



Commentary: “Lite” Reading from the Calorie Control Council

The Calorie Control Council (the “Council”) is an international association representing the low-calorie and added fiber food and beverage industry. Companies that make and use low-calorie sweeteners and added fiber ingredients are among the Council’s members. Now, more than ever, consumers are seeking diet and health information from credible and reliable sources. The Calorie Control Council is just that as we have experts available to assist with questions and concerns from consumers, health professionals, and the media.

Please use the Council as a resource when looking for information on low-calorie and “lite” ingredients and the products that contain them. For more information, visit the Council’s website at www.caloriecontrol.org.

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Perceptions Surrounding Child Obesity and Contributing Factors

- Children may not be the best judge of their own weight. Research published in July in the Centers for Disease Control and Prevention's (CDC) [Preventing Chronic Disease](#) has found that many children who are overweight or obese may not see themselves that way. According to the study, which included National Health and Nutrition Examination Survey (NHANES) data for more than 2,500 children and adolescents, more than 27% of children underestimated their weight, with a majority being overweight or obese.
- Parents may be no better than their children at accurately judging weight. In a June study published in [The Journal of the Academy of Nutrition and Dietetics](#), researchers found that among more than 200 parents of overweight or obese children, over 31% believed their child was in good health, with 28% believing their child's weight was not a health concern.



- Parental actions may also play a major part in their child's risk for obesity. Research published in June in the [Journal of Pediatric Psychology](#) found that parental control over a child's eating habits may play a role in his/her weight. Results of the study concluded that moderate control over dietary intake for children in a behavioral weight loss program was associated with a lower body mass index (BMI).
- Other family members, such as siblings, could have an influence over a child's weight. In a July study from the [American Journal of Preventative Medicine](#) of more than 10,000 American households, researchers found that among households with two children, having an obese older sibling was more strongly associated with obesity in the younger child than parental obesity.
- There are a myriad of factors that could affect child obesity that may or may not be influenced by the family. According to an October study reviewing data on 329 child-parent pairs, which was published in [Childhood Obesity](#), factors associated with increased risk of child obesity include sleep duration, parental BMI and parental restrictive feeding practices.
- Another possible factor contributing to a child's risk of obesity, or at least their consumption of healthy foods, may be their perception of whether or not a food is healthy. According to an October study published in the [Journal of Consumer Research](#), when children were shown pictures of foods and then offered the same food, they were less likely to eat the food if the picture also noted health benefits. ■■■■■

WHO Predicts Child Obesity Rates for 2025

According to a new [report](#) from the World Health Organization, the number of obese children around the world could rise to 70 million by 2025. For comparison, there were around 44 million obese children worldwide in 2012. The World Health Assembly will discuss recommendations at their next meeting in May 2015.



Cutting Edge Research on Nutrition & Obesity

Obesity and Heart Health

It may seem like common sense that losing weight would be associated with improved health. Results from a July study published in the [European Journal of Preventive Cardiology](#) reiterate this idea. In a study of more than 2,300 participants from the Multi-Ethnic Study of Atherosclerosis, researchers found that weight loss was associated with cardiac benefits, including improved cardiac structure. This association was independent of many confounders, including age, race, gender and obesity-related cardometabolic risk. Further, the researchers found that there was no threshold of weight loss required to produce benefits, showing that even some weight loss can be beneficial for heart health.

Making healthy choices, including the decision to lose weight, may also have an effect on your risk of heart attack. In a September study published in the [Journal of the American College of Cardiology](#),

researchers examined a population of more than 20,000 older adult men and followed them for 11 years. The researchers reviewed lifestyle risk factors for heart attacks and found that certain healthy choices were associated with reduced risk, including lower abdominal fat and increased physical activity.

Unfortunately, obesity in childhood may have an adverse effect on heart health, even at a young age. In [research](#) published in August of more than 22,000 children and adolescents in the Preventive Education Program (PEP) Family Heart Study, researchers found that obesity in childhood was associated with a six-fold increase in hypertension. They found that the risk was greater for obese girls, but that reductions in weight were associated with lower blood pressure.

Spotlight on Diabetes

According to [research](#) released by the CDC in September, overall rates of diabetes in the U.S. are plateauing after doubling over the past 20 years. The Agency believes that one of the major reasons for this plateau is due to the leveling rates of obesity in the country, which are virtually unchanged over the past decade. However, rates of diabetes continue to rise in many subpopulations in the U.S., such as non-Hispanic blacks and Hispanics as well as those with less than a high school education.

