Exercise may reduce the risk of epilepsy later in life for men

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New research suggests that men who exercise vigorously as young adults may reduce their risk of developing epilepsy later in life. The study is published in the September 4, 2013, online issue of *Neurology*, the medical journal of the American Academy of Neurology. Epilepsy is a brain disease that causes repeated seizures over time.

"There are a host of ways exercise has been shown to benefit the brain and reduce the risk of brain diseases," said study author Elinor Ben-Menachem, PhD, MD, with the University of Gothenburg in Sweden and an associate member of the American Academy of Neurology. "This is the first study in humans to show that exercise may also reduce the risk of epilepsy, which can be disabling and life-threatening."

For the study, 1.17 million Swedish men were given cycle tests that measured cardiovascular fitness when they enlisted for mandatory military service at age 18. The participants were then assessed for epilepsy for an average of 25 years. During follow-up, 6,796 men were diagnosed with epilepsy.

The study found that men who had a high level of fitness were 79 percent less likely to develop epilepsy than those with low fitness levels and 36 percent less likely to develop epilepsy than those with medium fitness levels.

The proportion of men with high fitness who developed epilepsy in the study was 0.48% (2,381 out of 496,973 with high fitness). The

proportion of men with medium fitness who developed epilepsy was 0.62 percent (3,913 out of 629,876 with medium fitness). The proportion of men with low fitness who developed epilepsy was 1.09 percent (502 out of 46,230 with low fitness).

The results were lessened only slightly after considering genetic factors and a prior history of traumatic brain injury, stroke or diabetes.

"Exercise may affect epilepsy risk in two ways. It may protect the brain and create stronger brain reserve, or it may simply be that people who are fit early in life tend to also be fit later in life, which in turn affects disease risk," Ben-Menachem said.

Provided by American Academy of Neurology