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News and Features

Short, sharp bouts of exercise good for the heart

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Two new studies offer some good news and some bad news about exercise, especially for people who are just starting. Shorter bouts of exercise can be just as effective at protecting the heart as longer workouts, but getting the heart rate up is a key factor because light activity offers no cardiac benefit.

Physical activity has long been associated with a decreased risk of coronary heart disease. It has been unclear, however, whether the duration of exercise episodes was important and whether accumulated shorter sessions were as predictive of decreased risk as longer sessions, provided that the same amount of energy was expended in each instance.

In 2 new studies, the researchers found that even with relatively small amounts of physical activity, with an energy expenditure of only 1,000 kcal (4.2 MJ) a week, the risk of coronary heart disease decreased by 20% compared with that in people who did not partake in that amount of activity. Whether the exercise occurred in a few long sessions or more frequent shorter sessions did not matter—there was a positive correlation between lowered risk and vigorous activity.

The same group of investigators conducted both studies, exploring the effects of the intensity and duration of exercise on coronary heart disease. Data for the 2 studies were taken from the Harvard alumni health study, during which Harvard alumni who entered the university from 1916 to 1950 were observed (*Circulation* 2000;102:975-980, 981-987).

In the first study, led by Dr Howard Sesso

from the Department of Epidemiology at the Harvard School of Public Health in Boston, the researchers observed 12,516 men aged 39 to 88 years from 1977 to 1993. They found that those who expended more than 1,000 kcal a week in total physical activity reduced their risk of coronary heart disease by about 20%.

Overall, a lower but nonsignificant reduction in risk of 10% was seen for those expending 500 to 999 kcal a week, slightly less than the current exercise recommendations of the US Surgeon General.

In addition, the researchers found that vigorous activity was also predictive of a reduction in risk. "Moderate and light activities, which may be less precisely measured, showed nonsignificant inverse association," the article said. The subject's heart rate needed to be raised more than 75% above baseline, so if a person's heart rate was 60, he or she needed to raise it above 105.

In a second study, led by Dr I-Min Lee from the Department of Medicine at Brigham and Women's Hospital and Harvard Medical School in Boston, the researchers again found that physical activity was associated with about a 20% decrease in the risk of coronary heart disease.

This study observed 7,307 men with an average age of 66 years from 1988 to 1993. The researchers found that shorter sessions of physical activity were just as beneficial in decreasing the risk of coronary heart disease as 1 longer, continuous session of exercise, as long as the total caloric expenditure was equivalent.