

# Physical Activity & Health

## A Report of the Surgeon General

There is enough information available about the beneficial effects of vigorous exercise on cardiorespiratory fitness that the *American College of Sports Medicine (ACSM)*, the *American Heart Association (AHA)*, and other national organizations have issued physical activity recommendations to the public. These recommendations generally focused on cardiorespiratory endurance and specified sustained periods of vigorous physical activity involving large muscle groups and lasting at least 20 minutes on 3 or more days per week. As understanding of the benefits of less vigorous activity grew, recommendations followed suit. During the past few years, the ACSM, the CDC, the AHA, the PCPFS, and the NIH have all recommended regular, moderate-intensity physical activity as an option for those who get little or no exercise. The Healthy People 2000 goals for the nation's health have recognized the importance of physical activity and have included physical activity goals. The 1995 Dietary Guidelines for Americans, the basis of the federal government's nutrition-related programs, included physical activity guidance to maintain and improve weight - 30 minutes or more of moderate-intensity physical activity on all, or most, days of the week.

Underpinning such recommendations is a growing understanding of how physical activity affects physiologic function. The body responds to physical activity in ways that have important positive effects on musculoskeletal, cardiovascular, respiratory, and endocrine systems. These changes are consistent with a number of health benefits, including a reduced risk of premature mortality and reduced risks of coronary heart disease, hypertension, colon cancer, and diabetes mellitus. Regular participation in physical activity also appears to reduce depression and anxiety, improve mood, and enhance ability to perform daily tasks throughout the life span.

The risks associated with physical activity must also be considered. The most common health problems that have been associated with physical activity are musculoskeletal injuries, which can occur with excessive amounts of activity or with suddenly beginning an activity for which the body is not conditioned. Much more serious associated health problems (i.e., myocardial infarction, sudden death) are also much rarer, occurring primarily among sedentary people with advanced atherosclerotic disease who engage in strenuous activity to which they are unaccustomed. Sedentary people, especially those with preexisting health conditions, who wish to increase their physical activity should therefore gradually build up to the desired level of activity. Even among people who are regularly active, the risk of myocardial infarction or sudden death is somewhat increased during physical exertion, but their overall risk of these outcomes is lower than that among people who are sedentary.

Attention has been drawn recently to findings from three studies showing that cardiorespiratory fitness gains are similar when physical activity occurs in several short sessions (e.g., 10 minutes) as when the same total amount and intensity of activity occurs in one longer session (e.g., 30 minutes). Although, strictly speaking, the health benefits of such intermittent activity have not yet been demonstrated, it is reasonable to expect them to be similar to those of continuous activity. Moreover, for people who are unable to set aside 30 minutes for physical activity, shorter episodes

are clearly better than none. Indeed, one study has shown greater adherence to a walking program among those walking several times per day than among those walking once per day, when the total amount of walking time was kept the same. Accumulating physical activity over the course of the day has been included in recent recommendations from the CDC and ACSM, as well as from the NIH Consensus Development Conference on Physical Activity and Cardiovascular Health.

Despite common knowledge that exercise is healthful, more than 60 percent of American adults are not regularly active, and 25 percent of the adult population are not active at all. Moreover, although many people have enthusiastically embarked on vigorous exercise programs at one time or another, most do not sustain their participation. Clearly, the processes of developing and maintaining healthier habits are as important to study as the health effects of these habits.