

The Adverse Effects of Sucrose

Key Points:

1. Sucrose is one of the sweetest tasting sugars
2. Excessive sucrose intake is associated with several health conditions
3. Sucrose is the main ingredient in junk foods

Sucrose is a disaccharide sugar molecule comprised of a glucose and fructose molecule. Because of its disaccharide nature, sucrose is the largest of the sugars and must actually be split in half, or metabolized before it contributes to the energy systems of the body. This metabolic process slows the rate at which sucrose enters the bloodstream, evident by the fact that the glycemic index of sucrose is lower than that of glucose. (Note: see 'Glycemic Index & Performance paper'). In addition, the molecular shape of sucrose allows it to hold water in the stomach and intestines prior to absorption, which can lead to inhibited water absorption in the digestive track resulting in bloating, gas and diarrhea.

Sucrose is also known as common table sugar and is the sweetest tasting of all the sugars (artificial sweeteners are not considered true 'sugars'). Sucrose is a main ingredient in most junk foods and beverages, and is notorious for its adverse health effects such as the development of dental cavities, diabetes, insulin resistance, obesity, and elevated triglycerides, which are a risk factor for the development of atherosclerosis (hardening of the arteries).¹ Because of the high caloric content of sucrose and the excess amounts of sucrose consumed regularly, the body will store it in the form of fat in the organs or on the body, or in the blood as triglycerides. Avoidance of sucrose is an oft-recommended health suggestion. It is so prevalent in food today that it receives much of the blame for many calorie-associated diseases.

Sucrose provides energy, but must undergo some digestion prior to entering the bloodstream, and tastes much sweeter than other sugars such as glucose. Many beverages that contain sucrose are syrupy and need to be diluted with water in order to decrease their intensely sweet taste.

¹ Augustin LS, Franceschi S, Jenkins DJ, Kendall CW, La Vecchia C. Glycemic index in chronic disease: a review. Eur J Clin Nutr. 2002 Nov;56(11):1049-71.

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Gleukos Key Points:

As an alternate source of energy and flavor, glucose, the main ingredient in Gleukos sports drink, is a preferable ingredient due to its rapid absorption and mildly sweet taste for sports beverages.