



# Achieving and Sustaining Meaningful Weight Loss

Written by Maria Vinal

Susan B. Roberts, PhD, Tufts University, Medford, Massachusetts, USA, discussed whether there is a role for the Dietary Guidelines for Americans (DGA) in weight management with respect to either the prevention of weight gain or in sustaining weight loss.

The DGAs already contain recommendations concerning weight management [United States Department of Agriculture (USDA)/Department of Health and Human Services. *Dietary Guidelines for Americans*, 7th Edition, Washington, DC: US Government Printing Office, December 2010]. Key among these are the maintenance of an appropriate calorie balance (account for all consumption) and, for those who are overweight or obese, consumption of fewer calories, increasing physical activity, and reducing the time spent on sedentary behaviors. The USDA's Center for Nutrition Policy and Promotion website offers a variety of tools to achieve these goals [www.choosemyplate.gov]. Among these are MyPlate, an illustrated selection of low fat, low energy dense foods that shows portion sizes for various calorie levels; the 10 Tips Nutrition Education series, which offers easy-to-follow suggestions on getting started toward a healthy diet, sample menus and recipes; and SuperTracker, an online program that allows individuals to plan, analyze, and track their diet and physical activity. The USDA also supports several public health campaigns such as Drink Up and Let's Move.

Despite years of effort the simple instructions and government sponsored programs have not had much impact on the obesity epidemic. Today, nearly 33% of adult Americans are overweight and 36% are obese [Centers for Disease Control and Prevention, National Center for Health Statistics. *Prevalence of Overweight, Obesity, and Extreme Obesity Among Adults: United States, Trends 1960–1962 Through 2009–2010* September 2012]. If this trend continues, by 2030 we can expect to see 50% of Americans classified as obese, and within 10 years a 10-fold increase in new cases of diabetes, cardiovascular disease, and arthritis [Trust for America's Health. *F as in Fat: How Obesity Threatens America's Future* 2013; 2012]. Dr. Roberts voiced a need for more effective approaches to prevention and sustainable treatment options.

Standard-of-care lifestyle interventions have also not been very effective. In the absence of prescribed dietary change, exercise leads to very small changes in body fat, with 1 hour of jogging a day leading to a 3.5% loss of body fat or about 6 lbs in 6 months. Managing caloric intake based on energy derived from protein, fat, or carbohydrates amounts also makes little difference as to the amount of weight loss at 6 months (~7% of initial weight) [Sacks FM et al. *N Engl J Med* 2009].

In the CALERIE Trial a low-glycemic load diet facilitated greater weight loss in overweight adults with high insulin secretion but not in overweight adults with low insulin secretion (Figure 1) [Pittas AG et al. *Diabetes Care* 2005]. Other studies have reported similar findings, that is, high protein plus low glycemic index carbohydrates prevent weight regain [Larsen TM et al. *N Engl J Med* 2010].

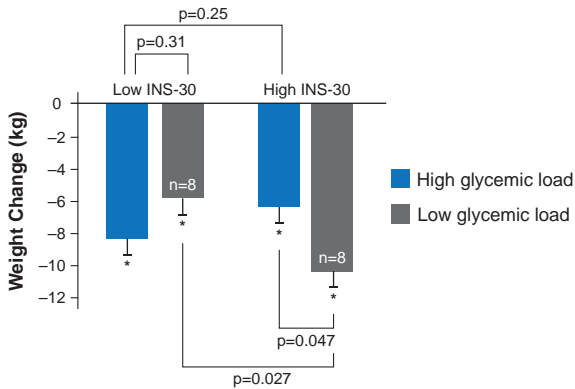
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Figure 1. Mean Weight Change Stratified by Baseline Insulin Secretion



INS=insulin; OGTT=oral glucose tolerance test.

Reproduced from Pittas AG et al. A low-glycemic load diet facilitates greater weight loss in overweight adults with high insulin secretion but not in overweight adults with low insulin secretion in the CALERIE Trial. *Diabetes Care* 2005; 28(12):2939-2941. With permission from the American Diabetes Association.

Other weight loss approaches include efforts to change behavior and facilitate the formation of new habits around eating and exercise. Tufts Healthy Weight for Living Worksite study [Salinaridi TC et al. *Am J Clin Nutr* 2013] examined the effects of a multicomponent lifestyle intervention on weight loss and prevention of regain in overweight and obese employees. A reduced-energy, low-glycemic, high-fiber diet supported by a behavioral change education program was the primary focus. Additional support was provided at both the worksite level (nutrition education, newsletters, and monthly seminars) and through employee support groups. The individual support groups participated in 16 weekly and 4 biweekly sessions for weight loss and 6 monthly sessions on weight management. The mean weight loss was a substantial -8.0 kg in intervention participants, whereas control subjects gained weight (+0.9 kg;  $p < 0.001$ ).

In summary, noted Dr. Roberts, what does not work for weight management is relying on willpower-based strategies without dramatic changes in the food environment, emphasizing self-monitoring of calories, telling people to never eat out, and promoting exercise as a primary approach to weight loss. What should improve effectiveness is different advice for preventing weight gain versus sustaining weight loss with appropriate attention to dietary composition and exercise included; addressing issues that dieters say are barriers like hunger and missing familiar foods; annual updates on guidelines that are competitive with commercial options; and inclusion a Cultural Guidance component within DGA that addresses the need for cultural shifts and/or policies over time (ie, meal size, restrained food culture).

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