Equal and Splenda Increase Risk for Stroke and Heart Attack

An urgent warning if you consume artificial sweeteners - these popular food additives have been directly linked to cardiovascular risks, making them an unsafe alternative to sugar.

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9 hr ago

STORY AT-A-GLANCE

- A nine-year study involving 103,388 people linked the artificial sweeteners aspartame (Equal), acesulfame potassium and sucralose (Splenda) to cardiovascular disease and stroke
- Total artificial sweetener intake was associated with increased risk of overall cardiovascular disease and cerebrovascular disease
- Aspartame was associated with an increased risk of stroke while acesulfame potassium and sucralose were associated with increased coronary heart disease risk

- Those in the highest-consuming group were 9% more likely to be diagnosed with cardiovascular disease and 18% more likely to suffer from cerebrovascular disease
- The study found that just 78 milligrams a day of artificial sweeteners — about the amount found in half a can of diet soda — posed a health risk

If you consume artificial sweeteners like aspartame (Equal), acesulfame potassium and sucralose (Splenda) you're taking a gamble with your health. These no-calorie sweeteners have flooded the market, luring in diet- and health-conscious consumers who mistakenly believe that swapping sugar for artificial sweeteners makes sense.

In one of the latest red flags to date — a nine-year study involving 103,388 people — researchers have once again linked the products to health problems, this time cardiovascular disease and stroke. [1] To protect your health, it's essential to cut these additives from your diet; doing so is easy when you address the underlying emotional connection that may be driving you to consume these widely available products.

'Direct' Link Between Artificial Sweeteners, Health Risks

Researchers from France studied the detailed dietary records of adults with an average age of 42. [2] Specifically, three non-consecutive days (two weekdays and one weekend day) of 24-hour dietary records were assigned at the study's start and again every six months thereafter. Participants detailed all foods and beverages they consumed during that time, including quantities, brand names and even photographs to validate the recordings. [3]

The dietary records were further validated using blood and urinary biomarkers. Then, the researchers looked for any associations with cardiovascular diseases, including

coronary heart disease and cerebrovascular disease, which refers to disorders that affect blood flow in the brain, such as stroke, aneurysms and vascular malformations.

Total artificial sweetener intake was associated with increased risk of overall cardiovascular disease (CVD) and cerebrovascular disease, the study found. Among the specific artificial sweeteners, aspartame was associated with an increased risk of stroke (defined in the study as cerebrovascular events), while acesulfame potassium and sucralose were associated with increased coronary heart disease risk. [4]

"Our results suggest no benefit from substituting artificial sweeteners for added sugar on CVD outcomes," the study found. [5] "The findings from this large scale prospective cohort study suggest a potential direct association between higher artificial sweetener consumption (especially aspartame, acesulfame potassium, and sucralose) and increased cardiovascular disease risk." [6]

Just Half a Can of Diet Soda Daily Could Pose a Heart Risk

The study found that just 78 milligrams (mg) a day of artificial sweeteners — about the amount found in half a can of diet soda — posed a health risk, with those consuming that amount being one-tenth more likely to have a heart attack and one-fifth more likely to have a stroke. [7]

To put this into perspective, of the 37% of study participants who consumed artificial sweeteners, the average daily intake was 42.5 mg, which is approximately the amount found in one packet of artificial sweetener or 3.4 ounces (100 milliliters (ml)) of a diet beverage. [8] Those who consumed the most artificial sweeteners in the study consumed 77.6 mg a day, which is the amount found in about 6 ounces (180 ml) of diet soda. [9]

Those in the highest-consuming group were 9% more likely to be diagnosed with cardiovascular disease and 18% more likely to suffer from cerebrovascular disease. Among the artificial sweeteners, aspartame was associated with the greatest stroke risk. [10] The study concluded "artificial sweeteners might represent a modifiable risk factor for cardiovascular disease prevention," adding: [11]

> *"The findings indicate that these food additives, consumed daily by millions of people and present in thousands of foods and beverages, should not be considered a healthy and safe alternative to sugar, in line with the current position of several health agencies."*

A Long History of Cardiac Risks

This isn't the first time artificial sweeteners have been linked to cardiovascular risks. According to the researchers: [12]

> *"[M]ultiple cohorts found associations between artificially sweetened beverages and CVD. Higher artificially sweetened beverage consumption was associated with increased risks of stroke and cardiovascular events in the Women's Health Initiative, which is consistent with prospective investigations from the Nurses' Health Study, the Health Professional Follow-up Study (HPFS), the Framingham Offspring cohort, and the Northern Manhattan Study.*
>
> *Similarly, meta-analyses reported increased risks of stroke, vascular events, coronary heart diseases, CVDs, and CVD mortality."*

The Women's Health Initiative Observational Study was a longitudinal study of the health of nearly 93,680 postmenopausal women between the ages of 50 and 79. One study using its data included more than 81,700 women and had a mean follow-up time of close to 12 years.

