



Obesity & Non-Nutritive Sweeteners

Are these popular sugar alternatives part of the problem or the solution?

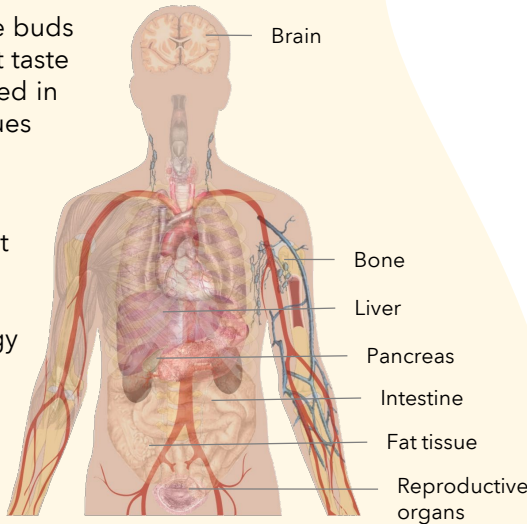
Non-nutritive sweeteners ("sweeteners")

are substances that provide sweet taste but contribute few or no calories. They are found in products ranging from diet sodas to toothpaste.

Sensing Sweetness

In addition to the taste buds on your tongue, sweet taste receptors are expressed in many organs and tissues throughout the body.

Sweet taste receptors are involved in nutrient sensing, monitoring changes in fat stores, and maintaining energy balance. Like caloric sugars, non-nutritive sweeteners may affect the activity of these processes.



8 non-nutritive sweeteners have been approved by the U.S. Food and Drug Administration, including several packaged for household use:

-  **SUCRALOSE**
600x sweeter than sugar
-  **SACCHARIN**
300x sweeter than sugar
-  **STEVIA**
300x sweeter than sugar
-  **ASPARTAME**
200x sweeter than sugar

* Not pictured: acesulfame potassium (Ace-K), luo han guo (monk) fruit extract, neotame, advantame

State of the Science



It is unclear whether replacing caloric sugars with non-nutritive sweeteners...

improves body composition by:

OR

worsens body composition by:

- ↓ added sugar intake
- ↓ excess calories

- ↑ consumption of less nutritious items
- ↻ altering hormonal signals in the body

Observational and interventional studies provide **conflicting evidence** about whether sweeteners are helpful or harmful to health.

Sweeteners may be **less harmful than sugar** in the context of obesity management, but other metabolic effects in humans are unclear.

Further research is needed to fully characterize the long-term health risks and benefits of non-nutritive sweeteners.

[1] Sylvetsky AC, Rother KI. Nonnutritive Sweeteners in Weight Management & Chronic Disease: A Review. *Obesity*. 2018;26(4):635-40.
 [2] Rother, Conway, Sylvetsky. How Non-Nutritive Sweeteners Influence Hormones & Health. *Trends Endocrinol Metab*. 2018 ;29(7):455-467.
 [3] Peters et al. The Effects of Water & Non-Nutritive Sweetened Beverages on Weight Loss & Weight Maintenance. *Obesity*. 2016;24(2):297-304.



A product of the Strategies to Overcome & Prevent (STOP) Obesity Alliance at the Sumner M. Redstone Global Center for Prevention & Wellness

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