



## **Commentary: “Lite” Reading from the Calorie Control Council**

The Calorie Control Council (the “Council”) is an international association representing the low-calorie food and beverage industry usually. 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](http://www.caloriecontrol.org).

## In This Issue



### Trends and Statistics

**Technology and Weight Loss**  
**Influence of School on Child Weight and Obesity**



### Nutrition and Disease

**Cutting Edge Research on Nutrition & Obesity**



### Feed Your Mind

**Outside Prompts and Eating Behavior**  
**Recognizing Obesity**  
**Self-Studies and Recorded Webinars Available for Nutrition Professionals**



### Get Physical

**Primetime for Exercise: Throughout the Life Span**



### Sweet Substitutes

**Recent Studies on Low-Calorie Sweeteners**  
**Focus on Fiber**



## Technology and Weight Loss

- Text reminders might help you adhere to your health goals. In a March review published in the [Annual Review of Public Health](#), researchers reviewed studies looking at text message interventions to assist people to reach specific health goals and found that they could be effective when addressing issues such as diabetes self-management, weight loss and physical activity.
- The use of mobile apps might also assist children in accomplishing positive health goals. A January review from [Pediatric Obesity](#) looked at studies which used a variety of mobile technologies to enforce positive health behaviors for children. The researchers concluded that such mobile technologies are feasible and effective tools to help prevent and treat child obesity.



- How you interact and who you interact with on mobile technologies may also affect your achievement on health goals. In a January study published in the [Journal of the Royal Society Interface](#), researchers looked at online weight management communities over a six month period to assess how social interaction affected weight loss. They found that those with greater social interaction lost a higher percentage of weight over the time period compared to those with fewer interactions.

## Influence of School on Child Weight and Obesity

- Perceived safety at school could influence weight-related behaviors in children and adolescents. In an April study published in the [American Journal of Epidemiology](#), researchers evaluated data from a group of more than 2,100 children, including their perception of safety, weight status and poverty level. The researchers found that those children at the highest levels of poverty and those with perceived safety concerns were more likely to be obese.
- Recent [research](#) from the Johns Hopkins Bloomberg School of Public Health has looked at other school factors that could influence obesity, including factors in the cafeteria. Researchers observed more than 270 kindergarten children in 10 New York City public schools and found that factors, including noise and teacher presence, could influence dietary intake. For example, a quieter cafeteria led to increased intake of vegetables and whole grains. Additionally, having a teacher eat with a child led to an increased likelihood that a child would finish his/her lunch.
- When a child eats lunch may also have an effect on what children eat. In a February study from [Preventive Medicine](#), researchers looked at whether moving recess to before lunch would have an effect on consumption of healthy foods among elementary school students. Results of the study found that moving recess to before lunch could impact fruit and vegetable intake as those children in the study who had recess before eating had an increased intake when compared to those who ate before recess. ■■■■■

### Obesity Rates Rise Despite Adherence to Dietary Guidelines

A review published in March in [Nutrition](#) reviewed National Health and Nutrition Examination Survey (NHANES) data for a 40-year period and found that while Americans have generally followed the Dietary Guidelines and other nutrition advice from national health groups, this has coincided with an increase in adult obesity rates.



## Cutting Edge Research on Nutrition & Obesity

### Sleep and Health

Research continues to look at the effect sleep has on health outcomes, including obesity and diabetes risk. Research is also looking at how sleep can affect health at different stages in life. In a January study published in [Pediatric Obesity](#), researchers looked at sleep duration for children under the age of two years and how this compared to night time eating habits. They found among children with shorter sleep durations (less than 10 hours), an average of 120 more calories was consumed per night compared to those children who were getting more sleep (at least 13 hours per night).

### FDA Finalizes Menu Labeling Rule

In late 2014, the US Food and Drug Administration (FDA) published their [final rule](#) on calorie labeling for restaurant menus. The rule requires chain restaurants and other retail locations to clearly display the nutritional content of menu items, including the calorie counts. The rule is part of the Affordable Care Act (ACA). In July, the FDA published an update to the rule, noting that compliance would be moved from December 2015 to December 2016.

Shorter sleep duration and sleep deprivation have also been found to increase caloric intake among adults. A February study from [Scientific Reports](#) looked at calorie consumption among adults after one night of complete sleep deprivation. Compared to a night of regular sleep, participants in the study increased the number of calories they consumed from fat, though they decreased the number of calories consumed

from carbohydrates.

