**The Aspartame End Game... And What’s Next**



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By Dr. Mercola

For the last 17 years, I've warned that artificial sweeteners can wreck your health. Aspartame is among the worst of the bunch, and in general, people who consume aspartame tend to be in poorer health. They also tend to develop more of a sweet tooth.

I found the evidence against artificial sweeteners to be so compelling, and the hazards so disconcerting, I wrote an entire book on the subject called Sweet Deception, published in 2006. Now, years later, the research I presented in that book has been confirmed many times over, and the tide is finally beginning to turn against this toxic food additive.

Soda consumption is now in "freefall," having dropped to its lowest point since 1995, according to Time Magazine, with diet sodas taking the greatest hit.

Sales of carbonated beverages in general fell three percent in 2013, while diet Coke and diet Pepsi both dropped by nearly seven percent. Sales of Diet Mountain Dew also fell more sharply than regular Mountain Dew. As reported by Time Magazine:

"One reason for the decline could be a growing awareness of the obesity epidemic in the US and growing health concerns surrounding sugar-sweetened beverages. According to Reuters, industry experts say the beverage industry is shrinking under the scrutiny. Even diet-branded drinks have suffered a loss of sales with concerns over artificial sweeteners."

It is very gratifying to see this turn of events, knowing we're making a difference. Also, quite frankly, I'm tired of writing about something this obviously harmful. I'll be happy to move on to other challenges that threaten your health.

Drinking Two Diet Sodas Per Week Are 50 Percent More Likely to Die from Heart Disease

Most recently, one of the largest studies of its kind, which included nearly 60,000 post-menopausal women who were followed for about 10 years, found that drinking just two diet drinks a day can dramatically increase your risk of an early death from heart disease. The findings were presented at the American College of Cardiology's 63rd Annual Scientific Session in Washington, DC. As reported by the University of Iowa:

"...[C]ompared to women who never or only rarely consume diet drinks; those who consume two or more a day are 30 percent more likely to have a cardiovascular event [heart attack or stroke] and 50 percent more likely to die from related disease.

'This is one of the largest studies on this topic, and our findings are consistent with some previous data, especially those linking diet drinks to the metabolic syndrome,' says Dr. Ankur Vyas... the lead investigator of the study.

...The association persisted even after researchers adjusted the data to account for demographic characteristics and other cardiovascular risk factors, including body mass index, smoking, hormone therapy use, physical activity, energy intake, salt intake, diabetes, hypertension, high cholesterol, and sugar-sweetened beverage intake.

On average, women who consumed two or more diet drinks a day were younger, more likely to be smokers, and had a higher prevalence of diabetes, high blood pressure, and higher body mass index."

Granted, there are limitations to this study. The nutritional data was gathered using questionnaires, and people are notorious for not remembering exactly what they eat and drink each week. So while there's an association, the study cannot prove causation.

Still, other studies have come to the same conclusion, so these findings simply add to an already voluminous pile of evidence showing an association between artificial sweeteners and poor health outcomes.

According to Susie Swithers, a professor of psychological sciences at Purdue University who studies the effects of artificial sweeteners in animals, the featured findings are not at all surprising. Her animal research also shows that diet drinks promote heart problems, and that animals fed artificial sweeteners develop a disrupted metabolic response to real sugar. She recently told MedicineNet.com:

"[Like diabetics], they become hyperglycemic. Their blood sugars go up higher than they should. They also make less of a heart-protective protein. If drinking diet soda interferes with this system, then over the long term you're taking something away that protects your cardiovascular health, and that could be what's contributing to these effects."

Regular soda drinking is also strongly associated with obesity and poor health. This link is easier to grasp however, since more people understand the health hazards of excessive sugar consumption nowadays.

The fact that low- or no-calorie sweeteners do as much harm (or more!) than sugar, on the other hand, has seemed, and still seems, counterintuitive to many. Fortunately, this confusion is beginning to lessen. In fact, we may finally have reached the tipping point where enough people understand the hazards, which means the end of aspartame and other artificial sweeteners is near.

Why Artificial Sweeteners Are NOT a Dieter's (or Diabetic's) Best Friend

Despite being promoted for weight loss, foods and beverages with artificial sweeteners have never actually been proven to help weight loss. On the contrary, studies that look at this actually find artificial sweeteners promote weight gain. Part of the reason why artificial sweeteners don't work as advertised (such as help you lose weight and manage your insulin) relates to the fact that your body is not fooled by sweet taste without accompanying calories.

Scientific American previously ran an article explaining the science behind this phenomenon. In a nutshell, when you eat something sweet, your brain releases dopamine, which supplies you with a jolt of pleasure. Your brain's reward center is activated.

