

Common sweetener in low-cal foods also a marker for weight gain

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A new study has identified the sugar alcohol erythritol as a biomarker for increasing fat mass. In contrast to previous assumptions and research, erythritol can be metabolized by, and even produced in, the human body.

Erythritol occurs naturally in a variety of foods, such as pears and watermelons, but in recent years has increasingly become a common ingredient in low-calorie foods as a sugar replacement sweetener.

The study, led by Cornell University researchers in the Division of Nutritional Sciences and researchers at Braunschweig University of Technology, Germany, and the University of Luxembourg, Luxembourg, published this month in the *Proceedings of the National Academy of Sciences*. It was conducted as a discovery-based analysis to identify metabolomic markers associated with [weight](#) gain and increase in fat mass in young adults during the transition to college life.

Researchers found that students who gained weight and [abdominal fat](#) over the course of the year had fifteenfold higher blood erythritol at the start of the year compared with their counterparts who were stable or lost weight and [fat mass](#) over the academic year.

As part of Cornell's EnHANCE project, an initiative of the Division of Nutritional Sciences that seeks to understand how the transition to college affects changes in diet, weight and metabolism, these findings advance knowledge on impacts to student health through the undergraduate years and beyond.

Each fall, more than 3 million [high school graduates](#) enroll in postsecondary education as first-time college freshmen, and this transition to a residential college environment is associated with weight gain.

"About 75 percent of this population experiences weight gain during the transition," said Patricia Cassano, professor in the Division of Nutritional Sciences at Cornell. "With this in mind, it is important to

identify biomarkers of risk that could guide its understanding and prevention."

According to Cassano, "With the finding of a previously unrecognized metabolism of glucose to erythritol and given the erythritol-weight gain association, further research is needed to understand whether and how this pathway contributes to [weight-gain](#) risk."

More information: Katie C. Hootman et al, Erythritol is a pentose-phosphate pathway metabolite and associated with adiposity gain in young adults, *Proceedings of the National Academy of Sciences* (2017). [DOI: 10.1073/pnas.1620079114](https://doi.org/10.1073/pnas.1620079114)

Provided by Cornell University

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