

Artificial Sweeteners Tied to Faster Brain Aging and Decline

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STORY AT-A-GLANCE

- Artificial sweeteners are linked to faster memory loss and thinking decline, equal to 1.6 years of extra brain aging
- People under 60 who consume the most low or no-calorie sweeteners face the steepest drop in verbal fluency and overall cognition, making midlife a key time to cut them out
- Adults with diabetes are at even higher risk, with sharper declines in memory and global thinking skills when relying on artificial sweeteners and sugar substitutes
- The harmful effects were consistent across years of testing, showing that continued use steadily chips away at brain function
- You can protect your brain by eliminating artificial sweeteners, using natural options like fruit, honey, monk fruit, and dextrose, and focusing on foods that fuel steady energy

Artificial sweeteners are often promoted as smart swaps for sugar, yet they carry consequences that reach far beyond taste or calorie count. What looks like a harmless choice in your morning coffee or afternoon soda interferes with the very systems that keep your brain sharp and resilient.

Cognitive decline is not just about forgetting names or misplacing your keys. It starts with subtle changes in memory, language, and focus that erode your ability to stay independent. Over time, these problems build into serious conditions like dementia, where everyday decision-making and self-care become overwhelming.

Artificial sweeteners such as aspartame, saccharin, and erythritol are hidden in flavored drinks, protein shakes, yogurts, and “diet” desserts. Once you understand how frequently you encounter them, it becomes clear why so many people are unknowingly adding stress to their brain. Choosing these products means you’re exposing your nervous system to chemicals that alter communication between brain cells and strain your gut-brain connection.

Your daily choices about what to eat and drink are not small — they directly influence how well your memory, focus, and language skills hold up as you age. That’s why it’s worth examining the latest research on artificial sweeteners and the surprising way they accelerate brain aging.

Artificial Sweeteners Accelerate Cognitive Decline

Researchers followed 12,772 adults in Brazil for an average of eight years to determine how artificial sweeteners affect thinking and memory skills.¹ Participants were civil servants, all age 35 or older at baseline, and they completed detailed food questionnaires and repeated cognitive testing. The study measured consumption of seven common artificial and no- or low-calorie sweeteners.

- **Middle-aged adults were the most affected** — The average age of participants was 52, and more than half were women. When researchers divided people into groups based on how much of alternative sweeteners they consumed, they found those in the highest group experienced a much faster decline in overall cognition compared to the lowest group. Importantly, this accelerated decline was strongest in people younger than 60, suggesting the risk is magnified during midlife.
- **Faster brain aging showed up in specific thinking skills** — People in the highest consumption group showed sharp declines in verbal fluency (the ability to think of and say words quickly) and memory. The researchers calculated that this decline was the equivalent of 1.6 years of extra aging in brain function. Even those in the middle consumption group experienced the equivalent of 1.3 years of aging over the study period, which means the risks weren’t limited only to heavy users.

- **Diabetes increased the risks even further** — Participants living with **diabetes** were especially vulnerable to the harms of artificial sweeteners. For them, memory and global cognition dropped more rapidly when intake was higher. This is important because people with diabetes are already encouraged to use artificial sweeteners as sugar substitutes, which could worsen long-term brain health. The results suggest that artificial sweeteners are far from a safe alternative for this group.
- **Different sweeteners showed different levels of harm** — When the researchers analyzed individual sweeteners, they found aspartame, saccharin, acesulfame-K, erythritol, sorbitol, and xylitol were each associated with a faster decline in cognition. Tagatose, however, did not show a clear link to cognitive decline. This suggests not all sugar substitutes carry the same level of risk, but most commonly used artificial sweeteners did.
- **More sweetener intake was tied to faster decline over time** — Participants were tested at the beginning of the study, again several years later, and at the end of the eight-year period. Those in the lowest group consumed about 20 milligrams (mg) per day, while the highest group averaged 191 mg daily — the equivalent of just one can of diet soda for aspartame.²

People in the higher intake groups showed a quicker drop in memory, verbal fluency, and processing speed compared to lighter users. Importantly, this link was observed in participants younger than 60, but not in older adults.

Artificial Sweeteners Interfere with Brain Signaling and Gut Health

Several of the compounds studied, including aspartame and saccharin, have been shown in other research to affect neurotransmitter activity.^{3,4} Neurotransmitters are your brain's chemical messengers, controlling everything from memory formation to verbal processing. Changes in these pathways could explain why verbal fluency and memory were most affected in the study population.

