



International Sugar Organization

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EXECUTIVE DIRECTOR

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Washington Post

The Executive Director would like to draw your attention to the article below published recently in "The Washington Post", which summarizes the recent findings reported by the WHO and others on the consumption of artificial sweeteners and their impact on human health. It's very important to familiarize yourself with this information as it has high relevance for our Sugar sector.

So what should you do?

Experts say it's clear that consuming a lot of sugar is bad for your health. But Suez and others say you should be cautious about replacing sugary foods with sugar substitutes. It's best to consume any kind of low-calorie sweetener in moderation. Pay attention to ingredient lists. Another simple measure is to [reduce your intake of highly processed foods](#), which tend to contain a lot of sweeteners and other additives.



Peach fruit cups. The label may say that your diced peaches are packed in "naturally sweetened water" with no added sugars and no artificial sweeteners or flavors. But the ingredient list for some brands indicates that they're sweetened with stevia leaf extract.

Rankin, from the sugar-substitute industry group, said that current food labels give people sufficient information to identify products that contain both caloric sweeteners as well as sugar substitutes.

How fake sugars sneak into foods and disrupt metabolic health

Artificial sweeteners and other sugar substitutes sweeten foods without extra calories. But studies show the ingredients can affect gut and heart health.

Flavored oatmeal. "Lower sugar" instant oatmeal varieties claim to have as much as 35 percent less sugar than the regular version. But that's because food makers have decreased the serving size and added monk fruit extract.





Some examples of foods the sugar industry called out include:



Blueberry protein bars. Some “low sugar” protein bars claim on the label that they contain just one gram of sugar. But you’d have to flip to the ingredient list on the back to see that your bars might be sweetened with multiple sugar substitutes such as erythritol, allulose and sucralose.

Greek yogurt. Your vanilla Greek yogurt may claim it contains no added sugar or artificial flavors. But if you check the ingredients, you might discover it’s sweetened with stevia leaf extract. Some brands of low-sugar yogurts actually have more calories than the regular version.

The group argued that consumers are being “misled” because these products are frequently marketed as healthier, even though they’re often “higher in calories or contain alternative sweeteners that consumers are not familiar with.”



One **particularly vocal critic** is the sugar industry. The Sugar Association, an industry trade and lobbying group, in 2020 submitted a lengthy petition to the FDA pointing out that packaged foods that carry label claims like “reduced sugar” and “no added sugars” are often sweetened with sugar substitutes.

Detecting the hidden sugar substitutes

[The American Academy of Pediatrics](#) says the FDA should require food companies to list the amounts of any non-nutritive sweeteners on the nutrition facts panel, alongside things like fat, carbohydrates and added sugar. Some consumer groups [called for](#) new labeling rules to make it easier to know when sugar substitutes are used in packaged foods.

For many years, artificial sweeteners were plagued by concerns that they could cause cancer, largely stemming from early research in rodents. But the [American Cancer Society](#) says that there is “no clear evidence that these sweeteners, at the levels typically consumed in human diets, cause cancer.”

They can, however, have other concerning effects. A large study [published in the BMJ](#) found that a high intake of artificial sweeteners increased the risk of cardiovascular problems such as strokes and coronary heart disease.

Another study [published in Nature Medicine](#) linked the sugar substitute erythritol to [higher rates of heart attacks and strokes](#). The researchers found that when people consumed erythritol in amounts commonly found in processed foods it stayed in their systems for days and had the potential to promote blood clots.

The Calorie Control Council [challenged the study results](#), saying they are “contrary to decades of scientific research.”



Effects on weight and cardiovascular health

Scientists say it's hard to fully understand the health effects of all these sugar substitutes. One reason is that there are so many of them. At least six artificial sweeteners have been approved by the FDA: Saccharin, sucralose, aspartame, acesulfame potassium, neotame and advantame. Companies are also allowed to use other non-nutritive sweeteners that the agency deems "generally recognized as safe," which means they don't have to undergo rigorous FDA safety reviews.

Observational studies suggest that people who consume a lot of low-calorie sweeteners have higher rates of obesity and weight gain. But that may be a [case of reverse causality](#), since people who are at risk of obesity are more likely to choose diet foods and beverages. The [most rigorous clinical trials](#) show that when people replace sugary drinks with artificially sweetened beverages like Diet Coke and Diet Pepsi it helps them avoid [gaining excess weight](#).

