



ASPARTAME

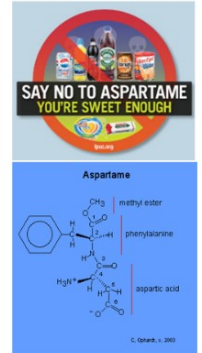
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The information below was originally published in 2016 in the Millhouse Integrative Newsletter, a monthly publication, primarily designed for clinic patients, highlighting useful strategies which may help prevent disease and improve health.

Aspartame

Back in [September 2012](#) this newsletter discussed the negative effects of artificial sweeteners, aspartame (NutraSweet), sucralose (Splenda) and saccharin, additives that are heavily promoted by the diet industry as substitutes for sugar. Consumption of diet drinks has increased by 400% since 1960 and their regular use leads to a 200 percent increased risk of weight gain and 67% greater chance of diabetes.

Here I revisit Aspartame and the negative effects it has on human health. A number of years ago, a patient with Multiple Sclerosis suggested I read Woodrow Monte's '[While Science Sleeps](#),' which they knew I would find of interest. I downloaded the book onto my iPad then, but only read it during my recent vacation. The book is written by a retired Arizona University Professor of Food Science & Nutrition, who for thirty years has championed the removal of aspartame from food and drinks. In 1983 Monte was asked to evaluate the safety of aspartame (aka NutraSweet, Equal and food additive E950) prior to the USA Food & Drug Administration (FDA) making its final deliberation on its use as an artificial sweetener in food and drinks. In 1984 the FDA did approve its use, despite many being opposed to this decision. Monte's 2011 book is a cautionary tale that explains why aspartame is a poisonous food additive because of its breakdown constituent methanol being converted into [formaldehyde](#).



Methanol and Formaldehyde.

Methanol, also known as methyl alcohol, wood alcohol or wood spirits, is produced naturally by destructive distillation of wood or wood products. It used to be an ingredient of 'methylated' spirits, but is no longer added to that useful ethanol-based solvent/fuel, because it is too dangerous. Unlike ethanol (ethyl alcohol) found in beer, wine and spirits, methanol is a volatile, highly-toxic alcohol, even at low temperatures, and the ingestion of as little as 1-2 teaspoons will cause death. There have been many horrendous incidents, like the *2001 Parnu tragedy in Estonia* where counterfeit vodka made from methanol caused 68 deaths and inflicted another 43 persons with severe disability (including blindness and brain damage). What is not well recognised is that the consumption of minute amounts of methanol over many years may also cause disease. There are a number of sources.

German researchers in 1939 showed that cigarettes gave out high levels of methanol when smoked. The canning process, when plant material is heated under pressure, also produces methanol, although long slow cooking of canned or bottled foods will remove all traces of methanol. Methanol is also produced when fish and meat are traditionally smoked by long, slow exposure to the condensation products of heated wood, or wood chips. Burning peat instead gives greater flavour to food but produces three times more methanol than wood smoke.

However the main source of methanol is from aspartame used as an artificial sweetener in food and drinks. 11% of aspartame is converted into methanol. A sip of Diet Coke or Diet Sprite within a few minutes is broken down into methanol, equivalent to the methanol received when smoking one cigarette. Methanol is then absorbed by the gastrointestinal tract where, after passing through the liver, it enters the blood stream and is free to pass into any cell where it can be converted into formaldehyde.

Methanol is a Trojan horse, secretly being absorbed and converted to a poison which destroys healthy cells.

Here's the science: Methanol (CH₃-methyl OH-alcohol) is a volatile one-carbon alcohol which is easily absorbed into the body. Methanol itself is harmless but when converted by the body's alcohol dehydrogenase enzyme (ADH), it becomes formaldehyde (CH₂O), a highly-toxic molecule. In animals, formaldehyde is converted by the body into non-dangerous formic acid, but in humans it is not; instead, formaldehyde dissolves in the watery contents of the cell where it destroys proteins and the DNA nucleic acids.



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Residual fermented food in the colon produces tiny amounts of ethanol (ethyl alcohol) which is taken by the portal vein to the liver. The liver's ADH enzymes process ethanol first, allowing any methanol ingested to circulate freely, entering cells and even crossing the brain barrier. ADH enzymes beyond the liver, particularly in blood vessels, brain, heart, lung, breast and skin cells, convert the methanol to formaldehyde, which can have a devastating effects on cell contents. Methanol is a trojan horse, secretly being absorbed and converted to a poison which destroys healthy cells. (In acute methanol poisoning, intravenous ethanol is administered to take up the ADH enzymes and diminish the possibility of methanol-formaldehyde conversion with its serious consequences). Methanol continues to circulate in the body until it is converted into formaldehyde, excreted slowly in sweat or passed in the urine.

Aspartame, Methanol and Disease

Eating smoked food liberates methanol into the body. Communities where such foods are common - Scotland, Scandinavia and especially the Shetland Islands who smoke peat over an open fire - have a higher incidence of Multiple Sclerosis. Professor Monte believes that the today's rapid rise in degenerative diseases like cardiovascular, Alzheimer's, and autoimmune conditions including Multiple Sclerosis and cancer, is strongly correlated with recent increased consumption of methanol from cigarettes and aspartame. Through the period of accelerating aspartame consumption, autism and birth defects have also increased. Pregnant and breast feeding mothers should completely avoid aspartame and smoking.

Moderate Your Alcohol Intake

Drinking one standard drink a day, especially of wine, is associated with an increase in life expectancy. Monte wonders if this health benefit may be that regular ingestion of the ethanol in wine acts as a 'competitive inhibitor' of methanol's conversion to formaldehyde, thus preventing cell damage.

Reading this book on the train brought a serious note to my otherwise most enjoyable holiday.

Professor Monte's advice for Reducing Methanol

AVOID the following, ranked in order of greatest danger:

1. Smoking cigarettes
2. Drinks & foods that contain Aspartame (*E951 - NutraSweet, Equal, Canderel - 11% becomes methanol*)
 - Coke Zero, Diet Coke, Sprite Zero, Diet Lift, Bundaberg Diet Ginger Beer and others
 - Low calorie foods - jams
3. Fruit & vegetable products in bottles, cans or pouches.
4. Jams and marmalades unless made fresh and kept refrigerated.
5. Tomato juice and sauce, unless first simmered at least 3 hours with an open lid.
6. Smoked food of any kind, particularly fish and meat - wood & wood chips contain wood alcohol and when smoked liberate methanol into the food.
7. Sugar-free chewing gum or breath mints.
8. Slivovitz or Schnapps made from rotting fruit.
9. Overly ripe or near-rotting fruits or vegetables.

Précised list from Woodrow C Monte, Professor Emeritus of Food Science and Nutrition, Arizona State University

<http://www.whilesciencesleeps.com/monte-diet/>

Be aware that aspartame may be included under 'inactive' ingredients - see a list of NZ products on <https://www.organicnz.org.nz/node/616>