

Exercise levels can help doctors predict risk of heart disease and death among elderly

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Asking elderly patients how much they exercise can help predict their risk of heart disease and death, Mount Sinai and collaborative researchers say. Their study, published in the Monday, June 5, issue of

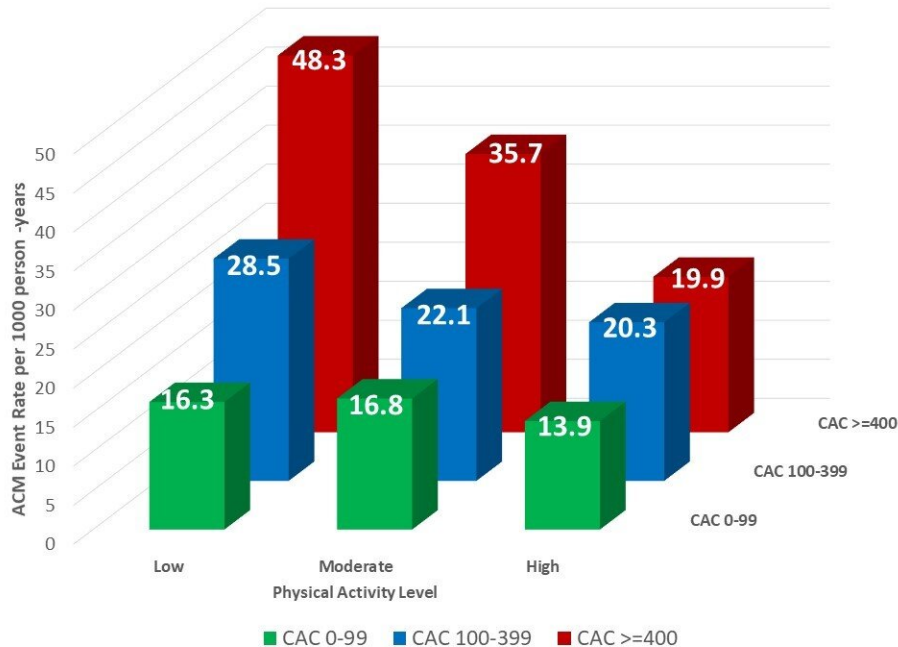
Mayo Clinic Proceedings: Innovations, Quality and Outcomes shows that a simple assessment of exercise activity during appointments for atherosclerosis screening can lead to earlier interventions and ultimately improve care among this population.

"With people now living longer, there is a growing need to determine how we can best detect latent heart disease and its associated clinical risk in older adults," says Alan Rozanski, MD, Professor of Medicine (Cardiology) at the Icahn School of Medicine at Mount Sinai, and Director of Nuclear Cardiology and Cardiac Stress Testing and Chief Academic Officer for the Department of Cardiology at Mount Sinai Morningside. "Our study showed that simply asking patients to rate their level of physical activity, while using a test to look at the plaque in their coronary arteries, markedly improved our ability to predict patients' risk for dying over their next decade of life."

A team of investigators assessed 2,318 patients between the ages of 65 and 84 who underwent [coronary artery](#) calcium (CAC) scanning—a chest computed tomography scan that detects and measures the amount of calcified plaque in patients' coronary arteries—between August 31, 1998, and November 16, 2016. Patients filled out a questionnaire before the scan, including a single item which asked them to rate their current level of physical activity on a scale from zero (none) to ten (always). Researchers also took note of the patients' resting [heart rate](#), blood pressure, height, and weight. They also took their [medical history](#) into account, including hypertension, diabetes, and tobacco use.

The researchers followed the patients for ten years and looked at the death rate. They found a relationship between both the magnitude of CAC abnormality and [mortality](#) and physical activity and mortality. During the study period, 23 percent of the patients died, at an average rate of 2.3 percent per year. Those who reported less physical activity had the highest mortality rates (2.9 percent per year) compared to

patients who reported more physical activity (1.7 percent).



Relationship between self-reported physical activity among seniors >65 years old, the amount of atherosclerotic abnormality on CAC scanning and observed mortality during a mean follow up of 10.6 years. Credit: Mayo Clinic Proceedings: Innovations, Quality & Outcomes

Patients with low CAC scores (between 0-99)—meaning that they had little or no atherosclerosis—had low mortality rates regardless of their physical activity scores. However, among patients who had significant atherosclerosis (CAC scores greater than 400), there was a stepwise decrease in mortality risk with increasing levels of reported physical activity. The patients with high CAC scores who reported high physical activity had a measured mortality rate which was similar to that of patients who had low CAC scores but reported only low physical activity

over the years of follow-up.

"Most notably, this valuable assessment of physical activity was easily obtained by asking patients just a single question about their [physical activity](#)" said Dr. Rozanski. "This emphasizes the well-touted importance of being active. Based on our data, there is no reason why this type of assessment should not become routine in clinical practice."

More information: Alan Rozanski et al, Associations Among Self-reported Physical Activity, Coronary Artery Calcium Scores, and Mortality Risk in Older Adults, *Mayo Clinic Proceedings: Innovations, Quality & Outcomes* (2020). DOI: 10.1016/j.mayocpiqo.2020.02.005

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