The appetite-regulating hormone leptin is also released, which eventually informs your brain that you are "full" once a certain amount of calories have been ingested. In contrast, when you consume something sweet but non-caloric (i.e. an artificial sweetener), your brain's pleasure pathway is still activated by the sweet taste, but there's nothing to deactivate it, since your body is still waiting for the calories. As a result, you may end up overeating.

Another recent report published in the journal Trends in Endocrinology & Metabolism found that diet soda drinkers suffer the same exact health problems as those who opt for regular soda, including excessive weight gain, type 2 diabetes, cardiovascular disease, and stroke. The sad fact is, Americans in particular are addicted to sweet flavors, which appears to trigger a complex set of biological systems, pathways, and mechanisms that in the end leads to excess weight gain—whether that flavor comes loaded with calories or not.

Artificial Sweeteners Actually INCREASE Weight Gain

The connection between sweet taste alone and increased hunger can be found in the medical literature going back at least two decades. These two studies, for example, dating back to the late 80s and early 90s, both showed this link between artificial sweeteners and increased hunger:

Physiology & Behavior, 1988 – In this study, they determined that intense (no- or low-calorie) sweeteners can produce significant changes in appetite. Of the three sweeteners tested, aspartame produced the most pronounced effects.

Physiology & Behavior, 1990 – Here, they again evaluated whether or not the mere taste of "sweet" increases hunger, by having human subjects chew gum for 15 minutes containing various levels of aspartame (0.05%, 0.3%, 0.5%, or 1.0%).

Interestingly, although those who chewed artificially sweetened gum reported increased hunger compared to the control group who were given nothing or unsweetened gum base to chew, the increase did not directly correlate with the aspartame concentration in the gum.

Women experienced the greatest increase in hunger after chewing gum containing 0.3 percent aspartame (the second lowest concentration amount), while men were the hungriest after chewing on gum containing 0.5 percent aspartame. The authors stated:

"The highest aspartame concentrations had a time-dependent, biphasic effect on appetite, producing a transient decrease followed by a sustained increase in hunger ratings. Thus, the concentration of the sweetener, the sex of the subject, and the time after chewing, were all important determinants of whether 'sweetness' increased hunger."

How Aspartame Can Wreak Havoc with Your Health

Aspartame is primarily made up of aspartic acid and phenylalanine. The phenylalanine has been synthetically modified to carry a methyl group, which provides the majority of the sweetness. That phenylalanine methyl bond, called a methyl ester, is very weak, which allows the methyl group on the phenylalanine to easily break off and form methanol.

You may have heard the claim that aspartame is harmless because methanol is also found in fruits and vegetables. However, in fruits and vegetables, the methanol is firmly bonded to pectin, allowing it to be safely passed through your digestive tract. Not so with the methanol created by aspartame; there it's not bonded to anything that can help eliminate it from your body. That's problem number one.

Problem number two relates to the fact that humans are the only mammals who are NOT equipped with a protective biological mechanism that breaks down methanol into harmless formic acid. This is why animal testing of aspartame does not fully apply to humans. According to Dr. Woody Monte, a toxicology expert and professor emeritus at Arizona State University in food and chemistry:

"There is a major biochemical problem here. Methyl alcohol is known now, and has been known since 1940, to be metabolized differently by humans from every other animal."

As explained by Dr. Monte, in humans, the methanol ends up acting as a Trojan horse, and here's how. Both animals and humans have small structures called peroxisomes in each cell. There are a couple of hundred in every cell of your body, which are designed to detoxify a variety of chemicals. Peroxisome contains catalase, which help detoxify methanol. Other chemicals in the peroxisome convert the formaldehyde to formic acid, which is harmless, but, again, this last step occurs only in animals. Human peroxisomes cannot convert the toxic formaldehyde into harmless formic acid.

So to recap: in humans, the methyl alcohol travels through your blood vessels into sensitive areas, such as your brain, that are loaded with ADH, which converts methanol to formaldehyde. And since there's no catalase present, the formaldehyde is free to cause enormous damage in your tissues. Symptoms from methanol poisoning are many, and include headaches, ear buzzing, dizziness, nausea, gastrointestinal disturbances, weakness, vertigo, chills, memory lapses, numbness and shooting pains in the extremities, behavioral disturbances, and neuritis.

The most well known problems from methanol poisoning are vision problems including misty vision, progressive contraction of visual fields, blurring of vision, obscuration of vision, retinal damage, and blindness. Formaldehyde is a known carcinogen that causes retinal damage, interferes with DNA replication and may cause birth defects. Not surprisingly, the most comprehensive and longest human study looking at aspartame toxicity found a clear association between aspartame consumption and non-Hodgkin's Lymphoma and leukemia.