A low-carbohydrate diet may be the best for people suffering from diabetes. Research published in July in [Nutrition](#) from researchers at the University of Alabama at Birmingham suggested that dietary guidelines should be revised to assist in controlling diabetes. They concluded that adherence to a low-carbohydrate diet could be the first line of defense for treatment of type 2 diabetes and can be used with insulin for those with type 1 diabetes.



For helpful tips and tools to stay healthy, follow us on The Skinny on Low Cal [Pinterest](#) page.

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Persistent weight loss may also be useful in controlling diabetes or reducing risk. According to a July study published in [Diabetes Care](#), weight loss over a period of two years was strongly associated with reductions in diabetes incidence. The study followed 1,000 individuals over the course of two years so that researchers could determine predictors and risk factors for diabetes. Although the study found that weight loss over six months was protective against diabetes, prolonged weight loss over two years was the strongest predictor.

Without continued weight loss, overweight or obese individuals are likely at greater risk of developing diabetes, even if they are metabolically healthy. In a new study of almost 34,000 young men who were followed for an average of six years, diabetes risk was greater among those that were overweight or obese. The results, which were published in August in [Diabetes Care](#), found that the risk was greater regardless of a healthy metabolic profile and despite an absence of other risk factors.

Excess weight around the midsection may also lead to an increased risk for diabetes. According to a July [report](#) from Public Health England, men who had at least a 40 inch waist were about five times as likely to be diagnosed with type 2 diabetes as compared to men with a smaller waist. Further, women who had at least a 35 inch waist were more likely to be diagnosed than those women with smaller waistlines.

Dietary Habits

A new study may show that we're all part of the "clean plate club." In a July review of 14 studies published in the [International Journal of Obesity](#), researchers at the Johns Hopkins Bloomberg School of Public Health found that Americans ate about 92% of the food that they put on their plate. Additionally, those that served themselves healthier foods more often ate more off their plates than those serving themselves less healthful foods. The "clean plate club" may not be an American trait either, with research in Canada, France, Taiwan and the Netherlands finding similar results.

How people perceive a food may affect the likelihood of it ending up on their plate. Research published in March in [Food Studies](#) found that certain buzzwords may lead consumers to believe that some products are healthier than the same product that doesn't include such buzzwords on the label. Such buzzwords include "organic," "whole grain" and "antioxidants."

High-Fat Diets Could Cause Loss of Smell

Recent [research](#) from Florida State University has found that persistent consumption of high-fat foods may lead to a diminished sense of smell in mice. When mice were weaned from a high-fat diet and lost weight, their sense of smell was restored.

Other factors may affect the likelihood you reach for a product. In a September study published in [Appetite](#), researchers found that sleep duration could affect your craving for junk foods. In the study, participants who averaged 6.5 hours of sleep per night were asked to sleep an additional two hours each night. After this extra sleep, participants not only reported being less sleepy, but also reported a decrease in overall appetite as well as a decrease in junk food cravings. ■■■■■





Emotional Health and Physical Health

Our emotional health may have a major impact on our physical health. In a July study published in [Biological Psychiatry](#), researchers found that stress may have a major impact on metabolism in female adults. Results of the study found that women who

had experienced a stressor within the previous 24 hours burned around 100 fewer calories the following day as compared to the women who hadn't experienced a stressor the prior day. As noted by the researchers, this difference in burned calories is equal to about 11 extra pounds in a year!

On a positive note, efforts to improve our physical health may have a benefit on our emotional health. In the study of the Shape Program, a weight gain prevention intervention, overweight and obese African American women were randomized to complete a year-long intervention. The intervention group tracked their behavioral goals each week and had monthly calls with a personal health coach. Participants in the intervention group were also given a YMCA membership. Those in the control group received their usual physician care. Depression before and after the study was assessed using the Patient Care Questionnaire. Results of the study, published in September in the [American Journal of Public Health](#), found that the intervention improved depression in women even though the intervention did not include aspects related to emotional health.

Efforts to improve physical health may also have emotional health benefits in adolescents. During the annual meeting of the [American Psychological Association](#) in August, research was presented that examined physical fitness levels of 400 sixth grade girls. Results of the research found that higher fitness levels in sixth grade were associated with a reduced likelihood of depression in seventh grade.

