

# Depression can lead to heart disease

November 28 2011

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Depression may have more far-reaching consequences than previously believed. Recent data suggests that individuals who suffer from a mood disorder could be twice as likely to have a heart attack compared to individuals who are not depressed.

This process has been poorly understood — until now. A new study led by Concordia University has found that depressed individuals have a slower recovery time after exercise compared to those who are non-depressed.

These findings suggest that a dysfunctional biological stress system is at play among depressed individuals. Published in the journal *Psychophysiology*, the research warns of the importance of testing for cardiovascular disease among people suffering from major [depression](#).

"There have been two competing theories as to why depression is linked to cardiovascular disease," says first author Jennifer Gordon, who is a PhD candidate at McGill University. "Depressed people may have poorer health behaviors, which may in turn lead to [heart](#) problems. The other possibility is physiological: a problem with the stress system known as the fight or flight response. Our study was the first to examine the role of a dysfunctional fight or flight response in depression in a large population."

## Heart rate recovery is a powerful diagnostic tool

A total of 886 participants, who were on average 60 years old, took part

in the study conducted by Concordia in association with the Montreal Heart Institute, McGill University, the Hôpital Sacré-Coeur de Montréal, the Université du Québec à Montréal and the University of Calgary.

Approximately 5 per cent of participants were diagnosed with a major depressive disorder. All individuals were asked to undergo a stress test after which their heart rate and blood pressure were recorded. Recovery heart rates and blood pressure levels were compared between depressed and non-depressed individuals.

"We found that it took longer for the heart rate of depressed individuals to return to normal," says senior author, Simon Bacon, a professor in the Concordia University Department of Exercise Science and a researcher at the Montreal Heart Institute. "Heart rate recovery from exercise is one way to measure the fight or flight stress response. The delayed ability to establish a normal [heart rate](#) in the [depressed individuals](#) indicates a dysfunctional stress response. We believe that this dysfunction, can contribute to their increased risk for heart disease."

"The take-home message of this study is that health care professionals should not only address the mental disorder, but also the potential for heart disease in patients who are suffering from major depression," adds Bacon. "Both of these health issues should be treated to minimize risk of severe [consequences](#)."

**More information:** [onlinelibrary.wiley.com/doi/10 ... 986.2011.01232.x/pdf](https://onlinelibrary.wiley.com/doi/10.1002/heart.2011.01232.x/pdf)

Provided by Concordia University

Citation: Depression can lead to heart disease (2011, November 28) retrieved 6 May 2024 from

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