- **Metabolic strain is another likely mechanism** — Artificial sweeteners are often used by people with diabetes or those trying to manage blood sugar. However, they disrupt your body's normal insulin response and alter how cells use energy, which increases oxidative stress and harms neurons.⁵ This is especially concerning because neurons rely on stable energy supply to maintain communication networks required for memory and thinking skills.
- **Researchers found brain effects even after accounting for other risks** — The team adjusted the data for age, sex, high blood pressure, cardiovascular disease, and other lifestyle habits. Even after these adjustments, the association between sweetener intake and cognitive decline remained strong, showing that the results are not easily explained by other factors. This highlights that the sweeteners themselves are an independent factor in brain health.
- **Aspartame harms the good bacteria in your gut** — Aspartame disrupts your [gut microbiome](#) by depleting beneficial bacteria, weakening your natural defenses, and creating conditions that favor tumor growth.⁶ These bacteria normally produce protective compounds that help keep your brain and immune system strong. When their numbers drop, harmful microbes gain the upper hand, leaving your body more vulnerable to disease.
- **Artificial sweeteners expose your brain to compounds that accelerate cognitive decline** — The featured study shows the impact is measurable, long-term, and stronger in people already vulnerable, such as those with diabetes.⁷ Choosing natural sweeteners allows you to enjoy sweetness while avoiding the brain-aging effects documented in this research.

Simple Steps to Protect Your Brain from Artificial Sweeteners

If you've been reaching for [diet soda](#), flavored water, or sugar-free desserts thinking they're a better option than sugar, you now know they speed up brain aging instead of protecting your health. There are clear steps you can take right now to remove the risk

and support your brain's energy and memory systems. These changes are simple but powerful.

1. Cut out artificial sweeteners completely — Your first step is to stop using products that contain artificial sweeteners like aspartame, sucralose, saccharin, acesulfame-K, and neotame. Look at your flavored water, gum, yogurt, protein shakes, or “diet” snacks. If the label lists any of these names, replace it with something else. Removing these chemicals stops the constant assault on your brain's memory and verbal fluency.

2. Replace sweetness with whole food alternatives — Instead of “zero calorie” drinks and treats, use real food sources of sweetness. Whole fruits, raw honey, or small amounts of maple syrup provide natural sugars that your body recognizes and uses for fuel.

Fresh fruit makes an easy dessert or snack, honey works well to lightly sweeten tea or drizzle over raw grass fed yogurt, and maple syrup can be added to organic [oatmeal](#). These natural options not only satisfy cravings but also deliver vitamins, minerals, and plant compounds that support steady energy for your brain and body.

3. Support your gut to protect your brain — Your gut and brain communicate constantly. Artificial sweeteners disrupt this connection by altering your gut bacteria. Focus on eating simple, digestible carbs such as ripe fruits, white rice, and root vegetables — once your gut is healed enough to handle them. If your gut is still fragile, focus on fruit and white rice first to fuel your brain without feeding harmful bacteria. Protecting your gut environment directly improves how your brain functions.

4. Choose safer natural sweeteners at home — If you crave something sweet, prepare it yourself with ingredients that support health instead of harming it. Natural stevia from the whole plant, Luo Han Guo (also called monk fruit), and pure dextrose from clean [cane sugar](#) are reliable options. Using these alternatives allows you to enjoy sweetness without exposing your brain to the decline linked to artificial sweeteners.

5. Focus on energy, not restriction — Instead of thinking about what you're giving up, pay attention to what you're gaining — better focus, stronger recall, and sharper thinking. If you've been relying on low-calorie products, it's time to fuel your body and brain with the right kind of carbohydrates and proteins.

Around 250 grams of carbs each day, combined with quality protein and fats like grass fed butter or ghee, provide the foundation for steady brain energy. Think of this not as a diet but as an upgrade to how your brain runs.

FAQs About Artificial Sweeteners and Your Brain

Q: How do artificial sweeteners affect brain health?

A: Artificial sweeteners speed up cognitive decline. A large study found that people who consumed the highest amounts experienced the equivalent of 1.6 extra years of brain aging in memory, verbal fluency, and overall thinking skills.⁸

Q: Who is most at risk from artificial sweeteners?

A: Middle-aged adults under 60 showed the strongest link between high intake and faster cognitive decline. People with diabetes were also more vulnerable, with sharper drops in memory and global cognition compared to those without diabetes.

Q: What can you use instead of artificial sweeteners?

A: Safer alternatives include whole fruits, raw honey, maple syrup, natural stevia in its plant form, Luo Han Guo (monk fruit), and pure dextrose from clean cane sugar. These options provide sweetness without the brain-aging effects linked to artificial sweeteners.

Q: What steps protect your brain if you've been using artificial sweeteners?

A: Eliminate products with artificial sweeteners, switch to whole food sweeteners, support your gut health, try natural substitutes at home, and focus on fueling your body with the right balance of carbs, protein, and healthy fats. These steps restore energy production and protect long-term brain function.

Sources and References

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