Expert Committee Publishes Guidelines on Obesity

In July, an expert panel composed of representatives from the American Heart Association, the American College of Cardiology and the Obesity Society published new obesity treatment guidelines. The [guidelines](#) come after five years of systematic evidence review by the panel.

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Self-Studies and Recorded Webinars Available for Nutrition Professionals

The Calorie Control Council is a Commission on Dietetic Registration (CDR) accredited continuing professional education (CPE) provider. This means dietitians and dietetic technicians can receive CPEs by viewing the recorded webinars and self-studies available at www.caloriecontrol.org.

Self-Studies and Recorded Webinar Modules include:

Polyols: A Primer for Dietetic Professionals

Polyols, also known as sugar alcohols, are a unique group of sweeteners with the taste and texture of sugar for only half the calories. The polyol self-study module provides information on the types of polyols found in foods, the various uses of polyols, their health effects, and ways to counsel clients to incorporate polyols into a healthful diet. Additionally, please listen to a recent Council [webinar](#) on polyols, "Polyols: A Sweet Alternative for Sugar Reduction," which was co-sponsored by the Research Chefs Association (RCA).

The Calorie Control Council has new fact sheets available for low-calorie sweeteners as well as fructose and fiber! Reproduction of the fact sheets is permitted for educational purposes. Access these and other fact sheets by clicking [here](#).

Dietary Fiber Ingredients

Expanding Options for Meeting Dietary Fiber Requirements: Dietary fibers are an important part of a balanced diet and may have a protective effect against several diseases. This self-study provides information on the recommended daily intake of fiber, the different types of fiber, the major mechanisms through which dietary fibers provide health benefits, and identifies several fiber-containing ingredients used in foods and beverages.

Demystifying FDA's Food Ingredient Approval Process

Dietitians and other health professionals hear questions every day about whether the foods in grocery stores or restaurants are healthy and safe. Processed foods, complex ingredient names, low-calorie sweeteners, and preservatives, are just a few examples of ingredient-related questions asked by consumers. This module provides an in-depth exploration of the regulations for food additives. ■■■■■

Follow the Calorie Control Council on our blog, [I Love Diet Soda!](#)

Get Physical

Primetime for Exercise

Sometimes we need help to motivate us to be active. With the rise in obesity, some workplaces are turning to cycling workstations to motivate their employees to be more active. In a July study published in [Applied Ergonomics](#), researchers set out to determine if these workstations would help to reduce sedentary time while also allowing individuals to be productive in their work. They found that cycling workstations could facilitate physical activity without compromising work productivity, which was measured through typing performance.



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Other tools may be helpful in getting us to move more. Recently, there has been a movement to have smartphone apps encourage people to eat better and be more active. A June study published in [PLOS One](#) looked to determine whether a smartphone-based intervention would decrease excessive sedentary time. Participants undertook a week-long intervention in which they wore a sensory armband that signaled three physical activity break conditions per day. The researchers found that the intervention decreased the amount of sedentary time, noting that short breaks may be best to increase physical activity in overweight and obese adults.

Speaking of short breaks, researchers in another recent study set out to determine if short walking bursts would improve insulin sensitivity in individuals with type 2 diabetes. In the study, published in August in [Diabetologia](#), participants were randomized to walk each day, either at one time or at different points throughout the day. Researchers found that those in the intermittent walking group had more improved insulin sensitivity as compared to those that walked once in the day.

Physical activity may not only improve risk factors for diabetes, but also risk factors for heart health. An April study published in [The American Journal of Cardiology](#) looked at recurrent heart attacks and strokes among more than 4,100 individuals. They concluded that certain factors greatly reduced the likelihood of a second cardiac event, including increased physical activity, smoking cessation and adherence to a Mediterranean diet.

Being more active also leads to positive effects for children. In an August study conducted by researchers at the Finnish University of Jyväskylä, cognitive functioning relative to physical activity was assessed in 224 children. Over the course of a week, researchers measured children's physical activity as well as sedentary time. Cognitive functioning was measured using five different tests assessing visual memory, executive functions, attention and internal reliability. The study, published in [PLOS One](#), found that physical activity was positively associated with attention whereas increased screen time was associated with poorer working memory.

