

OBESITY

Weight gain prevention

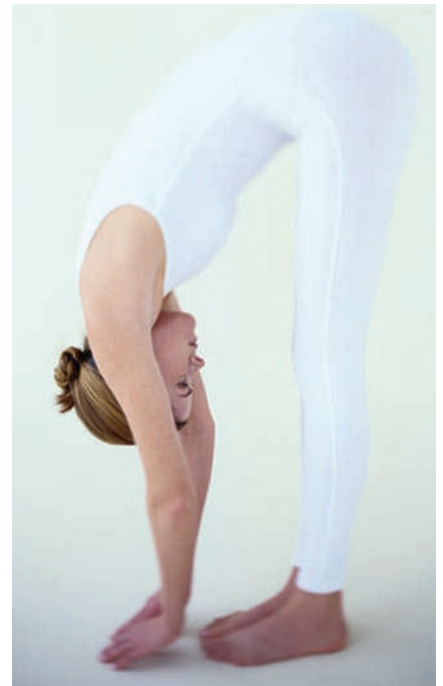
Caloric restriction, exercise or a combination of both are effective strategies for losing weight. To maintain this weight loss over time, however, represents a tremendous challenge for many, and most individuals who initially manage to lose weight cannot sustain their weight loss. Although many studies have addressed the issue of how to achieve weight loss in individuals with overweight or obesity, few data on the prevention of weight gain exist.

To examine the association of different amounts of physical activity with weight changes, Lee and colleagues enrolled ~34,000 women, with a mean age of 54.2 years, who were followed up over 13 years. In this study, women reported their physical activities approximately once every 3 years. The investigators classified women into three groups: those who engaged in moderate-intensity physical activity ≥ 60 min daily or ≥ 420 min per week; those who engaged in physical activity ≥ 150 min but < 420 min per week; and those who were physically active for < 150 min each week. Lee *et al.* then examined the association of these three levels of physical activity to weight changes over the following 3 years, and repeated this process over the duration of the study.

Weight gain was seen among all study participants, at a rate (2.6 kg over 13 years) similar to a nationally representative sample. Compared with women who

engaged in the equivalent of 420 min per week of moderate-intensity physical activity, those who were physically active between ≥ 150 min and < 420 min per week, as well as those active < 150 min each week, gained significantly more weight, with no difference in weight gain between the two groups who were less active. Additionally, compared with the most active women, study participants in the two less active groups were more likely to gain ≥ 2.3 kg over any 3-year period. Depending on the weight of the women at the time of enrollment in the study, the findings differed substantially. “More physical activity was associated with less weight gain only among women with normal BMI,” recounts lead investigator I-Min Lee (Brigham and Women’s Hospital, Harvard Medical School, Boston, USA). Among women with a high BMI, no association was found between physical activity and weight change. A subgroup of women (13.3%) with a normal BMI (< 25 kg/m²) at the start of the study maintained their body weight throughout the study, gaining < 2.3 kg at any time point assessed. Their mean physical activity level was approximately 60 min per day of moderate-intensity physical activity, sustained over the study duration.

“This study shows that among middle-aged and older women consuming a standard diet, sustained moderate-intensity aerobic physical activity for



60 min each day is needed to maintain normal weight and prevent weight gain over time,” concludes Lee. “The 150 min per week recommended by the US federal government, while sufficient to lower the risk of developing chronic diseases, such as heart disease, certain cancers and type 2 diabetes mellitus, is insufficient for weight gain prevention, without a concomitant restriction in caloric intake.”

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Original article Lee, I. M. *et al.* Physical activity and weight gain prevention. *JAMA* 303, 1173–1179 (2010)