

Cardiovascular disease and rehabilitation

Toronto Rehab's Cardiac Rehabilitation and Secondary Prevention Program is the largest outpatient program of its kind in North America. Each year, more than 1,800 people learn through the program to improve their cardiovascular fitness and health and decrease their risk of heart events.

What is cardiovascular disease?

- Cardiovascular disease covers a wide range of diseases of the circulatory system, including the heart and blood vessels (veins and arteries).
- Chest or arm discomfort, fatigue, shortness of breath, dizziness, nausea and abnormal heartbeat are all possible symptoms of heart disease, but often it has no symptoms. There is no way to completely prevent cardiovascular disease, but there are many ways to lower the risk of developing it.
- Cardiovascular disease can lead to reduced cardiovascular strength and fitness, increased anxiety and stress, increased chances of a first or subsequent heart event, and increased risk of death. Its impact on physical, emotional and psychological well-being is severe.

Facts about cardiovascular disease

- Cardiovascular disease is the leading cause of death in Canada. It accounts for approximately 32% of all deaths — one death every seven minutes. (Stroke is considered a form of cardiovascular disease and is included in these statistics.)
- Cardiovascular disease is also the leading cause of hospitalization in Canada, accounting for 15% of total hospitalizations.
- 80% of Canadians have at least one risk factor for cardiovascular disease (i.e. smoking, alcohol, physical inactivity, obesity, diabetes, or high blood pressure or cholesterol).
- Cardiovascular disease costs the Canadian economy more than \$18 billion every year in physician services, hospital costs, lost wages and decreased productivity.
- While rates of death from cardiovascular disease declined 30% between 1994 and 2004, it remains Canada's leading cause of death and reason for hospital admissions.. Rehabilitation is a vital part of Canada's solution to this challenge.
- Cardiac rehabilitation saves lives. Patients who participate reduce their risk of dying by up to 50% in the next five years. But only 20% of people who require cardiac rehabilitation programs take part in them.

Toronto Rehab's expert cardiovascular disease rehabilitation

- At Toronto Rehab, rehabilitation is the interprofessional process of helping people who experience disabling injury, illness and conditions associated with aging to regain the skills, abilities, confidence and independence they need to live their lives to the fullest.

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- Rehabilitation can improve quality of life and lifespan for people who have had a heart attack or heart surgery, or who have heart disease, by helping them regain their strength, prevent deterioration and reduce their risk of having heart problems in the future.
- Rehabilitation for cardiovascular disease involves an individualized program of medical assessment, physical activity, lifestyle education and psychosocial support. Toronto Rehab's program delivers information, motivation and support so patients can live a heart-healthy lifestyle. There is a home-based program for those who cannot participate on-site.
- In order to ensure our patients and others around the world can benefit from the newest therapies, methods and equipment, leading-edge research is at the centre of the care Toronto Rehab provides. Through close collaboration between Toronto Rehab researchers and clinicians, innovations in research are rapidly translated to the clinical setting.

Pushing the frontiers of cardiovascular disease rehabilitation research

Toronto Rehab conducts high-impact research that leads to advances in knowledge, treatment and technology and has a valuable impact on people affected by disability and their caregivers. Our rehabilitation research program is one of the largest and most diverse in North America. Current cardiovascular disease-related research projects include:

- **Reducing mortality by half** – New findings by Toronto Rehab scientists Dr. David Alter and Dr. Paul Oh and others have shown that people who participate in cardiac rehabilitation programs after experiencing a major heart event cut the risk of dying from a subsequent heart event in half. Only 20% of people who require cardiac rehabilitation actually receive it. Toronto Rehab scientists are investigating the reasons for this.
- **Finding the optimal exercise prescription** – A key component of cardiac rehabilitation is physical activity. The Toronto Rehab cardiac team has found that the right volume and intensity of exercise is important to maximize gains in function, minimize risk factors and change cardiovascular health. Toronto Rehab adjunct scientists Drs. Scott Thomas and Jack Goodman, and research coordinator Susan Marzolini, are working to identify optimal doses.
- **Understanding the link between heart disease and sleep apnea** – Senior investigator Dr. Douglas Bradley has found that heart failure patients with untreated sleep apnea are more likely to die earlier than those without apnea. Dr. Bradley has also shown that fluid movement from the legs to the neck and throat at night plays a role in causing sleep apnea. His work supports that it may be possible to alleviate or prevent sleep apnea by preventing fluid retention in the legs during the day or fluid movement into the neck at night. In addition, he, along with PhD student Hisham Alshaer and Dr. Geoff Fernie, Vice President of Research, are devising an inexpensive portable screening device to detect sleep apnea in more people at an earlier stage than is presently possible.
- **Understanding the link between heart disease and depression** – Many people who have a heart event suffer from depression and this doubles the risk of a second event. Dr. Krista Lanctôt, a Toronto Rehab adjunct scientist, is working with Dr. Paul Oh and others to understand why some people develop depressive symptoms while others don't. As researchers learn more, they can develop new treatments.
- **Dealing with different weather** – Cold weather aggravates chronic health conditions, such as hypertension and respiratory disease. Toronto Rehab researchers are designing warm and wearable winter clothing for older people who often can't fasten buttons and zippers. The hospital's new cardiopulmonary lab, which can be cold, hot, humid or dry on demand, is used to devise safe, practical exercise programs.

For more information

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