

Researchers link obesity and the body's production of fructose

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Researchers at the University of Colorado School of Medicine reported today that the cause of obesity and insulin resistance may be tied to the fructose your body makes in addition to the fructose you eat.

In recent years the role of added sweeteners, such as [high fructose corn syrup](#) and [table sugar](#) (sucrose), has taken center stage as risk factors for [obesity](#) and insulin resistance. Numerous studies suggest that the risk from added sugars may be due to the fructose content.

But in the study published in the Sept. 10 edition of *Nature Communications*, the team led by researchers at the CU School of Medicine reports that fatty liver and insulin resistance may also result from fructose produced in the liver from non-fructose containing carbohydrates.

The study, whose first authors are Miguel Lanaspa, PhD, and Takuji Ishimoto, MD, reported that mice can convert glucose to fructose in the liver, and that this conversion was critical for driving the development of obesity and insulin resistance in mice fed glucose.

"Our data suggests that it is the fructose generated from glucose that is largely responsible for how carbohydrates cause fatty liver and insulin resistance," said Lanaspa.

Richard Johnson, MD, professor of medicine and chief of the division of renal diseases and hypertension at the School of Medicine and senior author of the paper, said: "Our studies provide an understanding for why high glycemic foods may increase the risk for obesity and insulin resistance. While some of the weight gain is driven by the caloric content and the effects of stimulating insulin, the ability of high glycemic foods to cause [insulin resistance](#) and fatty liver is due in part to the conversion of glucose to fructose inside the body.

"Ironically, our study shows that much of the risk from ingesting high glycemic foods is actually due to the generation of fructose, which is a low glycemic sugar. These studies challenge the dogma that [fructose](#) is safe and that it is simply the high glycemic carbohydrates that need to be restricted."

Provided by University of Colorado Denver

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