Beware of New Generation of Artificial Sweeteners

As consumers increasingly avoid artificial sweeteners like aspartame, Splenda, and others, Coca-Cola and PepsiCo are trying to save their sinking business by developing the next generation of artificial sweeteners. In my opinion, it's doubtful that these newer sweeteners will be any safer than previous versions, but it may fool many, because these newer additives won't be listed on the label.

As reported by The Motley Fool, PepsiCo now has worldwide exclusive rights to use Sweetmyx (S617) in non-alcoholic beverages. The sweetener, developed by Senomyx—a biotech company that specializes in novel flavor modifiers and flavor enhancing food additives—was recently granted Generally Recognized as Safe (GRAS) status, which opens the door for commercial use. (Firmenich has lifetime rights to commercialize Sweetmyx for alcoholic beverages and food products.)

The crux here is that Sweetmyx is considered a flavor additive, which allows it to slip beneath the radar. It will simply be lumped together under the "artificial flavors" listing on the label, and doesn't have to go through the FDA approval process.

The reason for this is because it's not actually a sweetener per say. Rather, it is a flavor modifier; a chemical substance (protected as a trade secret) that tricks the taste receptors on your tongue to send the message to your brain that what you're tasting is sweeter than it really is. Hence, less fructose or sugar can be used in the product, while still providing the same sweet taste. But as discussed earlier, such tricks tend to backfire, and could create unsuspected metabolic havoc. At present, no one knows exactly what the ramifications might be.

Choose Your Beverages Wisely

Sweetened beverages, whether it's sweetened with sugar, HFCS, naturally-occurring fructose, or artificial sweeteners, are among the worst culprits causing obesity and related health problems, including diabetes and heart and liver disease, just to name a few. Remember that sweetened beverages also include flavored milk products, bottled teas, and "enhanced" water products. I'd be leery of anything listing "artificial flavors" as well—especially if the products boasts being low in sugar.

Ditching ALL of these types of beverages can go a long way toward reducing your risk for chronic health problems and weight gain. Your best, most cost effective choice of beverage is filtered tap water. I strongly recommend using a high-quality water filtration system unless you can verify the purity of your water. You can read more about water filtration in this previous article to help you make a decision about what type of water filtration system will suit you best. Since most water sources are now severely polluted, the issue of water filtration and purification couldn't be more important.

Besides purification, I also believe it's critical to drink living water. Last year, I interviewed Dr. Gerald Pollack about his book, The Fourth Phase of Water: Beyond Solid, Liquid, and Vapor. This fourth phase of water is referred to as "structured water" and is the type of water found in all of your cells. This water has healing properties, and is naturally created in a variety of ways.

Water from a deep spring is one excellent source of structured water, and there's a great website called FindaSpring.com where you can find a natural spring in your area. You can also promote structured water through vortexing, i.e. stirring your water, creating a vortex in the glass or pitcher.

Addicted to Sweets? There's Help!

If you're having a hard time giving up artificial sweeteners (they can be just as addictive as other sugars), I suggest trying the Emotional Freedom Technique (EFT). More than any traditional or alternative method I have used or researched, EFT works to overcome food cravings. If diet soda is the culprit for you, be sure to check out Turbo Tapping, which is an extremely effective and simple tool to get rid of your soda addiction in a short amount of time. If you still have cravings after trying EFT or Turbo Tapping, you may need to make additional changes to your diet. My free nutrition plan can help you do this in a step-by-step fashion.

As for a safer sweetener option, you could use stevia or Luo Han, both of which are safe natural sweeteners. Remember, if you struggle with high blood pressure, high cholesterol, diabetes, or extra weight, then you have insulin sensitivity issues and would likely benefit from avoiding ALL sweeteners, including stevia and Luo Han.

Last but not least, if you experience side effects from aspartame or any other artificial sweetener, please report it to the FDA (if you live in the United States) without delay. It's easy to make a report — just go to the FDA Consumer Complaint Coordinator page, find the phone number for your state, and make a call reporting your reaction. As Terri LaPoint writes in her Inquisitr article:

"Ironically, the manufacturer of aspartame, Searle, started working on finding a drug to combat memory loss shortly after FDA approval for aspartame to be used in carbonated drinks.

Aspartame is a neurotoxin. Even ants have sense enough to avoid it. Yet, diet drinks add this neurotoxic chemical as its sweetener, and they promote it as a heath food to a public that naively puts its trust in the experts. Then the manufacturers stand ready to offer you drugs to help you with your symptoms that they don't tell you are directly related to your diet sodas. It's a win-win situation for them, with the consumer as the loser. You don't lose weight. You lose health. Drink water. Drink tea. Drink regular soda – anything but the diet sodas. You just might live longer."

I couldn't agree more.