

Cardiorespiratory fitness reduces disease risk among smokers

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This is Darla Kendzor, Ph.D. Credit: UTHealth School of Public Health

Cardiorespiratory fitness is associated with reduced metabolic syndrome risk among smokers, according to researchers from The University of Texas Health Science Center at Houston (UTHealth) School of Public Health. The study was published today in the *American Journal of Preventive Medicine*.

Smoking is estimated to cause 443,000 deaths each year in the United States, primarily from cancer, cardiovascular diseases and respiratory disease, according to the Centers for Disease Control and Prevention.

"We know that greater [cardiorespiratory fitness](#) reduces the [risk](#) of certain diseases, but we wanted to evaluate the effects of fitness on cardiometabolic risk factors specifically among smokers. Study findings indicate that there is an inverse relationship between cardiorespiratory fitness and cardiometabolic risk among adult

smokers" said Darla Kendzor, Ph.D., assistant professor in the Department of Health Promotion and Behavioral Sciences at UTHealth School of Public Health Dallas Regional Campus.

Metabolic syndrome is the clustering of at least three of the following five risk factors: elevated fasting glucose, excess waist circumference, elevated blood pressure, elevated triglycerides and abnormal HDL cholesterol. The presence of [metabolic syndrome](#) has been found to increase the risk for [cardiovascular disease](#) and Type 2 diabetes.

In the study, the risk for metabolic syndrome was reduced for smokers who were either highly or moderately fit. Smokers with the highest level of fitness reduced their risk for metabolic syndrome by 48 percent compared to those in the low fitness category. The moderate fitness group had a 27 percent reduced risk for metabolic syndrome in comparison to those who had low fitness levels.

In addition, participants in the moderate and high fitness categories reduced their risk for the development of elevated fasting blood glucose. Those in the highest fitness category also reduced their risk of developing abnormal levels of HDL cholesterol, also known as "good cholesterol".

These findings are based on the examination of 1,249 adult smokers who were enrolled in the Cooper Center Longitudinal Study (CCLS) between 1979 and 2011. CCLS is comprised of data from patients who visited the Cooper Clinic in Dallas.

"While study findings emphasize that [fitness](#) plays a protective role against cardiovascular disease even among [smokers](#), the research emphasizes the importance of quitting smoking to decrease the overall risk of morbidity or mortality," said Kendzor.

Provided by University of Texas Health Science

Center at Houston

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