Lack of sleep may also play a part in a person's risk of diabetes. In an April study published in [Diabetologia](#), researchers randomized 19 healthy men to normal hours of sleep (8.5 hours) and sleep restriction (4.5 hours) and took blood samples to measure different characteristics related to insulin sensitivity. They found that sleep restriction was associated with characteristics related to insulin resistance and increased diabetes risk.

When you sleep might also have an effect on health. In an April study published in [The Journal of Clinical Endocrinology & Metabolism](#), researchers looked at sleep habits among more than 1,600 Korean adults and gauged any associations with health outcomes. They found that those that were more likely to go to bed later and sleep later were at higher risk of poor health effects, including diabetes and metabolic syndrome, compared to those that went to sleep earlier and were earlier risers.

### Spotlight on Diabetes

With the increasing rates of obesity and diabetes, health care costs are also on the rise. An [issue brief](#) published earlier this year from the Health Care Cost Institute examined health care spending on diabetes from 2009 to 2013. As noted in the report, someone with diabetes spent, on average, more than \$10,000 more in 2013 for health care costs than someone without diabetes. Additionally, the brief notes that out of pocket health care costs are more than twice as much as someone without diabetes.

Research continues to look at the effect of food intake on both diabetes management and prevention. According to a June study published in the [European Journal of Clinical Nutrition](#), the number of meals consumed per day could affect feelings of hunger among diabetics. In the study of 54 people, researchers found that consumption of two larger meals over the course of the day led to fewer hunger pains compared to consumption of six smaller meals throughout the day.



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

Continued on page 4



Activity after meals could also have an effect on diabetes management and prevention. In a December study published in the [Journal of Applied Physiology](#), 13 obese participants with type 2 diabetes completed three trials in a random order in which they participated in resistance exercise before dinner, after dinner or not at all. Researchers found that exercise following dinner helped to lower levels of postprandial glucose and triacylglycerol, which are both associated with cardiovascular disease risk.

Activity throughout the day can also have an effect on diabetes risk and management. A study published in [Diabetologia](#) in June discussed results of the Diabetes Prevention Program (DPP) lifestyle intervention in which over 3,200 participants were involved. Results of the study found that the intervention, which intended to increase active time among participants, reduced sedentary time years later, suggesting that diabetes interventions should include components related to increasing physical activity.

Some research has also suggested additional adverse health effects related to diabetes and diabetes risk. According to a May study in [Pediatrics](#), early occurrence of insulin resistance among obese adolescents may increase risk of developing dementia or Alzheimer's disease later in life. The study looked at more than 520 normal weight, overweight and obese preschool and adolescent boys and examined the levels of certain proteins that have been associated with dementia and Alzheimer's disease and found higher circulating levels among obese participants. ■■■■■

## Diet Around the World Worsening

According to a March review published in [Lancet Global Health](#), consumption of unhealthy foods, including those high in saturated fat and sugar, has increased over the past 20 years. The research looked at consumption habits and dietary quality among men and women in 187 countries.

# Feed Your Mind

## Outside Prompts and Eating Behavior

Prompts, whether visual or verbal, can affect our behavior, including what we eat. Technology is also catching onto this with new gadgets, including a new prototype: the [SmartPlate](#). The SmartPlate uses a series of hidden cameras to consider the food that a person has added to it and determine the correct portion size for that person. The prototype, when available, will also be able to connect to various other technologies, including wearables such as the Fitbit, which connect to a person's smart phone.

Having such technology might be beneficial for many of us trying to watch what we're eating, especially as visualizing food likely affects how much we eat. According to an April study published in the [International Journal of Obesity](#), the home environment, including having food in plain sight, might increase one's food intake. In the study, researchers assessed different factors among obese and non-obese adults and found that certain habits,



Continued on page 5



such as having food in plain sight, led to increased consumption and could therefore affect risk and prevention of obesity.

Seeing food on television may also affect your eating habits. A July study published in [Appetite](#) looked at the likelihood that women would replicate recipes seen on cooking shows, including making meals from scratch. Researchers found that among those that watched cooking shows, those that were more likely to make food from scratch were also more likely to be obese.

However, cues from others may positively impact what we eat. An April study published in [Psychology & Marketing](#) examined how different food samples provided to grocery shoppers might affect their purchasing habits. Results of the study found that those given an apple, a healthy sample, were more likely to purchase healthier foods while those given a cookie, an unhealthy sample, were more likely to purchase more junk food.

Verbal cues can also affect how we eat. Recent [research](#) from Cornell University looked at the response of people to “do eat” versus “don’t eat” messaging. The research found that people are more responsive to messaging about what they can eat compared to telling people what they can’t eat. The researchers suggest that stressing the benefit of eating certain foods is likely more beneficial than discussing the harm of other foods.

