

# Study: Aerobic activity may keep the brain young

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New research from the University of North Carolina at Chapel Hill School of Medicine finds that aerobic activity may keep the brain young.

In the study published July 9 in the *American Journal of Neuroradiology*, physically active elderly people showed healthier cerebral blood vessels.

Researchers led by Elizabeth Bullitt, M.D., Van L. Weatherspoon Distinguished Professor of neurosurgery, used non-invasive magnetic resonance (MR) angiography to examine the number and shape of blood vessels in the brains of physically active elderly people, 7 men and 7 women, ages 60 to 80.

The study subjects were equally divided into 2 groups. The high activity group reported participating in an aerobic activity for a minimum of 180 minutes per week for the past 10 consecutive years, and the low activity group told investigators they had no history of regular exercise and currently spent less than 90 minutes a week in any physical activity. (The researchers did not know into which group participants were placed.)

This is the first study to compare brain images of elderly subjects who exercise with those that do not.

Aerobically active subjects exhibited more small-diameter vessels with less tortuosity, or twisting, than the less active group, exhibiting a vessel pattern similar to younger adults.

The authors, who were sponsored in part by the National Institutes of Health's National Institute of Biomedical Imaging and Bioengineering, identified significant differences in the left and right middle cerebral artery regions confirmed by more than one statistical analysis.

The brain's [blood vessels](#) naturally narrow and become more tortuous with advancing age, but the study showed the cerebrovascular patterns of active patients appeared "younger" than those of relatively inactive subjects. The brains of these less active patients had increased tortuosity produced by vessel elongation and wider expansion curves.

The pilot study lays the foundation for future research to determine whether aerobic activity improves anatomy, if older patients with "younger" brains are more likely to engage in physical activity, and whether elderly adults who begin a program of aerobic activity can reverse the cerebrovascular, anatomic and functional changes associated with advancing age.

Source: University of North Carolina School of Medicine ([news](#) : [web](#))

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