

## Exercise and Age-Related Weight Gain

Approximately one third of the U.S. adult population is overweight. The Year 2000 Objectives call for reducing the prevalence of overweight to 20 percent; thus weight control has become an important public health goal. The most commonly reported method of weight loss is dieting. However, the long-term success rate of this method is quite poor. Indeed, only about ten to 30 percent of those who lose weight by reducing calories maintain their full weight loss over time.

Exercise may be associated with better long-term weight control than dieting alone, but the influence of regular physical activity on weight regulation is complex. Although numerous experimental studies have documented the positive effect of exercise training on body weight and fat stores, far less is known about how regular exercise affects attained weight and the risk of weight gain in the general population. What few longitudinal data there are suggest that regular physical activity may be useful in minimizing age-related weight gain or reducing the risk of substantial weight gain, rather than in actually promoting weight loss. Nonetheless, primary prevention of substantial weight gain with age may be a more efficacious public health strategy for reducing the prevalence of obesity and obesity-related morbidity and mortality in the United States.

A study just published in the International Journal of Obesity reports some encouraging findings with regard to the benefits of physical activity to weight control. In a large survey of over 5,000 middle-aged men and women, Loretta DiPietro, Ph.D., M.P.H. and colleagues compared two-year improvements in cardiorespiratory fitness (determined by performance on a maximal exercise test on a treadmill) with changes in body weight over seven and a half years. Each one-minute improvement in treadmill time significantly minimized weight gain by about .60 kilograms (1.3 pounds) over the follow-up period compared to participants who demonstrated no improvement.

More substantial improvements of three and five minutes were related to actual weight loss in both men and women. Further, each one-minute improvement in treadmill time reduced the chance of a five-kg (11 pounds) weight gain by 14 percent in men and by nine percent in women and the chance of a ten-kg (22 pounds) gain by 21 percent in both men and women.

These results were not due to chance or other factors associated with exercise and body weight, such as smoking. It should be noted, however, that improvements in fitness level were necessary to minimize weight gain; simply maintaining a given fitness level was not sufficient to ward off the slow increase in body weight through middle age. Indeed, these and other recent findings by Paul T. Williams, Ph.D. in The American Journal of Clinical Nutrition, suggest that increasing amounts of physical activity may be necessary to effectively maintain a constant body weight with increasing age.

Thus, the current population-based findings suggest that increased physical activity and fitness play more of a role in minimizing age-related weight gain and preventing significant weight gain than in promoting weight loss. Even though the relationship between improved cardiovascular fitness and reduced weight gain appears to be small, over decades these small savings accumulate into net savings that are quite meaningful, especially considering the minimized risk associated with obesity-related chronic disease.

Recent suggestions from the American College of Sports Medicine (ACSM)/Centers for Disease Control and Prevention (CDC), the National Institutes of Health, and the Surgeon General's Report on Physical Activity and Health call for 30 minutes or more of moderate-intensity activity per day on all, or most, days of the week in order to obtain significant health benefits.



This goal can be achieved by most people by-- at minimum-- a regular program of brisk walking. The public health challenge therefore lies in promoting an active lifestyle early in life, which can be maintained throughout adulthood, to prevent substantial weight gain and obesity with age.

Written for the American College of Sports Medicine by Loretta DiPietro, Ph.D., M.P.H.

Current Comments are official statements by the American College of Sports Medicine concerning topics of interest to the public at large.

*Street Address: 401 W. Michigan St. • Indianapolis, IN 46202-3233 USA  
Mailing Address: P.O. Box 1440 • Indianapolis, IN 46206-1440 USA  
Telephone: (317) 637-9200 • FAX: (317) 634-7817*

