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## **Additional cardiac testing vital for patients with anxiety and depression**

New study published in *Journal of Cardiopulmonary Rehabilitation and Prevention*

**Montreal, November 11, 2010** – 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 à Montréal 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,” concludes lead investigator Roxanne Pelletier of the Université du Québec à Montréal and Montreal Heart Institute. “Greater efforts should be made to include routine mood or anxiety disorder screening as part of exercise stress-testing protocols.”

#### **Partners in research:**

The study was funded by the Fonds de la recherche en santé du Québec, the Canadian Institutes of Health Research, the Heart and Stroke Foundation of Canada and the Social Sciences and Humanities Research Council of Canada.

#### **About the study:**

The article, “The Impact of Anxiety Disorders on Assessment of Myocardial Ischemia and Exercise Stress Test Performance,” published in the *Journal of Cardiopulmonary Rehabilitation and Prevention*, was written by Roxanne Pelletier and Kim L. Lavoie of the Université du Québec à Montréal and the Montreal Heart Institute; Simon L. Bacon of Concordia University and the Montreal Heart Institute; André Arsenault, Richard P. Fleet, Catherine Laurin of the Montreal Heart Institute.

#### **On the Web:**

- Cited *Journal of Cardiopulmonary Rehabilitation and Prevention* study: [http://journals.lww.com/jcrjournal/Abstract/publishahead/The\\_Impact\\_of\\_Anxiety\\_Disorders\\_on\\_Assessment\\_of.99936.aspx](http://journals.lww.com/jcrjournal/Abstract/publishahead/The_Impact_of_Anxiety_Disorders_on_Assessment_of.99936.aspx)
- Concordia University: [www.concordia.ca](http://www.concordia.ca)
- Université du Québec à Montréal: [www.uqam.ca](http://www.uqam.ca)
- Montreal Heart Institute: [www.icm-mhi.org/en](http://www.icm-mhi.org/en)

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