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One potential consequence of this, [studies have found](#), is that you might develop stronger sugar cravings and end up eating more sugar and sweetened foods.

Powerful effects on the brain

In a clinical trial [published in JAMA Network Open](#), researchers found that drinking beverages that contained sucralose increased food cravings in women and people with obesity and led women to eat larger amounts of food at their next meals.

At the same time, research in animals suggests that sweet flavors, whether from sugar or from artificial sweeteners, can have powerful effects on the brain's reward center. When given a choice between cocaine or water sweetened with saccharin, rats will almost always choose the artificially sweetened beverage.

Studies suggest that our taste receptors and willpower can be easily overwhelmed by intensely sweet flavors — even if those flavors come from fake sugar.



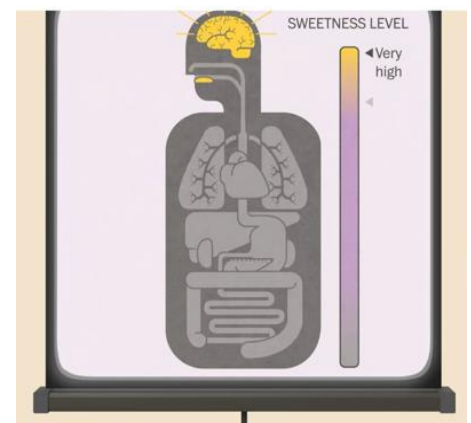
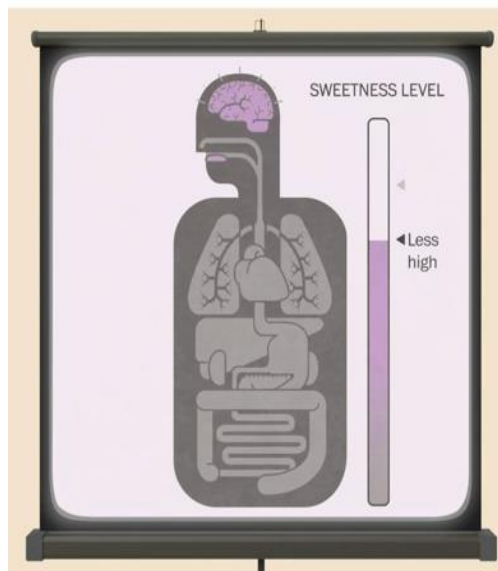
And some sweeteners, like allulose, can cause gastrointestinal discomfort when consumed in large amounts.



But because these sweeteners are more potent than normal sugar with few or none of the calories, [they can confuse your brain](#) and your taste receptors.

Scientists have also uncovered surprising effects of artificial sweeteners on our brains and appetites.

