

# Additional cardiac testing vital for patients with anxiety and depression

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People affected by anxiety and depression should receive an additional cardiac test when undergoing diagnosis for potential heart problems, according to a new study from Concordia University, the Université du Québec a Montreal and the Montreal Heart Institute.

As part of this study, published in the *Journal of Cardiopulmonary Rehabilitation and Prevention*, a large sample of patients received a traditional electrocardiogram (ECG), where they were connected to electrodes as they exercised on a treadmill. Patients also received a more complex tomography imaging test, which required the injection of a radioactive dye into the bloodstream followed by a nuclear scan to assess whether blood flow to the heart was normal during exercise.

"An ECG is usually reliable for most people, but our study found that people with a history of cardiac illness and affected by anxiety or depression may be falling under the radar," says study co-author Simon Bacon, a professor in the Concordia Department of Exercise Science and a researcher at the Montreal Heart Institute. "Although it is a more costly test, undergoing an additional nuclear scan seems to be more effective at identifying heart disease."

The discovery is significant, because 20 percent of people with cardiac illness also suffer from anxiety or depression. "When prescribing and performing cardiac tests, doctors should be aware of the psychological status of their patients, since it may affect the accuracy of ECG test alone," warns senior researcher Kim Lavoie, a psychology professor at

the Université du Québec à Montréal and a researcher at the Montreal Heart Institute.

"ECG tests are not detecting as many heart problems as nuclear tests among many of these patients, particularly those that are depressed, and physicians may be under diagnosing people at risk," adds Professor Lavoie.

Some 2,271 people took part in the study and about half of participants had previously suffered from major heart attacks, bypass surgery or angioplasty. The other half were people exposed to heart disease because of high cholesterol levels, high blood pressure or other risk factors.

The study found that patients with anxiety disorders were younger and more likely to be smokers than patients without anxiety disorders. Participants with anxiety disorders were also less likely to be taking Aspirin or lipid-lowering medication, which can protect against some cardiac events. What's more, 44 percent of participants with anxiety disorders were found to also suffer from major depressive disorders.

"Patients with higher depression scores reported higher fatigue and exertion levels – effects that may be attributed to [depression](#)," says Professor Lavoie.

To ensure heart disease doesn't go undetected, physicians should consider administering a brief questionnaire before conducting ECGs to determine whether patients are highly anxious or depressed. If so, their exercise performance should be carefully monitored. In the event of a negative (i.e., normal) ECG result, doctors may want to refer patients for nuclear testing.

"Our study indicates that detection of heart irregularities during ECGs may be influenced by the presence of mood or [anxiety disorders](#),"

