

# How to Maintain Lost Weight

Jacqueline Craig, MS, RD, LD, CDE

A quick scan of the weight-loss literature reveals that most published research involves the weight-loss phase of obesity treatment. Nevertheless, many weight-loss experts argue that losing excess weight during treatment is the first of many steps needed to sustained weight loss. Maintaining lost weight is the hard part of obesity treatment for most dieters. The prevalence of long-term weight-loss success remains unclear. Current research makes it difficult to draw any conclusions on success rates. However, researchers Wing and Hill<sup>1</sup> defined maintaining 10% of intentional weight loss at 1 year as weight-loss success. They found in their National Weight Control Registry that 20% of their subjects were able to achieve this goal.

## Why Is It So Hard to Maintain Lost Weight?

Numerous factors can work against individuals who want to maintain weight loss. Causes for weight regain can be metabolic, psychological, or environmental and often are a combination of many issues. For example, obese and nonobese subjects maintaining at least a 10% weight loss were found to have a reduced total energy expenditure of 300–400 kcal/day beyond what was predicted from their reduced body mass. The lowered energy expenditure resulted from a 20% increase in skeletal muscle efficiency.<sup>2–4</sup> However, Wyatt et al.<sup>5</sup> found that the resting metabolic rate was not reduced beyond what is expected from reduced body mass in individuals maintaining lost weight.

Maintainers also face the challenge of finding new positive

reinforcements to help maintain their lost weight. There are usually many positive reinforcements during the weight-loss phase. Whether they participate in a structured program or lose weight on their own, weight losers see the number on their scale drop each week or two and frequently hear positive comments from family and friends. In addition during the weight-loss phase, weight losers might fit into smaller and smaller clothes after continued weight loss. These reinforcements, along with lowered blood pressure and blood lipids and sometimes improvement in glycemic control, often keep individuals motivated to continue with their weight-loss efforts. However, once the weight-maintenance phase begins, these reinforcements cease to provide ongoing motivation or are simply taken for granted. New positive reinforcements are necessary and may be found from support groups.

The growing trend of consuming restaurant meals versus meals prepared at home and the large portions of calorie-dense foods served in many restaurants may make maintaining lost weight more difficult. Americans dine out more now than in years past. About 50% of our food dollar is spent on restaurant or take-out meals; this figure has increased 58% since 1992.<sup>6</sup> This trend is expected to increase even more between 2000 and 2020. According to U.S. Department of Agriculture Economic Research Service, per-capita spending could increase by 18% at full-service restaurants and 6% at fast-food restaurants.<sup>6</sup> Portion sizes and caloric density of foods offered at

restaurants has increased, and this change can easily lead to overconsumption of calories and weight regain.<sup>7</sup> Eating out in restaurants or bringing home take-out food is positively associated with increased body fat in healthy adults.<sup>8</sup> Another study<sup>9</sup> looked at portion size and energy intake in a restaurant setting. Adults were found to consume 43% more energy when offered the larger portion of an entrée compared to a standard-size portion.

## Is Long-Term Weight Loss Beneficial?

Few data exist on long-term benefits of weight loss for people with type 2 diabetes. A 12-year study called LOOK AHEAD: Action for Health in Diabetes began in 2001 and involves 5,000 overweight or obese people with type 2 diabetes.<sup>10</sup> The study goal is for individuals in the treatment group to lose 7–10% of their body weight and maintain the weight loss for the duration of the study. The researchers will examine how weight loss affects cardiovascular disease, diabetes control, myocardial infarction, and stroke.

Hypertension, a known risk factor for cardiovascular disease, has been found to decrease in obese patients participating in long-term weight-loss studies. Flechtner-Mors et al.<sup>11</sup> followed obese subjects who had lost weight. At their 4-year follow-up, the individuals who maintained lost weight had a systolic blood pressure significantly improved over baseline. A different study of overweight and obese individuals found similar results on blood pressure improvements after modest weight loss at the 3-year follow-up.<sup>12</sup>

### Strategies and Programs to Help Patients Maintain Lost Weight

Lifestyle modifications—diet, exercise, and behavior therapy—are the cornerstone of obesity treatment and weight-maintenance success. These changes need to be sustained for weight loss to remain permanent.