When it comes to physical activity among children and adolescents, there is not much scientific evidence as to the best mode of exercise to assist in losing weight among obese children and adolescents. A September study published in [JAMA Pediatrics](#) randomized more than 300 obese adolescents to four different groups for 22 weeks: no training activity, aerobic training, resistance training and a combination of aerobic and resistance training. Researchers found that although aerobic and resistance training on their own led to weight loss, a combination of both may lead to greater decreases in weight. ■■■■■

Obesity May Precede Asthma in Kids

New [research](#) from the American College of Allergy, Asthma and Immunology suggests that it is more probable that childhood obesity contributes to asthma instead of vice versa. However, the association between obesity and asthma is complex and involves several factors contributing to the development of asthma.





Regulatory Status of Low-Calorie Sweeteners: New Sweetener Approval

In May, the U.S. Food and Drug Administration (FDA) approved another low-calorie sweetener for use in food and beverage products: [advantame](#). Advantame becomes the sixth low-calorie sweetener approved as a food additive by the Agency and can be used as a general sweetener or flavor enhancer in products such as baked goods, chewing gum, jams and jellies, fruit juices and frozen desserts. The sweetener was approved after extensive safety reviews by the FDA, who concluded that advantame is safe for human consumption. Advantame is approximately 20,000 times sweeter than sugar so it can be used in extremely small amounts to sweeten foods and beverages.

Recent Studies on Low-Calorie Sweeteners

Recently, there has been speculation in the media that the use of low-calorie sweeteners can cause weight gain, an outcome they are intended to help control. However, this notion is based on unverified scientific literature and opinions. Several recent studies have supported the use of low-calorie sweeteners as a tool in weight loss and management.

In September, a systematic review was published in the [American Journal of Clinical Nutrition](#) which assessed the association between low-calorie sweeteners and obesity. Results of this meta-analysis found that low-calorie sweeteners reduced body weight as compared to controls. Further, low-calorie sweetener consumption significantly reduced BMI, fat mass and waist circumference in participants when compared to controls. The researchers concluded, “Findings from the meta-analysis of 15 RCTs [randomized controlled trials] – the gold standard study design in medical research – indicate that substituting LCS for sugar modestly reduces body weight, BMI, fat mass, and waist circumference.” The researchers went on to explain that, “Although the mean reduction in body weight was modest, it would not be expected for a single dietary change, ie, replacement of sugar with LCS [low-calorie sweeteners] to cause clinically meaningful weight loss. Rather, leading nutrition and health authorities recommend a multifaceted approach to weight loss and weight maintenance – one that includes an overall healthy dietary pattern, physical activity, and other lifestyle behavior changes.”

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Results of a randomized controlled trial evaluating the effect of low-calorie drinks on weight loss was published in [Obesity](#) in June. The study included a 12-week weight loss phase followed by a 9-month weight maintenance phase. A total of 279 participants took part in this study and were randomized to participate in the low-calorie sweetened beverage group or the water group. Researchers assessed participant weight before the start of the study and after 12 weeks. Results of the study found that participants in the low-calorie sweetened beverage group lost significantly more weight over the 12 week period than those in the water group, with a greater proportion of participants in the low-calorie sweetened beverage group losing more than 5% of their body weight. The researchers concluded that, “The results provide support for the use of NNS beverages in the context of a behavioral weight management program and should be reassuring for people who choose to consume NNS beverages. It demonstrates that they can drink a NNS beverage without the caloric contribution of nutritive sweeteners and without concern that their weight loss efforts will be undermined and, in fact, may be slightly enhanced.”

Another study published in [Obesity](#) in October looked at the use of low-calorie sweetened beverages among those that had maintained significant weight loss for at least a year. In the study, participants in the National Weight Loss Registry, a cohort of over 1,000 individuals who have lost at least 30 pounds and maintained that weight loss for at least one year, were randomly selected to receive an online survey to inquire about their use of low-calorie sweetened beverages and determine why they chose to drink these beverages. A total of 434 individuals completed the survey with more than half of all participants stating that they were regular consumers (at least one serving per day) of a beverage that was sweetened with low-calorie sweeteners. Of participants that stated that they consumed at least one low-calorie sweetened beverage once per week, 78.1% believed that consumption helped them control caloric intake. When asked how important they believed that changing beverage consumption habits was for weight loss, about 40% of participants stated that they felt it was very important for weight loss and maintenance. The researchers concluded that the study results “suggest that consumption of LNCSB [low/no-calorie sweetened beverages] can be part of a successful weight loss maintenance program.”



