

# Mortality & cardiovascular disease: You don't have to be an athlete to reduce the many risk factors

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Researchers, it is hoped, will one day find a miracle cure for all kinds of diseases. Yet over and over again it has been shown that even if it takes a little more effort than swallowing a little pill, exercise is an excellent preventive and curative treatment for many diseases. A new study, whose preliminary results will be presented today at the Canadian Cardiovascular Congress and soon be published in the *Journal of Cardiopulmonary Rehabilitation and Prevention*, also supports this finding. The study shows that even low physical fitness, up to 20% below the average for healthy people, is sufficient to produce a preventive effect on most of the risk factors that affect people with cardiovascular disease.

"This is great news for people with heart [disease](#) who have difficulty adhering to a regular—mainly aerobic—exercise program," said Daniel Curnier, a professor at the University of Montreal's Department of Kinesiology, who led the study. "Small improvements in their fitness level are enough. You don't have to be an great athlete to benefit from these effects."

"We know from many studies that good physical fitness reduces cardiovascular mortality, and that physical activity has a positive impact on cardiovascular risk factors following a rehab program," said Maxime Caru, a doctoral student in human kinetics at UdeM and lead author of the study. "However, the impact of physical fitness level on risk factors

has remained an open question. That is why our research team asked the following question: "Is good physical condition required to produce a preventive effect on these cardiovascular risk factors?"

## **Pedalling with heart**

Changes in society, marked by industrialization, have had a significant impact on the physical activity of humans, who have become increasingly sedentary over the years. The increase in risk factors, including abdominal circumference, depression, diabetes, dyslipidemia, hypertension, obesity, excess weight, and smoking—along with physical inactivity—provides the perfect storm for developing heart disease, which is one of the leading causes of death in the world, representing 31% of global mortality. And it has continued to grow in recent years.

"It is common to meet people entering a cardiac rehab centre who are totally out of shape and whose exercise is irregular or non-existent, which has a harmful effect on general and cardiovascular health," said Caru, who is also a doctoral student in psychology at the University of Paris-Nanterre. To measure the impact of physical fitness on heart disease risk factors, the researchers selected 205 men and 44 women with heart disease, including coronary artery disease, stroke, congestive heart failure, and heart valve disease, and had them undergo a cycle ergometer (stationary bike) stress test to determine their fitness level. The results showed that normal physical fitness, even up to 20% below the population average, is sufficient to have a preventive effect on five of the eight risk factors affecting people with cardiovascular disease—abdominal circumference, diabetes, hypertension, obesity, and excess weight. Normal physical fitness means having the physical fitness of a person of the same weight, height, sex, and age, and who is disease-free. The easiest way to achieve this is to follow the recommendations of the World Health Organization—150 minutes per week of moderate exercise or 75 minutes of vigorous exercise.

## Depression: higher standards

Depression is a significant risk factor for cardiovascular disease because cardiac patients who have experienced a depressive episode have recurring heart problems. The results of the study have demonstrated the importance of a good fitness level, before and after a heart attack, to produce the preventive effect on depression.

The study sheds new light on the overall role of physical fitness in the development of cardiovascular risk factors in patients with cardiovascular disease. However, the researchers stress the importance for cardiac patients to consult their doctor before embarking on an exercise program and to consult a kinesiologist: "Only these professionals are able to know which type of exercise is safe for your condition and how to implement an exercise program," warn the authors.

Provided by University of Montreal

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