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Contact: Theresa Hedrick, MS, RD, LD

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New Study on the Role of Fructose and Weight Gain Is Not Applicable to Real Life

The article “Effects of Fructose vs. Glucose on Regional Cerebral Blood Flow in Brain Regions Involved With Appetite and Reward Pathways”¹ is of very little practical value. This study showed increases in the blood flow to some parts of the brains’ of a small number of people, not that fructose causes weight gain as has been suggested.

The study has three main flaws:

- **The amount of fructose given was grossly exaggerated.** The researchers gave participants more fructose in one sitting than most Americans consume in an entire day.²³ - The researchers used doses of sugar equivalent to 5 carbohydrate servings – that is like eating 5 slices of bread in one sitting.

- **The fructose was given in one big dose at the same time, which is not how people eat fructose.** In the study, fructose was given all at one time rather than spread out throughout the day as most people would consume it.

- **The test was not reflective of how people typically eat fructose.** Fructose and glucose are always consumed together in real life, so testing the effects of only fructose in high amounts is not reflective of real diets.

The Calorie Control Council also cites the following as limitations of this study:

- The findings may not be meaningful in real life. Even the authors noted that “clinical significance of the results is uncertain” and later reiterated that, “It should be emphasized that the clinical implications of the fMRI [functional magnetic resonance imaging]-based outcomes reported in this exploratory study remain to be determined.”

- The study was done in a small number of healthy normal-weight young adults. Most Americans do not fall into that category. Because the study was so small, the same conclusions may not be reached when more people are examined.

- The study looked at changes of blood flow to certain parts of the brain, but did not directly measure brain activity, which would be a better measure of the sugars’ effects on the brain.

- The hypothesis presented in this paper does not reflect the extensive body of literature on fructose. Two recent review studies concluded that fructose does not cause changes in bodyweight.⁴⁻⁵ These studies were not cited in the Page et al study, which may indicate that the authors choose references to support their theory and left out studies that had other findings.

The study agrees with what scientists or health professionals already know, that fructose does not increase levels of ghrelin, the hormone that causes hunger.⁶ Thus, fructose would not be expected to increase appetite.
Obesity is a multi-faceted issue. Weight maintenance and health involve many factors, such as healthful eating habits (including balance and moderation), exercise and long-term commitment. There is no scientific evidence that one component of the diet, such as fructose, is responsible for obesity.

References