blocks blood vessels, and this affects many areas of the body. This includes the cardiovascular system, eyes, kidneys, hands, and feet. Let's look at each separately.

Atherosclerosis is the build-up of plaque in the arteries. When sugar coats the blood vessels of your major arteries, it damages and irritates them. Over time, the arteries become more and more restricted, which results in an increased risk of heart attack and stroke.ⁱⁱⁱ

When the very small blood vessels feeding the eyes become coated with sugar, the result is a condition called retinopathy. This is why diabetics can progressively lose their vision over time. In fact, diabetes is the leading cause of blindness in the United States, it causes up to 24,000 new cases of blindness *each year!*^{iv}

In the kidneys, sugar causes damage as well. This damage comes in the form of kidney disease, and it's the reason more people need dialysis or kidney transplants because of diabetes than for any other reason.^v

The troubles caused by sugar don't end there. Sugar also restricts blood flow to the hands and feet. That's why diabetics can lose feeling in their fingers and toes. When blood flow becomes too restricted, limbs sometimes have to be amputated. In the United States, diabetes is the leading cause of lower-limb amputation not attributed to injury. And if that weren't enough, diabetes is also one of the leading risk factors for erectile dysfunction in men.^{vi}

This all sounds a little scary – but I don't mean to scare you. I just want to make it clear why diabetes is such a destructive disease and illustrate the way it affects every area of your life.

After knowing all this, you can see why it's important to do everything you can to reduce your diabetes risk. Eat a diet low in refined carbohydrates and high in fruits and vegetables. Lose weight if you need to. And *most definitely* don't smoke. Remember, sugar diabetes is one disease you can avoid!

This is Dr. Chet Zelasko saying health is a choice. Choose wisely.

ⁱ Cowie CC et al. "Full Accounting of Diabetes and Pre-Diabetes in the U.S. Population in 1988–1994 and 2005–2006." *Diabetes Care*. 2009; 32(2): 287-294.

ⁱⁱ Jandeleit-Dahm K, Cooper ME. "The role of AGEs in cardiovascular disease." *Curr Pharm Des*. 2008;14(10):979-86.

ⁱⁱⁱ Ligaray PD and Isley WL. "Diabetes Mellitus, Type 2." *Medscape*. 2009.
www.emedicine.medscape.com/article/117853-overview.

^{iv} National Institute of Diabetes and Digestive and Kidney Diseases. National Diabetes Statistics, 2007. National Diabetes Information Clearinghouse. Available on-line at www.diabetes.niddk.nih.gov/DM/PUBS/statistics.

^v "National Diabetes Fact Sheet, 2007." Centers for Disease Control and Prevention.
www.cdc.gov/diabetes/pubs/pdf/ndfs_2007.pdf.

^{vi} Tamler R. "Diabetes, obesity, and erectile dysfunction." *Gend Med*. 2009;6 Suppl 1:4-16.