



communicating Food for Health

Are Artificial Sweeteners Fattening?

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The US Food and Drug Administration (FDA) currently approves six different calorie-free sweeteners: acesulfame, aspartame, neotame, saccharin, Stevia/Truvia, and sucralose. Whether or not these nonnutritive sweeteners (NNS) have an impact on calorie intake and body weight has been debated for many years. Certainly these NNS are hundreds to thousands of times sweeter than sugar and by themselves contain no significant amount of energy. Thus, they cannot directly cause weight gain. However, it is possible that people who routinely use these NNS may wind up desensitized to sweetness. This could result in increased cravings for very sweet foods and possibly promote weight gain. Other researchers have suggested that NNS might impact body weight by altering the gut microbes or by triggering the release of increased insulin.

There is concern that healthier and more satiating foods such as fruits and vegetables may become unappetizing compared to more processed junk foods sweetened with NNS. If so, the overall quality of the diet might decline. This might lead to the return of calories that had gotten displaced from the diet by the sugar for NNS swap. Those calories could end up sneaking back into the diet from more refined carbohydrates and the low-quality fats in processed foods made more palatable as a result of NNS. Dr. Ludwig at Harvard speculated that “sweetness receptors” in fat cells might be stimulated by NNS. He suggested that this “... raises the possibility that artificial sweeteners could cause weight gain by directly stimulating the development of new fat cells.” (Dr. Ludwig is a professor of pediatrics at Harvard-affiliated Children’s Hospital Boston, and was quoted in a *Health Letter* article). And there certainly is population

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data showing that people who use more NNS are more likely to gain weight over the next year or so when compared to subjects who mostly avoid NNS. It is clear that, over the past 50 years, Americans are both becoming fatter (on average) and consuming more NNS. But such observational data are confounded by the fact that it is the people who are prone to weight gain who are much more likely to choose to consume more foods and drinks with NNS in place of sugar. So the correlation between using more NNS and weight gain may or may not be causal. Reviews of the subject often leave health professionals with no clear answers (1).

There is growing evidence that the consumption of beverage calories — particularly sugar-rich drinks — promotes excessive calorie intake and weight gain. If this is the case, then replacing sugar-sweetened drinks with those sweetened with NNS may indeed aid weight loss or certainly reduce the risk of gaining more weight. Controlled clinical trials comparing sugar-sweetened to NNS soft drinks generally show that sugar-sweetened drinks

promote increased calorie intake and weight gain compared to the NNS-sweetened drinks (2). However, while the US Dietary Guidelines state that NNS drinks are preferable to sugar-sweetened drinks, they maintain that drinking water instead of sugar-sweetened drinks is the “gold standard” for weight loss and weight control (3).

Study Shows NNS Beverages Work Better than Water

Dr. Peters and colleagues conducted a study that compared the efficacy of NNS-beverages to water during a 12-week behavioral weight loss program and a 9-month follow-up period. They randomized 303 overweight subjects (BMI 27-40) into two groups. One was instructed to drink at least 24 ounces (oz) of water, while the other was instructed to drink at least 24 oz of NNS beverages daily during the 12-week weight loss program. The water group had to agree to give up drinking NNS beverages for one year. Both groups were allowed to consume foods with NNS. To enhance compliance, both groups of participants were given free coupons for either

bottled water or NNS drinks for one year. Aside from the differences in beverage instructions, both groups received the same dietary and lifestyle instruction during the 12-week weight loss program. The average weight lost during the first 12 weeks was 10.09 pounds (lbs) for the NNS group and 8.67 lbs for the water-only group.

This difference was not quite significant, but only 43% of the water-only group lost more than 5% of their initial weight, compared to 63.3% of those in the NNS group. That difference *was* significant. The data from this clinical trial were similar to those observed in a prior study that also compared the impact of NNS drinks, water, and sugar-sweetened drinks on weight loss. In this study, Dr. Tate and colleagues also observed that NNS drinks not only aided weight loss compared to sugar-sweetened drinks but also compared to plain water (4). Couple these two studies with data from the National Weight Control Registry, which shows that people who lost and

(Continued at <http://www.-communicatingfood-forhealth.com/artificial-sweet-fattening/>)

MyPlate Activity Ideas:

The following activity ideas are excerpted from the new book, *MyPlate for Everyone*, which is coming soon from Food and Health Communications!

MyPlate Commercial: (Adults)

Review the health benefits of MyPlate. Have participants form small groups and improve commercials for MyPlate, highlighting its impact on diet, disease risk, and general health.

Variation for kids: As a group, come up with a script for a MyPlate commercial and have volunteers act it out.

MyPlate Poll: (Adults) Poll the group. Who has balanced his/her plate like MyPlate for at least one meal? More than one meal? Discuss how it went — what was easy, what was hard, etc.

Variation for kids: Hand out stickers to each person who made a meal like MyPlate.

Vegetable Subgroup Investigation: (Adults)

Divide participants into groups and give each one a MyPlate vegetable subgroup to research. Have each group find out which vegetables belong to their subgroup and what nutrients those vegetables contain. Reconvene and have the groups present what they found.

Variation for kids: Use the handouts from the MyPlate Vegetable Subgroup Exploration Series (free at www.foodandhealth.com) and give each group a handout instead of asking them to do research. Let each group present its findings to the rest of the class.

Fruit Tasting Series: (Adults) Have each participant bring in his or her favorite snack that features fruit. Instruct everyone to bring in enough of their

snacks for each member of the class to have a taste. Set up a buffet with submissions from the group, and discuss the snacks while everyone eats. Which ones are new favorite treats? Why did people bring in the snacks they chose?

What Vegetable Am I? (Kids or Adults)

Secretly assign each participant a vegetable. Have the class try to guess which vegetable a participant has. Help the participant offer clues about their veggie until the group guesses it. Repeat as necessary.

Switch It Out! (Kids)

Have the kids draw a picture of their favorite meal. Does it match MyPlate? Why or why not? Have everyone label their drawings with the food groups from MyPlate, then make a new picture that reimagines the meal according to MyPlate. What has changed? Why?

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