Cardiorespiratory Fitness Lowers Risk of Cardiovascular Disease, Death

A large, long-term study conducted with a racially diverse group of adults in the U.S. found that cardiorespiratory fitness (CRF) in young adults is associated with a lower risk of cardiovascular disease (CVD) and death. However, no association was found with the development of coronary artery calcification. The findings are published in *JAMA Internal Medicine.*

CRF is associated with a decreased risk of CVD in older adults but its role in young adults was still unclear. During this study, the researchers examined baseline CRF and changes in CRF in participants in relation to future CVD. 4873 participants between 18 to 30 years of age underwent treadmill exercise testing at baseline and 2472 adults underwent a second treadmill test seven years later. Participant were assessed for obesity, left-ventricular heart mass and strain, coronary artery calcification and incident CVD.

The results at median follow-up of 27 years show that 5.6 percent of the 4872 participants died and 193 experienced CVD events during follow-up. 200 deaths were noncardiovascular in origin with many being due to cancer. 28.3 percent of 3067 participants had any CAC by year 25 and 10.8 percent of 3001 participant had left ventricular hypertrophy.

Treadmill testing included nine two-minute stages of increasing difficulty. The study shows that each additional minute of baseline exercise test duration had a 15 percent lower risk of death and a 12 percent lower risk of CVD. Each additional minute was also associated with reduced left ventricular mass and better strain. No association was found with CAC at year 15, 20 and 25. The second treadmill assessment shows that a one minute reduction in fitness by year seven was associated with a 21 percent increased risk of death and a 20 percent increased risk of CVD. It was also associated with worsening strain but no association was found with CAC.

See also: Walking Faster, Longer Linked to Significant Cardiovascular Benefits

“Efforts to evaluate and improve fitness in early adulthood may affect long-term health at the earliest stages in CVD pathogenesis,” the authors conclude.

Source: JAMA Internal Medicine

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