

Take a stand and be active to reduce chronic disease, make aging easier, research finds

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Sara Rosenkranz, Kansas State University assistant professor of human nutrition, works at a sit/stand desk. Rosenkranz was involved in a collaborative study that found even standing throughout the day -- instead of sitting for hours at a time -- can improve health and quality of life while reducing the risk for chronic diseases. Credit: Kansas State University

People who decrease sitting time and increase physical activity have a lower risk of chronic disease, according to Kansas State University research.

Even standing throughout the day—instead of sitting for hours at a time—can improve [health](#) and quality of life while reducing the risk for [chronic diseases](#) such as [cardiovascular disease](#), diabetes, heart disease, stroke, breast cancer and colon cancer, among others.

The researchers—Sara Rosenkranz and Richard Rosenkranz, both assistant professors of human nutrition—studied a sample of 194,545 men and women ages 45 to 106. The data was from the 45 and Up Study, which is a large Australian study of health and aging.

"Not only do people need to be more physically active by walking or doing moderate-to-vigorous physical activity, but they should also be looking at ways to reduce their sitting time," Richard Rosenkranz said.

The twofold approach—sitting less and moving more—is key to improving health, the researchers said. People often spend the majority of the day being sedentary and might devote 30 to 60 minutes a day to exercise or physical activity, Sara Rosenkranz said. Taking breaks to stand up or move around can make a difference during long periods of sitting.

Sitting for prolonged periods of time—with little muscular contraction occurring—shuts off a molecule called lipoprotein lipase, or LPL, Sara Rosenkranz said. Lipoprotein lipase helps to take in fat or triglycerides and use it for energy.



Increasing physical activity and decreasing sitting time can reduce chronic disease and make aging easier, according to Kansas State University research. Credit: Kansas State University

"We're basically telling our bodies to shut down the processes that help to stimulate metabolism throughout the day and that is not good," Sara Rosenkranz said. "Just by breaking up your [sedentary time](#), we can actually upregulate that process in the body."

In a previous study [published](#) in the *International Journal of Behavioral Nutrition and Physical Activity*, the researchers found that the more people sit, the greater their chances of obesity, diabetes, cardiovascular disease and overall mortality.

For the more recent study, the researchers wanted to take a positive approach and see if increasing physical activity helped to increase health and quality of life. The researchers want to motivate people—especially

younger people—to sit less and move more so they can age easier with less chronic disease.

"There is only so far that messages about avoiding diseases can go, especially when talking about chronic disease because it is so far removed and in the future," Richard Rosenkranz said. "For young people, being motivated by avoiding diseases is probably not the most pressing matter in their lives. We wanted to look at excellent health and excellent quality of life as things to aspire to in health."

To help office workers and employees who often sit for long periods of time, the researchers suggest trying a sit/stand desk as way to decrease sedentary time and add [physical activity](#) into the day. A sit/stand desk or workstation can adjust up and down so employees can add more standing time to their days. There are even sit/stand desks for children to stand and do homework or projects.

The research [appears](#) in the journal *BMC Public Health*. Collaborators included Gregory Kolt of the School of Science and Health at the University of Western Sydney in Sydney, Australia, and Mitch Duncan of the Institute for Health and Social Science Research with the Centre for Physical Activity Studies at Central Queensland University in Rockhampton, Australia.

While the researchers have used existing data for this latest study, the Rosenkranzes are now conducting experiments to manipulate sitting time in already active people. They want to understand how increased [sitting time](#) affects physiological risk factors such as blood pressure, body composition, triglyceride and cholesterol levels, inflammation and oxidative stress.

More information: www.biomedcentral.com/1471-2458/13/1071

Provided by Kansas State University

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