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High levels of leisure-time physical activity cut stroke risk

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DALLAS, Aug. 5 – High levels of physical activity, such as running, swimming or heavy gardening during leisure time can reduce your risk of stroke, according to a study reported in *Stroke: Journal of the American Heart Association*. In addition, walking or biking to and from work for up to 29 minutes a day may also reduce the risk of strokes caused by a blood clot (ischemic stroke).

"People should increase their physical activity during leisure time or commuting to lower the risk of stroke," said lead investigator Gang Hu, Ph.D., senior researcher in the Department of Epidemiology and Health Promotion at the National Public Health Institute in Helsinki, Finland.

The study is the first to find an inverse association between leisure-time physical activity and the risk of any stroke – ischemic stroke, subarachnoid hemorrhage (bleeding from a vessel on the surface of the brain into the space between the brain and the skull), or intracerebral hemorrhage (bleeding inside the brain).

Stroke is the third leading cause of death in the United States.

Researchers reviewed data on 47,721 Finns ages 25 to 64 years who did not have a history of coronary heart disease, stroke or cancer. They completed questionnaires on smoking habits, alcohol consumption, socioeconomic factors, medical history, and physical activities during their leisure time, at work and while commuting. During an average follow up of 19 years, 2,863 strokes occurred.

Hu said that the strengths of the study were its large sample size and in recording the largest number of strokes during its follow up. Self-reported leisure-time physical activities were classified in three ways:

- Low: almost completely inactive activities such as reading, TV viewing or minor physical activity;
- Moderate: physical activity for more than four hours a week, such as walking, cycling, light gardening, but excluding travel to work; and
- High: vigorous physical activity for more than three hours a week, such as running, swimming or heavy gardening. Hazard ratios for stroke, which indicate risk, were estimated for the different levels of leisure-time physical activities as well as occupational and commuting physical activities. Researchers adjusted for such factors as age, gender, body mass index, blood pressure, cholesterol, education, smoking, alcohol consumption and diabetes. They found that participants who described their leisure-time physical activity as moderate had a 14 percent lower risk of suffering any type of stroke than those whose activity level was low. Similarly, participants who reported high leisure-time physical activity had a 26 percent lower risk of all stroke than those who had a low physical activity level. Compared to participants with low activity levels, the risk of ischemic stroke was:
 - 13 percent lower for those who reported that they were moderately active during leisure times; and
 - 20 percent lower among participants who said they were highly active.Subarachnoid stroke risk was:
 - 13 percent lower among participants with moderate activity; and
 - 54 percent lower among those with high activity levels. Intracerebral hemorrhage risk was:
 - 23 percent lower for those with a moderate activity level; and
 - 37 percent lower for those with a high activity level.

Lower risk also was associated with increased amounts of physical activity while commuting. Commuter activity ranged from no activity, to 1 to 29 minutes of activity (moderate), to more than 30 minutes of physical activity (high).

"Daily walking or cycling to and from work also reduces ischemic stroke risk and, therefore, should be recommended to all people," Hu said. Compared to people

registering no activity while commuting to or from work, the risk of total stroke was 8 percent lower for those who were physically active for one to 29 minutes on their way to work each day. It was 11 percent lower for people who were active for more than 30 minutes on their way to work.

The risk of ischemic stroke was 7 percent lower for moderate commuting activity and 14 percent lower for high commuter activity. There was no association between commuter physical activity and hemorrhagic strokes.

"Since the increase in computerization and mechanization has resulted in ever-increasing numbers of people being sedentary for most of their working time, adding short time exercise during working breaks or adding walking activity during work time is recommended. We believe it would be cost efficient for employers," Hu said.

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Editor's note: For more information on stroke, visit the American Stroke Association Web site: strokeassociation.org.

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