Many commercial and self-help programs exist to assist with weight loss and weight-loss maintenance. However, there are very limited controlled studies demonstrating that these programs work beyond 2 years. The Weight Watchers program is the only major national weight-loss program with a published clinical trial lasting 2 years. Heshka et al.<sup>13</sup> randomly enrolled 400 participants either in Weight Watchers or in a self-help intervention that served as the control group. The Weight Watchers group lost 5.3% of initial weight at 1 year and maintained a loss of 3.2% at 2 years. The control group lost only 1.5% of initial weight and did not maintain any weight loss at 2 years. Individuals in the Weight Watchers group who attended the most weekly meetings maintained the largest weight loss during the 2-year study period. These findings emphasize the need for weight maintainers to adhere to behavior changes, particularly continued attendance at weekly support groups.<sup>14</sup>

A few studies have examined the efficacy of Internet-based or self-help weight control programs.<sup>15–17</sup> Mixed results were reported, and the studies generally did not extend beyond 1 year. However, a self-help program such as TOPS (Take Off Pounds Sensibly) incorporates the ingredients needed for weight maintenance: help with a reduced-calorie diet, physical activity, and behavior modification.<sup>14</sup> Many online programs, such as *ediets.com* or *weightwatchers.com*, provide the same features.

Studies have been conducted involving telephone-based interventions for weight management; however, few have involved long-term contact, with the exception being of the work of Perri et al.<sup>18</sup> Research suggests that the longer patients continue contact with their counselor, the longer they will adhere to recommended behaviors. However, what

**Table 1. Predictors of Successful Weight Loss Maintenance in National Weight Control Registry Participants<sup>1,20,21</sup>**

- Continue to eat lower-energy diets (average reported intake ~1,400 kcal/day); eat a low-fat, moderate-carbohydrate diet (~24% of energy from fat).
- Frequently self-monitor weight and food intake.
- Participate in a minimum of 60–90 minutes of physical activity nearly every day of the week (2,800 kcal/week).
- Eat breakfast every day (contrary to the typical eating pattern for dieters).

has not been determined is whether continued telephone contact is the important ingredient or whether the content of these contacts is what really matters.<sup>19</sup>

Hill et al.<sup>1,20,21</sup> are tracking successful weight maintainers in the National Weight Control Registry; these are individuals who have lost at least 30 lb of excess weight and kept it off for at least 1 year. Started in 1993, the registry now includes 4,500 people. The average participant has lost 60 lb and has maintained that loss for 5 years. Roughly 50% of the registry participants lost the weight on their own without the help of an outside program. Table 1 summarizes strategies used by registry members to maintain weight loss.

McGuire et al.<sup>21</sup> studied characteristics of weight regainers in the registry at baseline and at 1-year follow-up. Factors contributing to weight regain included recent weight losses (< 2 years), larger weight loss (> 30% of maximum weight), depression, dietary disinhibition, and binge eating disorder. Gainers also reported greater decreases in energy expenditure (less physical activity) and more increases in calories consumed as fat. Thus, maintaining behavior changes is paramount for maintaining lost weight.

In one of the first research studies on weight maintenance,<sup>22</sup> researchers randomly assigned 314 people who had lost a mean of 43 lb during the past 2 years into three groups: control group (received quarterly newsletters), a group who received face-to-face intervention, and a group who received Internet intervention. The intervention groups received techniques to help with

weight maintenance, including daily weighing and recommendations to help with self-regulation (exercise for 1 hour per day, eat breakfast daily). The amount of regain was significantly higher in the control group than in either treatment group. Daily self-weighing significantly decreased the amount of regain, especially in the face-to-face group.

### Summary

Maintaining lost weight is one of the biggest challenges in the treatment of obesity. Through research, we are learning more about the obstacles people with diabetes and all overweight and obese Americans face when trying to maintain lost weight. We are also learning about the strategies used by those who are successful. Giving patients support and tools to help them adhere to lifestyle modifications for a lifetime is vital to their success.

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*Jacqueline Craig, MS, RD, LD, CDE, is a research coordinator in the ACCORD Diabetes Trial in Cincinnati, Ohio.*