The study, which was published in the American Heart Association's Stroke journal, found that, compared to drinking none or just one diet drink per week, drinking two or more artificially sweetened beverages per day raises the risk of stroke, heart attack and early death in women over 50 by 23%, 29% and 16% respectively. [13]

The risk was particularly high for women with no previous history of heart disease, those who are obese and/or African American women. According to the authors: [14]

> *"Most participants (64.1 percent) were infrequent consumers (never or <1/week) of [artificially sweetened beverages] ASB, with only 5.1 percent consuming ≥2 ASBs/day. In multivariate analyses, those consuming the highest level of ASB compared to never or rarely ... had significantly greater likelihood of all end points (except hemorrhagic stroke), after controlling for multiple covariates.*

> *Adjusted models indicated that hazard ratios ... were 1.23 for all stroke; 1.31 for ischemic stroke; 1.29 for coronary heart disease; and 1.16 for all-cause mortality. In women with no prior history of cardiovascular disease or diabetes mellitus, high consumption of ASB was associated with more than a twofold increased risk of small artery occlusion ischemic stroke ...*
>
> *High consumption of ASBs was associated with significantly increased risk of ischemic stroke in women with body mass index ≥30 ..."*

Consumption of Toxic Artificial Sweeteners on the Rise

The artificial sweetener market is worth $7.2 billion globally, and this is projected to grow 5% annually, reaching $9.7 billion by 2028. [15] These toxic substances can be found in more than 23,000 products worldwide, including many ultraprocessed foods, snacks, on-the-go meals and dairy products. Artificial sweeteners are also widely used as table top sweeteners.

Even as increasing health risks are uncovered, the use of artificial sweeteners continues to grow. From 2002 to 2018, while purchases of products containing caloric sweeteners, such as sugar, declined, those containing artificial sweeteners — either alone or in combination with sugar — rose. [16]

Artificially sweetened beverages were the products most purchased, and households with children were more likely to buy artificially sweetened food and beverage products than households without children. "While this aligns with public health objectives related to decreasing sugar intake, it also raises concerns about exposure to NNS [non-nutritive sweeteners]," according to the Gillings School of Global Public Health. [17]

A 2017 survey found that 25% of U.S. children and 41.4% of U.S. adults consumed foods and beverages containing artificial sweeteners such as aspartame, sucralose and saccharin. [18] Considering the myriad of health problems linked to artificial sweeteners, researchers are calling for increased monitoring and transparency in disclosing how much of the compounds is in common foods and beverages.

"There is a need to be able to track our exposure to specific types of sweeteners in order to properly understand their health implications," noted Elizabeth Dunford, Ph.D., with Gillings School of Global Public Health. [19]

"The change to the food supply shown in our study ... reinforces the need to develop and maintain data systems to monitor what companies are putting in their foods. This work complements emerging clinical evidence about the different cardiometabolic and health effects of each NNS type."

Shu Wen Ng, Ph.D., also with Gillings School of Global Public Health, added, "Further improvements to the Nutrition Facts Panel, including the amounts of NNS when present in products, would allow for monitoring our exposure to these additives so we can better assess their potential harms or benefits to health." [20]

Artificial Sweetener Health Risks Are Well-Established

A number of studies have found links between artificial sweeteners and health problems including: [21]

- Weight gain
- High blood pressure
- Inflammation
- Vascular dysfunction
- Disturbances to gut microbiota

A population-based cohort of 521,330 people from 10 European countries found a higher all-cause mortality in those who drank two or more glasses each day of soft drinks, whether they were sugar-sweetened or artificially-sweetened. There was also an association between artificially sweetened soft drinks and death from circulatory disease. [22]

In an example of how consuming artificial sweeteners may affect your daily life, researchers asked healthy adults to consume a high-aspartame diet for eight days

followed by a low-aspartame diet for eight days, with a two-week washout between.

During the high-aspartame period individuals suffered from depression, poor mood and headache. They also performed worse on spatial orientation tests, indicating aspartame had a significant effect on neurobehavioral health. [23] Researchers have also reported that aspartame may trigger insomnia and seizures linked to changes in concentrations of catecholamine in the brain. [24]