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](#).

may not be able to recognize obesity. According to an April study published in the [British Journal of General Practice](#), parents may have difficulty recognizing obesity among their children. In the study, parents were provided a questionnaire asking about their perception of their child’s weight status, which was compared to the child’s body mass index (BMI), which was determined by their school nurse. Results of the study found that parents were likely to underestimate their child’s weight, with parents more likely to classify their child as overweight if they were at or above the 99.7th percentile for weight.

As noted above, the recognition of obesity by others can be important. An April study published in [Economics & Human Biology](#) examined the recognition of obesity by physicians and how their advice could influence a person’s behavior. Results of the study saw that physician advice on weight outcomes was associated with weight loss, highlighting the need for physicians to recognize and advise at-risk patients.

## 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](http://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,

## Family Stress and Child Obesity

According to an April study published in [Preventive Obesity](#), family stress can increase a child’s risk for obesity. In the study, financial stress and family disruption was associated with increased obesity risk for girls. For boys, poor maternal health was associated with increased obesity risk.

## Recognizing Obesity

The ability to recognize obesity, as well as obesity risk, can be extremely beneficial to help counter negative health outcomes associated with obesity. Unfortunately, we ourselves, and those around us,



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).

## **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.

Follow the Calorie Control Council on our blog, [The Skinny on Low Cal!](#)

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. ■■■■■



# Get Physical

## **Primetime for Exercise: Throughout the Life Span**

### **Children**

Physical activity in childhood is very important, not only to help with various aspects of development, but also since it helps to lay the groundwork for positive habits later in life. In a March study published in [Medicine & Science in Sports & Exercise](#), researchers looked at the association between physical activity, sedentary time and obesity in children from a dozen countries. The study, which included more than 6,500

children ranging in age from 9 to 11 years, found that higher levels of moderate-to-vigorous and vigorous physical activity were associated with lower likelihood of obesity. Further, the study found that at least 55 minutes per day of moderate-to-vigorous physical activity was associated with lower obesity rates.

Unfortunately, the advent of technology has led more children to participate in more sedentary activity, such as computer and video games. Fortunately, however, more active video games have been developed to encourage children to be active. A May review published in [Obesity Reviews](#) examined studies

which evaluated the effect of active video game use on children's health outcomes. The researchers concluded that active video games can be a good alternative to sedentary activity and that they can supplement traditional physical activity.

## Older Adults

Activity in older adulthood can help improve various aspects of health, including body composition. In a March study published in [The American Journal of Clinical Nutrition](#), researchers looked at the effect of resistance training with and without calorie restriction on physical activity and mobility among overweight and obese older adults. The five-month trial randomized 126 adults to either resistance training with or without caloric restriction. Results of the study found that body mass decreased among those who participated in resistance training and calorie restriction, suggesting that within this population, resistance training can be incorporated to assist in obesity treatment.

Physical inactivity in late adulthood could have negative effects on life expectancy. In a March study published in [Obesity Research & Clinical Practice](#), researchers examined the effect of physical inactivity

on life expectancy among more than 20,000 older adults from the Health Survey for England and Scottish Health Surveys. Results of the study found that inactivity was associated with shorter life expectancy and that this association was greater among non-overweight adults.

Physical activity could also have an effect on specific diseases among older adults. In a May study published in [JAMA Oncology](#), researchers looked at cardiorespiratory fitness among older men and the effect of fitness levels on cancer incidence. They found that an inverse relationship between cardiorespiratory fitness at middle age and incident lung and colon cancer. Additionally, they found lower risk of cause-specific mortality among those with higher fitness levels at middle age. ■■■■■■

## Gallup Poll Looks at US Obesity Rates

Earlier this year, [Gallup](#) published the results of their Well-Being Index, which found that obesity rates in the U.S. have climbed to 27.7%, the highest rate since the poll started in 2008.



# Sweet Substitutes

## Recent Studies on Low-Calorie Sweeteners

Swapping out full-calorie foods and beverages with low- and no-calorie alternatives can help to not only control your calories, but help to manage weight. In a May review published in the [Journal of the Academy of Nutrition and Dietetics](#), researchers looked at the effect of replacing sugar-sweetened beverages with alternative lower calorie beverages on health outcomes. In reviewing both prospective cohort and randomized control studies, the researchers found that substitution of sugar-sweetened beverages with low- and no-calorie alternatives, including water and diet beverages, were associated with lower calorie intake and lower weight gain in the long term. They therefore concluded that the available evidence suggests a potential benefit on body weight by replacing sugar-sweetened beverages with water and other low-calorie beverages.