Fructose is also often mistakenly blamed for adverse health outcomes related to obesity. However, recent research has suggested otherwise. An October study published in the [American Journal of Clinical Nutrition](#) looked at the association between high fructose consumption and nonalcoholic fatty liver disease (NAFLD). Researchers calculated a Fatty Liver Index (FLI) score for over 1,600 participants, which is based on factors such as BMI and waist circumference. A FLI score >60 was defined as positive and indicative of NAFLD. Researchers also calculated a NAFLD liver fat score for all participants to compare to the FLI score. The NAFLD liver fat is based on factors such as presence of type 2 diabetes and fasting insulin. Results of the study found that fructose consumption was negatively associated with NAFLD when assessed using the FLI or NAFLD liver fat scores. The researchers found that subjects in the highest fructose intake group were 28-44% less likely to have NAFLD as compared to those in the lowest intake group.

Another study published in the [American Journal of Clinical Nutrition](#) in September compared the effects of short-term consumption of high-fructose (HF) or high-glucose (HG) sweetened beverages on metabolic factors such as insulin sensitivity and cholesterol concentrations in adolescents. During the study, 40 participants each took part in two trials: one 15-day trial for HF beverages and one 15-day trial for HG beverages. Results of the study found that there was no significant difference in several markers for metabolic health between both trials, including insulin sensitivity, hepatic insulin resistance, cholesterol concentration and high-density lipoprotein (HDL) cholesterol levels. The researchers concluded, “These findings expand on previous data showing that high fructose intake is not associated with deleterious metabolic consequences in adolescents

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and suggest that short-term (2-wk) consumption of moderate amounts (50 g/d) of HF- or HG-sweetened beverages do not detrimentally alter metabolic health in weight-stable, physically active adolescents.”

Further, the researchers concluded, “Collectively, the data suggest that fructose or glucose consumption per se is not detrimental to an adolescent’s health, and perhaps factors other than fructose intake (obesity, physical activity levels) should be targeted to prevent chronic disease in this population.”

Dietary Fiber Benefits

Many people do not consume the recommended amount of dietary fiber each day. Increasing your fiber intake can have major health benefits and studies continue to explore these potential benefits. An April study published in the [British Medical Journal](#) evaluated the association of fiber intake after a heart attack with future heart health. Researchers reviewed data from two large cohort studies which included data for around 3,500 adults with dietary information for both before and after a heart attack. After considering other potential factors that could affect heart attack risk, including various dietary and lifestyle factors, the researchers concluded that increased fiber intake after a heart attack reduced the risk of a future heart attack. According to the researchers, “A greater increase in fiber intake was significantly associated with lower all cause and cardiovascular mortality in both sexes. Compared with participants who were in the lowest third of fiber intake in both the pre-MI [myocardial infarction, also known as a heart attack] and post-MI periods, participants in the highest third in both periods had the lowest all-cause mortality: hazard ratio.”

Increasing your intake of dietary fiber may also have benefits on your intake of other nutrients. In an August study published in the [British Journal of Nutrition](#), researchers set out to look at the effect of soluble corn fiber on calcium absorption in children and adolescents with low fiber intakes. In the study, 24 children and adolescents consumed low-calcium diets under two different conditions: consuming no corn soluble fiber or consuming 12 grams per day. Results of the study found that consuming corn soluble fiber increased calcium absorption by 12% as compared to no consumption. As calcium is essential in proper growth and development, the consumption of fiber may be beneficial in assisting to increase calcium intake. ■■■■■

Helpful Websites

The Calorie Control Council sponsors a multitude of websites that can help healthcare professionals communicate information on the importance of diet, physical activity and weight control in achieving and maintaining a healthy lifestyle. Many of the sites also separate fact from fiction regarding low calorie sweeteners, and several of the sites are available in multiple languages.



Check out these resources

[The Skinny on Low Cal](#)

[The Calorie Control Council](#)

[Calories Count](#)

[Acesulfame potassium](#)

[Aspartame](#)

[Cyclamate](#)

[Fiber](#)

[Fructose](#)

[Polyols](#)

[Saccharin](#)

[Sucralose](#)

[Stevia](#)

