

Landmark study finds high resting heart associated with shorter life expectancy

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If you are a person who already has stable heart disease, how fast your heart beats at rest can predict your risk of dying, not only from heart disease but all other causes, Dr. Eva Lonn told the Canadian Cardiovascular Congress 2010, co-hosted by the Heart and Stroke Foundation and the Canadian Cardiovascular Society.

"The higher the heart rate, the higher the risk of death from cardiovascular and all causes, even after adjusting for all risk factors that could confound our results," says Dr. Lonn, a cardiologist and professor at McMaster University.

Compared to [heart disease](#) patients with the lowest heart rate (58 beats per minute or less), those who had heart rates greater than 78 had a 39 per cent increased risk of suffering a major vascular event, a 77 per cent increased risk of cardiovascular disease death, and a 65 per cent increased risk of all-cause death.

They were also more than twice as likely to be hospitalized for heart failure compared with subjects with the lowest heart rate. A normal heart rate for healthy adults is between 60 and 100 beats per minute.

The bottom line? A higher heart rate is a marker for a shorter life expectancy.

The results come from data that were amassed in two trials – ONTARGET and TRANSCEND – that were undertaken to see whether

use of medications could reduce events such as heart attack, stroke, and heart failure in patients who were 55 years or older and who had established but stable cardiovascular disease or diabetes with end-organ damage.

The trials, which were coordinated by the Population Health Research Institute and led by Dr. Salim Yusuf of McMaster University, included 31,531 patients from all over the world who were followed for more than four years.

Dr. Lonn says she and her team decided to use the wealth of data from the two studies to see if resting heart rate might be a factor in future major vascular events, including heart attack, stroke, hospitalization for [heart failure](#), heart disease death, and all-cause death in these patients.

"Heart rate is measured routinely at every medical encounter, it's easy to do, it's cheap to measure, and we have good medications that can lower heart rate, so it is something we can treat," she says. "We are always looking for new ways to define which patients are at higher risk for developing vascular events."

Heart and Stroke Foundation spokesperson Dr. Beth Abramson notes that a high resting heart rate is associated with many conditions that put people at risk, including poorer heart muscle function.

She says that people who are physically fit and who exercise regularly can lower their heart rate: "We know that their outcomes are better. Not all patients with high heart rates will need an adjustment in medication however. Regular activity and fitness training can also lower one's heart rate over time."

Simply being out of shape puts people at increased risk of heart disease. Dr. Abramson points to the example of high-calibre athletes who have

strong hearts with very low resting heart rates and compares them to people who are out of shape, who often have higher resting heart rates.

"This study on heart rate is intriguing but it is important that we are reminded how to truly reduce our future risk," she says. "Eating a balanced diet, being physically active, managing stress, limiting caffeine intake, and being smoke-free can help improve your heart health, regardless of the effects on heart rate."

Dr. Abramson says the bigger question is why this occurs and what we can do to protect ourselves: "This study points out the link between heart rate and [life expectancy](#). Further studies can look at just why we are seeing this association."

Provided by Heart and Stroke Foundation of Canada

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