

Study finds common artificial sweetener linked to higher rates of heart attack and stroke

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New Cleveland Clinic research showed that erythritol, a popular artificial sweetener, is associated with an increased risk of heart attack

and stroke. Findings were published today in *Nature Medicine*.

Researchers studied more than 4,000 people in the U.S. and Europe and found those with higher blood erythritol levels were at elevated risk of experiencing a major adverse cardiac event such as heart attack, stroke or death. They also examined the effects of adding erythritol to either whole blood or isolated platelets, which are cell fragments that clump together to stop bleeding and contribute to [blood clots](#). Results revealed that erythritol made platelets easier to activate and form a clot. Pre-clinical studies confirmed ingestion of erythritol heightened clot formation.

"Sweeteners like erythritol, have rapidly increased in popularity in recent years but there needs to be more in-depth research into their [long-term effects](#)," said senior author Stanley Hazen, M.D., Ph.D., chairman for the Department of Cardiovascular & Metabolic Sciences in Lerner Research Institute and co-section head of Preventive Cardiology at Cleveland Clinic. "Cardiovascular disease builds over time, and heart disease is the leading cause of death globally. We need to make sure the foods we eat aren't hidden contributors."

Artificial sweeteners, such as erythritol, are common replacements for [table sugar](#) in low-calorie, low-carbohydrate and "keto" products. Sugar-free products containing erythritol are often recommended for people who have obesity, diabetes or [metabolic syndrome](#) and are looking for options to help manage their sugar or calorie intake. People with these conditions also are at higher risk for adverse cardiovascular events like heart attack and stroke.

Erythritol is about 70% as sweet as sugar and is produced through fermenting corn. After ingestion, erythritol is poorly metabolized by the body. Instead, it goes into the bloodstream and leaves the body mainly through urine. The [human body](#) creates low amounts of erythritol

naturally, so any additional consumption can accumulate.

Measuring artificial sweeteners is difficult and labeling requirements are minimal and often do not list individual compounds. Erythritol is "Generally Recognized As Safe (GRAS)" by the FDA, which means there is no requirement for long-term safety studies.

The authors note the importance of follow-up studies to confirm their findings in the general population. The study had several limitations, including that clinical observation studies demonstrate association and not causation.

"Our study shows that when participants consumed an artificially sweetened beverage with an amount of erythritol found in many processed foods, markedly elevated levels in the blood are observed for days—levels well above those observed to enhance clotting risks," said Dr. Hazen. "It is important that further safety studies are conducted to examine the long-term effects of [artificial sweeteners](#) in general, and erythritol specifically, on risks for heart attack and stroke, particularly in people at higher risk for cardiovascular disease."

Authors recommend talking to your doctor or a certified dietician to learn more about healthy food choices and for personalized recommendations.

More information: Stanley Hazen, The artificial sweetener erythritol and cardiovascular event risk, *Nature Medicine* (2023). [DOI: 10.1038/s41591-023-02223-9](https://doi.org/10.1038/s41591-023-02223-9).
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