Consuming more low-calorie products might also be associated with better overall health, according to a study published last year in [Nutrients](#). In the study, researchers evaluated National Health and Nutrition Examination Survey (NHANES) results over five cycles from 1999 to 2008 to look at consumption of low- and reduced-calorie sweetened foods and beverages. Researchers also looked at other behaviors, including physical activity and smoking status, as well as consumption of other foods. Results of the study found that those that were higher consumers of low-calorie sweeteners, including intake of low-calorie sweetened foods and beverages, were less likely to smoke and more likely to be physically active. Additionally, such consumers were less likely to consume empty calories, such as those from junk food.

Additional research looking at low- and reduced-calorie sweetener consumption through NHANES data was published in the [European Journal of Clinical Nutrition](#) in March. This research examined the relationship between consumption of low-calorie sweeteners and socioeconomic status (SES). Results of the study found that, over a nine year period, approximately 30% of adults reported consuming products made with low-calorie sweeteners. Such consumers were more likely to be female, have a college education and have a higher SES. The study also found that those born in the U.S. were more likely to consume products made with low- and reduced-



calorie sweeteners. Researchers concluded that use of low-calorie sweeteners was associated among those populations with lower incidence of obesity and related disease.

### Focus on Fiber

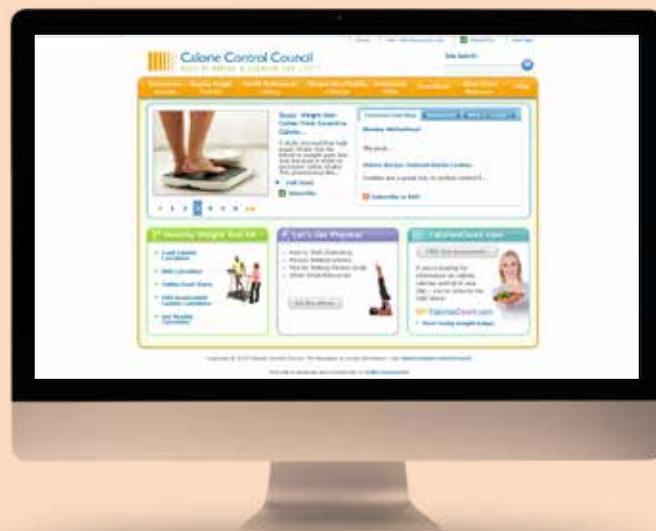
High consumption of fiber has been shown time and again to have multiple benefits for children and adults. An April study published in [The Journal of the Federation of American Societies for Experimental Biology](#) looked at the effect of prebiotic fiber on appetite regulation in overweight and obese children. Researchers randomized children to receive supplementation of a prebiotic fiber over a 16-week period. Appetite ratings were gathered before and after the 16-week period, as well as through food records taken during the intervention period. Those in the fiber supplementation group reported a decreased desire for foods and an increased feeling of fullness. Additionally, measured food intake was lower among those in the fiber supplementation group. The researchers concluded that long-term supplementation of fiber may assist in reducing food intake, which could have a positive impact on body weight.

Continued on page 9



Consumption of fiber may also have a positive effect against all-cause mortality, according to a March study published in [BMC Medicine](#). In the study, researchers looked at data from the National Institutes of Health – American Association of Retired Persons (NIH-AARP) Diet and Health Study, which included more than 367,000 participants, and examined the effect of fiber intake on all-cause and cause-specific mortality. The researchers found that greater consumption of whole grains and cereal fiber had lower risk of all-cause and cause-specific mortality, including mortality from cancer and cardiovascular disease. They concluded that consumption of whole grains and cereal fiber was inversely associated with reduced total and cause-specific mortality.

Fiber could also help to reduce levels of certain markers associated with poor health outcomes, such as inflammation. In a February review published in the [International Journal of Food Sciences and Nutrition](#), researchers assessed studies which examined the effect of fiber intake on circulating C-reactive protein (CRP), a marker which is associated with inflammation. Review of 14 randomized control trials among overweight and obese adults found a significant reduction in CRP levels. Therefore, the researchers suggested that consumption of dietary fiber, as well as foods high in natural fiber, may have beneficial effects on CRP levels. ■■■■■■



## 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](#)

[Allulose](#)

[Aspartame](#)

[Cyclamate](#)

[Fiber](#)

[Fructose](#)

[Polyols](#)

[Saccharin](#)

[Sucralose](#)

[Stevia](#)

