

Aspartame and Cancer: Should You "Can" that Diet Soda Habit?

Cancer Facts & Stats August 2023

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Aspartame is an artificial sweetener that is common to a variety of foods, including artificially sweetened sodas or other diet drinks. Recent news headlines regarding its new status as the World Health Organization's (W.H.O.) International Agency for Research on Cancer (IARC) Class 2B carcinogen (cancer-causing agent) have been contradictory or relatively ambiguous. Let's demystify what this status actually means.

Epidemiological Studies of Links Between Aspartame and Cancer

In the hierarchy of scientific evidence (Figure 1), one of the strongest types of published research is a systematic review. A systematic review, or a reproducible summary of available medical literature to critically research or synthesize information on a specific issue, was recently published in 2023 that summarized the toxicological and epidemiological evidence of artificial sweeteners, like aspartame, and cancer *provided only marginal evidence of the link between artificial sweetener intake and increased risk of cancer*².

But what if you consume a lot of diet beverages, as a diabetic person or otherwise? The U.S. Food and Drug Administration (F.D.A) has previously estimated that a 132-pound person would need to consume 75 packets of aspartame to reach the threshold of exposure to a potential risk³ – it is highly unlikely that the average person would consume such a large amount of aspartame.

Artificial Sweeteners and General Health Concerns

While the links between aspartame, other artificial sweeteners and cancer remain unclear for now, the W.H.O. has a guideline on non-sugar sweeteners: *they recommend against their use to control body weight and reduce noncommunicable disease risk*. This guideline is also based upon systematic review findings; it is suggested that the use of non-sugar sweeteners does not "confer any long-term benefit in reducing body fat in adults or children⁴."

Bottom Line

Consumption of sugary drinks and an overall unhealthy diet contributes to obesity, which in turn increases the risk of cancer⁵. The W.H.O. recommends against the use of non-sugar sweeteners to control body weight and reduce noncommunicable disease risk; a diet that includes water and other unsweetened drinks, such as tea and coffee, may be a preferable alternative that is conducive with a preventive lifestyle⁵.

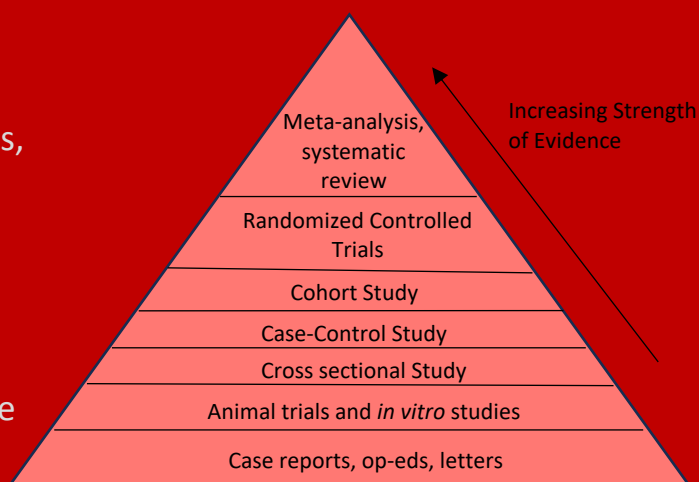
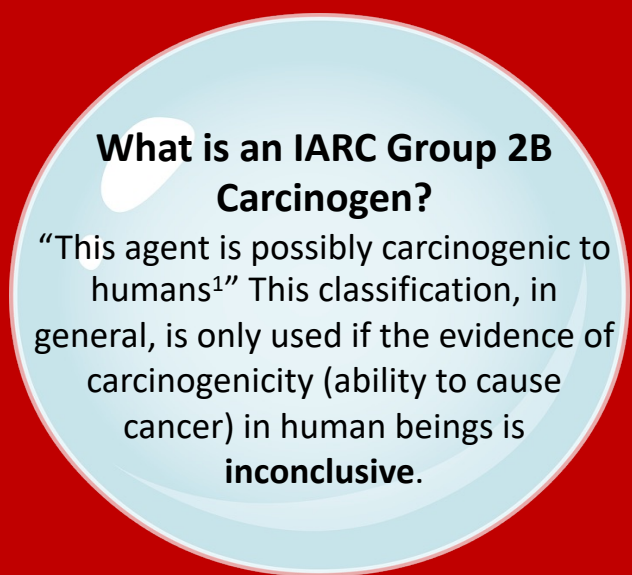


Figure 1. Hierarchy of scientific evidence

References

1. IARC monographs on the identification of carcinogenic hazards to humans questions and answers [Internet]. Who.int. 2019 [cited 2023 Aug 18]. Available from: <https://monographs.iarc.who.int/wp-content/uploads/2018/07/IARCMonographs-QA.pdf>
2. Pavanello S, Moretto A, La Vecchia C, Alicandro G. Non-sugar sweeteners and cancer: Toxicological and epidemiological evidence. *Regul Toxicol Pharmacol* [Internet]. 2023;139(105369):105369. Available from: <http://dx.doi.org/10.1016/j.yrtph.2023.105369>
3. Jewett C. Aspartame is a possible cause of cancer in humans, a W.h.o. agency says. *The New York times* [Internet]. 2023 Jul 13 [cited 2023 Aug 18]; Available from: <https://www.nytimes.com/2023/07/13/health/aspartame-cancer-who-sweetener.html>
4. WHO advises not to use non-sugar sweeteners for weight control in newly released guideline [Internet]. Who.int. [cited 2023 Aug 23]. Available from <https://www.who.int/news/item/15-05-2023-who-advises-not-to-use-non-sugar-sweeteners-for-weight-control-in-newly-released-guideline>
5. Limit sugar sweetened drinks [Internet]. WCRF International. 2022 [cited 2023 Aug 23]. Available from: <https://www.wcrf.org/diet-activity-and-cancer/cancer-prevention-recommendations/limit-sugar-sweetened-drinks/>