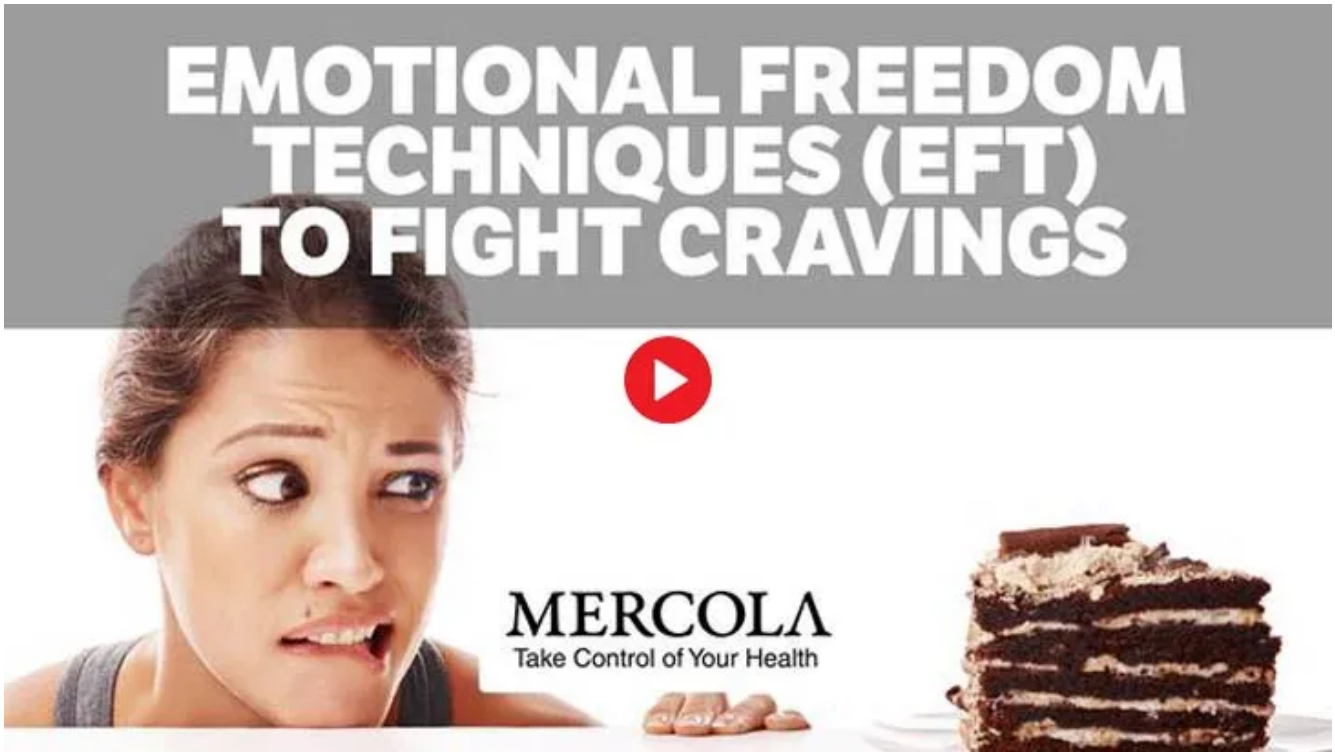
A number of studies have also shown artificial sweeteners raise your risk of both obesity and Type 2 diabetes — perhaps even to a greater degree than sugar does. One example is an animal study presented at the 2018 Experimental Biology conference in San Diego. [25] [26] After being fed a diet high in either artificial sweeteners (aspartame or acesulfame potassium) or sugars (glucose or fructose) for three weeks, detrimental effects were seen in all groups.

All had increased blood lipids (fats), but the artificial sweeteners also accumulated in the blood of the animals, which harmed the blood vessel lining to a greater degree. The results indicate that artificial sweeteners alter how your body processes fat and produces energy at the cellular level.

Further, artificial sweeteners may lead to shifts in gut microbiota similar to those caused by antibiotics. [27] In 2021, for the first time, researchers revealed that artificial sweeteners may even promote antibiotic resistance via conjugative gene transfer and gave insights into how artificial affects your body at a cellular level, even influencing the expression of genes. [28]

Equally disturbing, in research presented at the American Society for Biochemistry and Molecular Biology annual meeting held April 2 to 5, 2022, in Philadelphia, it was revealed that artificial sweeteners — specifically acesulfame potassium and sucralose — may interfere with your liver's delicate detoxification process. [29]

Tips to Relieve Your Cravings



Once you know where to look for them, removing artificial sweeteners from your diet is simple. Be aware that they're hidden in many products beyond beverages, including dairy products, ketchup, salad dressing, baked goods and medications.

If you're looking for a healthier sugar substitute, Stevia and Lo Han Kuo (also spelled Luo Han Guo) are two options. Stevia, a highly sweet herb derived from the leaf of the South American stevia plant, is safe in its natural form and can be used to sweeten most dishes and drinks.

Lo Han Kuo is similar to Stevia but is my personal favorite. I use the Lakanto brand vanilla flavor as a treat. Lo Han fruit has been used as a sweetener for centuries, and it's about 200 times sweeter than sugar. A third alternative is to use pure glucose, also known as dextrose. Dextrose is only 70% as sweet as sucrose, so you'll end up using a bit more of it for the same amount of sweetness, making it slightly more expensive than regular sugar.

For a simple trick to satisfy your sweet craving without reaching for an artificial sweetener — eat something sour. Sour taste, such as that from fermented vegetables or water spruced up with lemon or lime juice, helps to reduce cravings for sweets.

Oftentimes, however, people are drawn to eat sweets (or artificially sweetened foods) because of an underlying emotional challenge. If this applies to you, I highly recommend using a psychological acupressure technique called the Emotional Freedom Technique (EFT). EFT, as demonstrated in the video above, is simple and effective, and can rapidly help you control your emotional food cravings, kicking artificial sweeteners to the curb.

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4 BMJ 2022;378:e071204, Discussion

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