

Sitting too much, not just lack of exercise, is detrimental to cardiovascular health

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Dr. Jarett Berry, UT Southwestern Medical Center. Credit: UT Southwestern

Cardiologists at UT Southwestern Medical Center found that sedentary behaviors may lower cardiorespiratory fitness levels. New evidence

suggests that two hours of sedentary behavior can be just as harmful as 20 minutes of exercise is beneficial.

The study, published in today's online edition of *Mayo Clinic Proceedings*, examined the association between [fitness levels](#), daily exercise, and [sedentary behavior](#), based on data from 2,223 participants in the National Health and Nutrition Examination Survey (NHANES).

Sedentary behavior involves low levels of energy expenditure activities such as sitting, driving, watching television, and reading, among others. The findings suggest that sedentary behavior may be an important determinant of cardiorespiratory fitness, independent of exercise.

"Previous studies have reported that sedentary behavior was associated with an increased risk for cardiovascular outcomes; however, the mechanisms through which this occurs are not completely understood," said Dr. Jarett Berry, Assistant Professor of Internal Medicine and Clinical Science and senior author of the study. "Our data suggest that sedentary behavior may increase risk through an impact on lower fitness levels, and that avoiding sedentary behavior throughout the day may represent an important companion strategy to improve fitness and health, outside of regular exercise activity."

The team of physician-researchers analyzed accelerometer data from men and women between the ages of 12 and 49 with no known history of heart disease, asthma, or stroke, and measured their average daily physical activity and sedentary behavior times. Fitness was estimated using a submaximal treadmill test, and variables were adjusted for gender, age, and body mass index. The findings demonstrate that the negative effect of six hours of [sedentary time](#) on fitness levels was similar in magnitude to the benefit of one hour of exercise.

"We also found that when sitting for prolonged periods of time, any

movement is good movement, and was also associated with better fitness," said Dr. Jacquelyn Kulinski, a recent graduate from the UT Southwestern Cardiology Fellowship Training Program and first author of the paper. "So if you are stuck at your desk for a while, shift positions frequently, get up and stretch in the middle of a thought, pace while on a phone call, or even fidget."

To stay active and combat sedentary behavior, UT Southwestern preventive cardiologists recommend taking short walks during lunch and throughout the day, using a pedometer to track daily steps, taking the stairs instead of the elevator, hosting walking meetings at work, and replacing a standard desk chair with a fitness ball or even a treadmill desk, if possible.

NHANES is an ongoing series of studies conducted by the National Center for Health Statistics and the Centers for Disease Control and Prevention. The database contains health and nutritional data from a diverse population, representative of the U.S. population.

Provided by UT Southwestern Medical Center

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