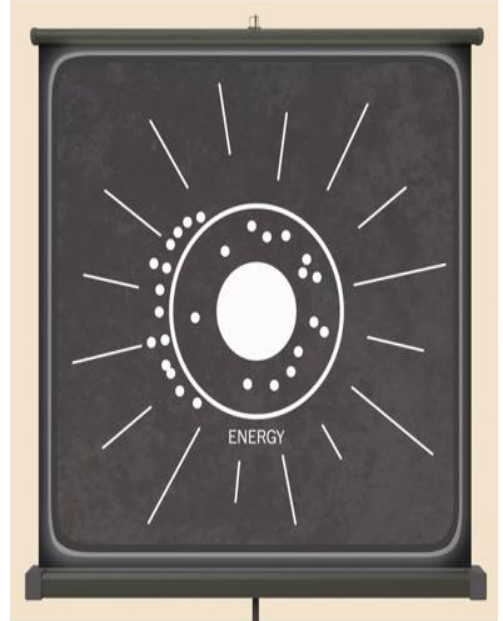
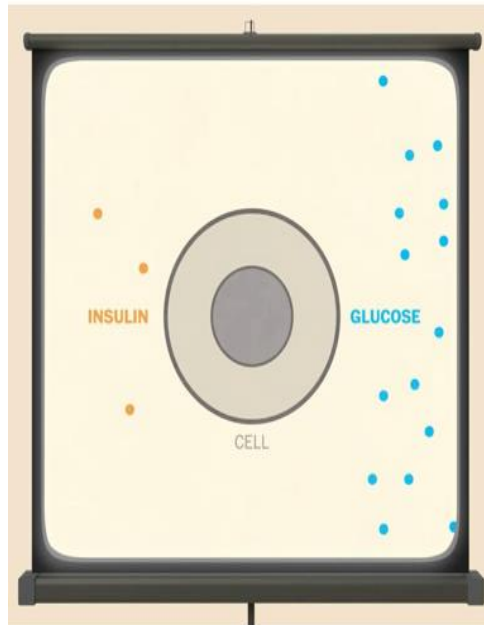
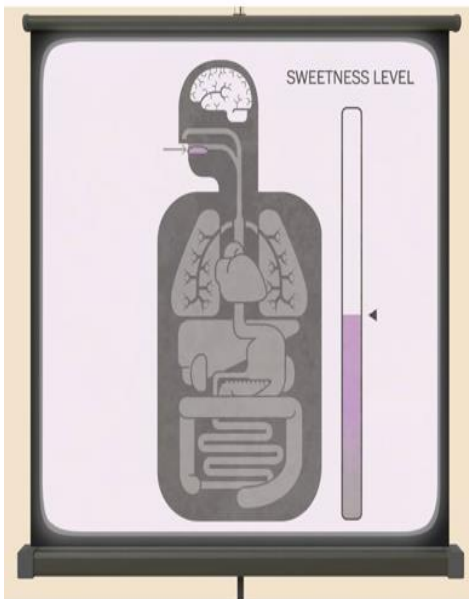
Sweet taste receptors on your tongue tell your brain that you're eating something sweet. This sends a signal to your brain and your body that an influx of calories is coming.



But some studies have found that regularly consuming sugar substitutes can disrupt that process, causing your cells to stop responding properly to insulin and leading to chronically elevated blood sugar levels.

Insulin tells your cells to store or use the glucose for **energy**.

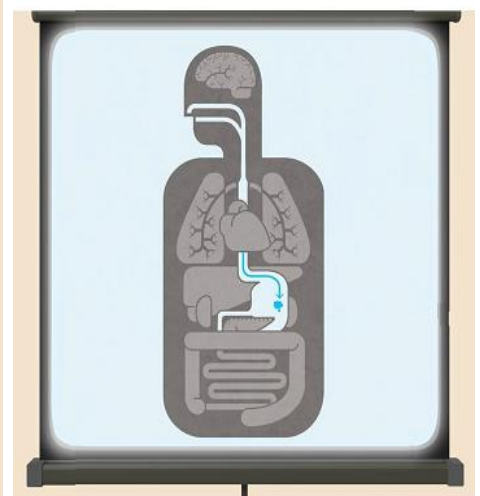
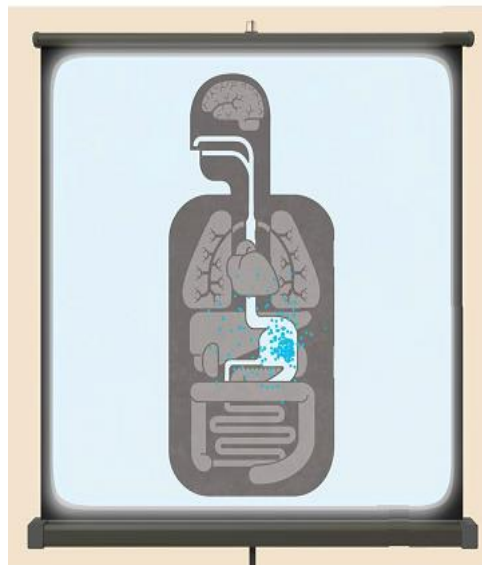
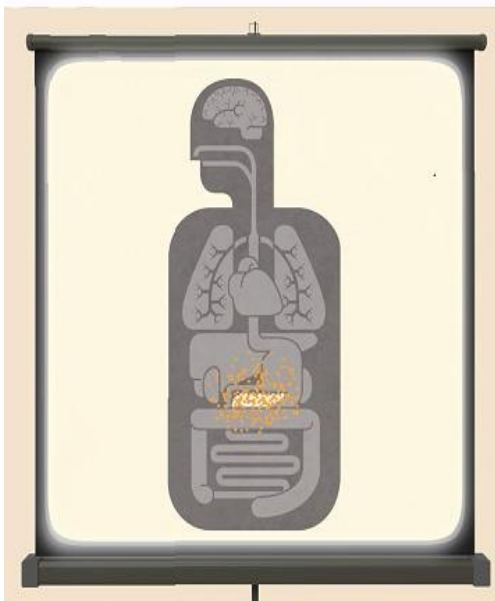
The pancreas then releases **insulin** into your blood.



