

Keep fit to avoid heart rhythm disorder and stroke

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A study in more than 15,000 people has found that physical fitness is linked with a lower likelihood of developing atrial fibrillation and stroke. The research is presented at [ESC Congress 2023](#).

Atrial fibrillation is the most common heart rhythm disorder, affecting more than 40 million people worldwide. It is estimated that one in three Europeans will develop [atrial fibrillation](#) in their lifetime. Patients with the condition have a five-fold higher risk of stroke than their peers. This study examined whether [fitness](#) was related to the likelihood of developing atrial fibrillation.

The study included 15,450 individuals without atrial fibrillation who were referred for a treadmill test between 2003 and 2012. The average age was 55 years and 59% were men. Fitness was assessed using the Bruce protocol, where participants are asked to walk faster and at a steeper grade in successive three-minute stages. Fitness was calculated according to the rate of energy expenditure the participants achieved, which was expressed in metabolic equivalents (METs).

Participants were followed for new-onset atrial fibrillation, stroke, [myocardial infarction](#) and death. The researchers analyzed the associations between fitness and atrial fibrillation, stroke and major adverse cardiovascular events (MACE; a composite of stroke, myocardial infarction and death) after adjusting for factors that could influence the relationships including age, sex, cholesterol level, [kidney function](#), prior stroke, hypertension and medications.

During a median of 137 months, 515 participants (3.3%) developed atrial fibrillation. Each one MET increase on the treadmill test was associated with an 8% lower risk of atrial fibrillation, 12% lower risk of stroke and 14% lower risk of MACE.

Participants were divided into three fitness levels according to METs achieved during the treadmill test: low (less than 8.57 METs), medium (8.57 to 10.72) and high (more than 10.72). The probability of remaining free from atrial fibrillation over a five-year period was 97.1%, 98.4% and 98.4% in the low, medium and high fitness groups,

respectively.

Study author Dr. Shih-Hsien Sung of the National Yang Ming Chiao Tung University, Taipei, Taiwan said, "This was a large study with an objective measurement of fitness and more than 11 years of follow-up. The findings indicate that keeping fit may help prevent atrial fibrillation and stroke."

More information: The abstract "Exercise performance and the risk of incident atrial fibrillation" will be presented during the session [A journey through the athlete's heart: from screening to imaging to electrical](#) which takes place on Friday 25 August from 16:45 to 17:45 CEST at Science Box 2.

Provided by European Society of Cardiology

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