

Researchers look at effects of two common sweeteners on the body

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With growing concern that excessive levels of fructose may pose a great health risk – causing high blood pressure, kidney disease and diabetes – researchers at the University of Colorado School of Medicine, along with their colleagues at the University of Florida, set out to see if two common sweeteners in western diets differ in their effects on the body in the first few hours after ingestion. The study, recently published in the journal *Metabolism*, took a closer look at high fructose corn syrup (HFCS) and table sugar (sucrose) and was led by Dr MyPhuong Le (now a postdoctoral fellow at the University of Colorado) and Dr Julie Johnson, a Professor of Pharmacogenomics at the University of Florida.

Both HFCS and sucrose have historically been considered to have nearly identical effects on the body. But this study finds that indeed there is a difference between the two. They found that the makeup of the sugars resulted in differences in how much fructose was absorbed into the circulation, and which could have potential impact on one's health. Sucrose is 50 percent fructose and 50 percent glucose that is bonded together as a disaccharide (complex carbohydrate) and HFCS is a mixture of free fructose (55%) and free glucose (45%). It's the difference in fructose amount that appears to create the ill health effects on the body.

Their study was conducted at the University of Florida, where they evaluated 40 men and women who were given 24 ounces of HFCS- or sugar-sweetened [soft drinks](#). Careful measurements showed that the HFCS sweetened soft drinks resulted in significantly higher fructose

levels than the sugar-sweetened drinks. Fructose is also known to increase uric acid levels that have been implicated in blood pressure, and the HFCS-sweetened drinks also resulted in a higher uric acid level and a 3 mm Hg greater rise in systolic blood pressure.

Dr Richard Johnson, a coauthor in the study and Chief of the Division of Renal Diseases and Hypertension at the University of Colorado, commented "Although both sweeteners are often considered the same in terms of their biological effects, this study demonstrates that there are subtle differences. Soft drinks containing HFCS result in slightly higher blood levels of [fructose](#) than sucrose-sweetened drinks, "said Johnson. "The next step is for new studies to address whether the long-term effects of these two sweeteners are different."

Provided by University of Colorado Denver

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