Here's what that means. Normally, food that is eaten is turned into **glucose**.

Other laboratory studies have shown that drinking beverages made with sucralose can promote insulin resistance, a precursor to diabetes.

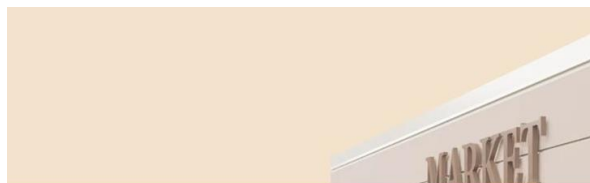
Two sweeteners, saccharin and sucralose, worsened the participants' blood sugar control. Some participants had more dramatic responses to the sweeteners than others, suggesting that these compounds may have different effects in different people.



But Suez and his colleagues found that artificial sweeteners and sugar substitutes can alter your microbiome in ways that are detrimental to your metabolic health.



When you eat nutritious fiber-rich foods like fruits, vegetables and nuts, your gut microbes **produce compounds** that can reduce inflammation and have other beneficial effects on your overall health.



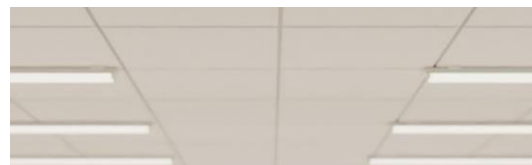
Many people are **cutting back on their sugar intake** for health reasons. But the food industry has found another way to give consumers their sweet fix.



It is quietly replacing the sugar in many packaged foods with **sucralose, stevia, allulose, erythritol** and a wide variety of **other artificial sweeteners and sugar substitutes**.

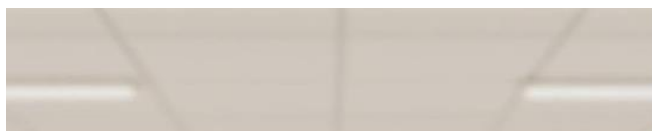


These include **bread, yogurt, oatmeal, muffins, canned soups, salad dressings, condiments** and **snack bars**.



The number of food products containing low- or no-calorie sugar substitutes has **surged in the past five years**, according to an analysis by Mintel, the market research firm.





The food industry says sugar substitutes help people manage their weight and reduce intake of added sugars. But studies suggest that fake sugars can also have unexpected effects on your gut and metabolic health and even promote food cravings and insulin resistance, a precursor to Type 2 diabetes.



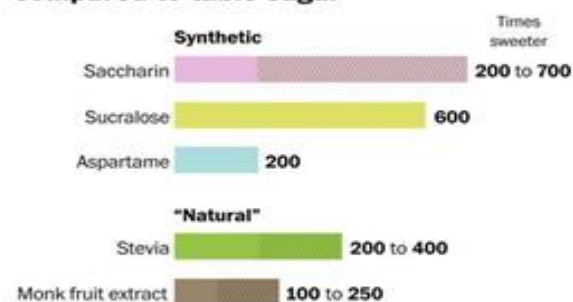
Making foods even sweeter

Table sugar, or sucrose, is still the dominant sweetener in the food supply, and eating [a lot of ultra-processed foods](#) with added sugar has been linked to chronic illness and obesity. The number of new food products containing sucrose has fallen by 16 percent in the last five years. Use of high-fructose corn syrup and agave syrup also have declined.

