

Word on the Sweet: Low-Calorie Sweeteners

DID YOU KNOW?

Low-calorie sweeteners are proven to be safe and can help with calorie and blood glucose control.¹⁻⁴

Like all food additives, low-calorie sweeteners undergo an extensive scientific review process by the U.S. Food and Drug Administration (FDA) to ensure they are safe for use in food and beverages. Additionally, hundreds of studies have shown the safety of low-calorie sweeteners in the U.S. and worldwide.⁵

Common Misperceptions about Low-Calorie Sweeteners

Will eating low-calorie sweeteners increase my appetite or cause me to gain weight?

NO

In fact, diet beverage drinkers have reported feeling significantly LESS hungry than water-only drinkers.⁶ Several research studies have also shown that low-calorie sweeteners can help to reduce calorie intake over time.^{7,8}

Will eating low-calorie sweeteners make me want more sweets?

NO

Research shows low-calorie sweeteners do not increase the desire to eat more sweet foods.⁷ In fact, one study found diet beverage drinkers ate less desserts and overall calories from sugars compared to water-only drinkers.⁶

Do low-calorie sweeteners cause diabetes?

NO

Low-calorie sweeteners do not cause a rise in blood sugar, or insulin, and do not cause diabetes. In fact, many doctors advise their patients with diabetes to use low-calorie sweeteners to help reduce their sugar intake.^{4,5,9,10}

Do low-calorie sweeteners cause cancer?

NO

Research shows that all approved low-calorie sweeteners are safe and do not cause cancer. This includes aspartame, which has been approved for use in the U.S. since 1981.^{11,12}

Are low-calorie sweeteners safe for pregnant women and children?

YES

All approved low-calorie sweeteners have undergone extensive safety assessments to ensure they are safe to eat during pregnancy and childhood development.¹³

Are low-calorie sweeteners bad for my dental health?

NO

In fact, replacing sugar with low-calorie sweeteners such as xylitol and sorbitol has been associated with lower incidence of dental cavities.¹⁴

References

1. Miller PE, Perez V. Low-calorie sweeteners and body weight and composition: a meta-analysis of randomized controlled trials and prospective cohort studies. *Am J Clin Nutr.* 2014;100(3):765-777. doi:10.3945/ajcn.113.082826
2. Rogers PJ, Hogenkamp PS, de Graaf C, et al. Does low-energy sweetener consumption affect energy intake and body weight? A systematic review, including meta-analyses, of the evidence from human and animal studies. *Int J Obes (Lond).* 2016;40(3):381-394. doi:10.1038/sj.ijo.2015.177
3. Ashwell M, Gibson S, Bellisle F, et al. Expert consensus on low-calorie sweeteners: facts, research gaps and suggested actions. *Nutr Res Rev.* 2020;33(1):145-154. doi:10.1017/S0954422419000283
4. Nichol AD, Holle MJ, An R. Glycemic impact of non-nutritive sweeteners: a systematic review and meta-analysis of randomized controlled trials. *Eur J Clin Nutr.* 2018;72(6):796-804. doi:10.1038/s41430-018-0170-6
5. Serra-Majem L, Raposo A, Aranceta-Bartrina J, et al. Ibero-American Consensus on Low- and No-Calorie Sweeteners: Safety, Nutritional Aspects and Benefits in Food and Beverages. *Nutrients.* 2018;10(7):918. Published 2018 Jun 25. doi:10.3390/nu10070918
6. Piermas C, Tate DF, Wang X, Popkin BM. Does diet-beverage intake affect dietary consumption patterns? Results from the Choose Healthy Options Consciously Everyday (CHOICE) randomized clinical trial. *Am J Clin Nutr.* 2013;97(3):604-611. doi:10.3945/ajcn.112.048405
7. Peters JC, Beck J, Cardel M, et al. The effects of water and non-nutritive sweetened beverages on weight loss and weight maintenance: A randomized clinical trial. *Obesity (Silver Spring).* 2016;24(2):297-304. doi:10.1002/oby.21327

8. Catenacci VA, Pan Z, Thomas JG, et al. Low/no calorie sweetened beverage consumption in the National Weight Control Registry [published correction appears in *Obesity (Silver Spring).* 2016 Feb;24(2):535. doi: 10.1002/oby.21406]. *Obesity (Silver Spring).* 2014;22(10):2244-2251. doi:10.1002/oby.20834.
9. Greyling A, Appleton KM, Raben A, Mela DJ. Acute glycemic and insulinemic effects of low-energy sweeteners: a systematic review and meta-analysis of randomized controlled trials. *Am J Clin Nutr.* 2020;112(4):1002-1014. doi:10.1093/ajcn/nqaa167
10. Bryant CE, Wasse LK, Astbury N, Nandra G, McLaughlin JT. Non-nutritive sweeteners: no class effect on the glycaemic or appetite responses to ingested glucose. *Eur J Clin Nutr.* 2014;68(5):629-631. doi:10.1038/ejcn.2014.19
11. Magnuson BA, Carakostas MC, Moore NH, Poulos SP, Renwick AG. Biological fate of low-calorie sweeteners. *Nutr Rev.* 2016;74(11):670-689. doi:10.1093/nutrit/nuw032
12. U.S. Food and Drug Administration. Additional Information about High-Intensity Sweeteners Permitted for use in Food in the United States. <http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/ucm397725.htm>.
13. World Health Organization. Principles and Methods for the Risk Assessment of Chemicals in Food. 2009. <http://www.who.int/foodsafety/publications/chemical-food/en/>.
14. Hayes C. The effect of non-cariogenic sweeteners on the prevention of dental caries: a review of the evidence. *J Dent Educ.* 2001;65(10):1106-1109.