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Is your heart aging faster than you are?

New MUHC study shows that multiple risk factors can increase a person's cardiovascular age by up to 10 years

MONTREAL, Quebec (November 26, 2007) · Despite the increasing evidence that managing high cholesterol reduces cardiovascular events, many people do not achieve recommended lipid levels. This is due, in part, to patients' lack of understanding about their risk factors and the potential benefits of lifestyle modifications and therapy.

A new study undertaken by the McGill University Health Centre (MUHC), the Cardiovascular Health Evaluation to Improve Compliance and Knowledge Among Uninformed Patients (CHECK-UP), now provides definitive evidence that communicating the future risk of cardiovascular events to high-risk patients improves the treatment of cardiovascular risk factors, such as high cholesterol. CHECK-UP is the first successful study of its kind worldwide and is published in this week's Archives of Internal Medicine.

The economic burden of cardiovascular disease is substantial to the Canadian healthcare system, but even more important are the devastating human costs associated with the disease," says Dr. Steven Grover, lead author and Director of the McGill Cardiovascular Health Improvement Program (CHIP). The CHECK-UP study shows that when Canadians become more actively involved in the decisions surrounding their care, they are better equipped to manage their risk for future cardiovascular events."

Patients who entered the CHECK-UP study had high cholesterol requiring treatment as per the Canadian Working Group Lipid Guidelines. Included were those who had diabetes, established cardiovascular disease or multiple risk factors for cardiovascular disease. The results of the study show that lipid therapy is enhanced when patients are informed about their cardiovascular risk and when they receive ongoing feedback from their doctor about the impact lifestyle modifications and statin therapy has on their cardiovascular risk. These patients saw a

bigger drop in their lipid levels; in fact, the higher a patient's cardiovascular risk, the greater their risk profile was impacted.

The computerized risk profiles used in the CHECK-UP study were based on data from the Framingham Heart Study, and the Cardiovascular Life Expectancy model previously published by the McGill research team. Each patient's future risk of cardiovascular disease was based on their age, gender, blood pressure, blood lipids, and whether or not they smoked, had diabetes or a previous cardiac event such as a heart attack. For example, a 43-year-old male smoker who is substantially overweight, with above-average cholesterol and blood pressure levels, in actual fact has a cardiovascular age equivalent to that of a 51-year-old. If all these risk factors were managed according to current Canadian guidelines, he could reduce his cardiovascular age to that of a 42-year-old.

We are very excited about the results of the CHECK-UP study," says Dr. Grover. CHECK-UP is the first study of its kind in Canada to focus on the importance of communicating calculated cardiovascular risk to patients who are at high-risk for a cardiovascular event, such as a heart attack or stroke. Discussing a patient's coronary risk and taking the necessary steps to manage it is an important step in improving preventive care."

Cardiovascular disease, including heart disease and stroke, is the leading cause of death in Canada. Research shows that approximately 80 per cent of Canadians have at least one modifiable risk factor for cardiovascular disease, such as high cholesterol, hypertension, obesity and a sedentary lifestyle.

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ABOUT THE CHECK-UP STUDY

The CHECK-UP study enrolled 230 primary care physicians and 2,687 patients who were at increased risk of a heart attack due to high blood lipid levels. Among these subjects, 1,510 received a full report of their coronary risk at each doctor's appointment over the course of a year. This report contained their cardiovascular age* and their risk of developing a cardiovascular event within eight years. These calculations are based on key elements related directly to lifestyle, such as tobacco use, cholesterol level and blood pressure, and allow doctors to demonstrate and quantify the precise impact of lifestyle and medical treatment on a patient's health. In the study, patients were randomized to receive usual care or ongoing feedback at routine appointments regarding their calculated cardiovascular risk and the change in this risk following lifestyle and/or statin therapy to treat high cholesterol. At follow-up appointments,

any subsequent improvements in a patient's risk factors due to medication or lifestyle changes were used to recalculate the patient's cardiovascular age. This gave both the patient and his or her physician clear feedback on how the treatment had impacted the patient's state of health. The CHECK-UP study was supported by an unrestricted educational grant from Pfizer Canada and designed in partnership with McGill University Health Centre (MUHC).

MCGILL UNIVERSITY HEALTH CENTRE (MUHC)

The MUHC is a comprehensive academic health institution with an international reputation for excellence in clinical programs, research and teaching. The MUHC is a merger of five teaching hospitals affiliated with the Faculty of Medicine at McGill University, the Montreal Children's, Montreal General, Royal Victoria, and Montreal Neurological Hospitals, as well as the Montreal Chest Institute. Building on the tradition of medical leadership of the founding hospitals, the goal of the MUHC is to provide patient care based on the most advanced knowledge in the health care field, and to contribute to the development of new knowledge.

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Note to editors:

* Cardiovascular age is calculated as the patient's age minus the difference between their estimated remaining life expectancy and the average remaining life expectancy of life expectancy of Canadians the same age and sex.

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