“These low-calorie sweeteners are ubiquitous in the food supply, and so people often aren’t even aware that they’re consuming them,” said Allison Sylvetsky, an associate professor in the department of exercise and nutrition sciences at George Washington University.

Many sugar substitutes are known as high-intensity sweeteners because they’re often hundreds of times sweeter than table sugar. Some are synthetic, like sucralose, aspartame, and saccharin, while others, like allulose, stevia and monk fruit extract, are referred to as “natural” because they’re derived from plants.

Popular sweeteners compared to table sugar



Source: U.S. Food & Drug Administration

Sugar substitutes can be found in ingredient lists on food packages, often with names that many consumers don’t recognize, like advantame, neotame and acesulfame potassium. Foods that claim “no artificial sweeteners” often are sweetened with stevia and other so-called “natural” sugar substitutes.

A variety of these sweeteners are turning up in cereals, juices and other packaged foods marketed to kids — even though public health groups [have discouraged their use among children](#).

“When I started thirty-something years ago I never saw low-calorie sweeteners in pediatric products,” said Julie Mennella, a developmental biopsychologist who studies children’s taste preferences at the Monell Chemical Senses Center in Philadelphia. “Now, they’re everywhere.”

Sucralose and acesulfame potassium [are regularly used](#) in Greek yogurts, tortilla wraps and other foods served in school meals. Schools in some states [have experimented](#) with serving chocolate milk sweetened with a blend of sugar and monk fruit extract.



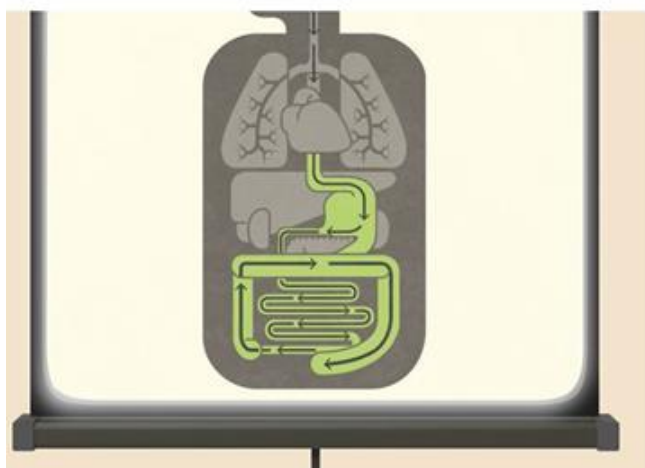
A new incentive to add fake sugar

Under a proposal from [the Food and Drug Administration](#), companies will no longer be able to label a food “healthy” unless it adheres to strict new limits on added sugars. One way companies can adhere to the proposed rules is to replace added sugars in foods with artificial sweeteners.

“When companies reformulate their foods to contain less sugar it leads them to use more non-nutritive sweeteners,” said Jotham Suez, an assistant professor at the Johns Hopkins Bloomberg School of Public Health who studies sugar substitutes.

Studies show that when other countries, including Chile and Australia, instituted policies to reduce sugar consumption, the result was an increase in artificially sweetened foods and beverages.

But [one rigorous study](#) led by Suez at the Weizmann Institute of Science with researcher Eran Elinav looked at what happened when people were given aspartame, saccharin, stevia, or sucralose in amounts well below the FDA’s daily allowances. The study found that these sweeteners caused changes in both the function and composition of the participants’ gut microbiomes, the communities of bacteria, viruses and fungi that live in the intestines.



How fake sugars affect your health

Scientists used to think that non-nutritive sweeteners were largely inert, activating sweet receptors on our tongues and passing through our bodies without causing metabolic changes. But questions remain about the [health effects](#) of consuming large amounts of these ingredients.

The World Health Organization [cautioned](#) people to limit their intake of sugar substitutes because of their potential for “undesirable” long-term effects, including detrimental effects on gut and metabolic health.

Robert Rankin, the executive director of the Calorie Control Council, an industry group, pushed back against claims that sugar substitutes come with health risks. “Evidence shows that low- and no- calorie sweeteners are a safe and effective alternative to added sugars and can be used as part of a balanced diet to help consumers achieve dietary goals, whether it be managing weight or diabetes, reducing the consumption of added sugars, or reducing total caloric intake,” he said.