

Osteoporosis and rehabilitation

Toronto Rehab's Prevention and Rehabilitation of Osteoporosis (PRO) Service, part of the Musculoskeletal Rehabilitation Program, offers interprofessional care and education to help patients learn to design and follow individual exercise and healthy living plans.

What is osteoporosis?

- Osteoporosis is a disease characterized by low bone density and deterioration of bone tissue. It increases the fragility of bones and the risk of fractures, particularly in the weight-bearing bones of the hip, spine and wrist.
- The cause of osteoporosis is unknown, but it does not develop overnight. Bone mass can be lost steadily for years without any symptoms until a bone breaks.
- Osteoporosis can lead to an enormous reduction in quality of life. Osteoporosis can result in deformity or disfigurement, lowered self-esteem, reduction or loss of mobility, and decreased independence.

Facts about osteoporosis

- As many as two million Canadians have osteoporosis. This includes one in four women aged 50 or over and at least one in eight men in the same age bracket.
- While osteoporosis can strike either gender at any age, post-menopausal women have a particularly elevated risk. Rapid bone loss of two to five per cent per year can occur for the first five to 10 years after menopause because of decreased estrogen production.
- 70-90% of the almost 30,000 hip fractures that occur in Canada each year are attributable to osteoporosis.
- By 2030, the number of annual hip fractures is expected to quadruple to 1.2 million. Hip fractures result in death in up to 20% of cases, and disability in 50% of survivors.
- Canada spends close to \$2 billion each year treating osteoporosis and the fractures it causes.
- Since some 25% of the population will be over age 65 by the year 2041, it is expected that the incidence of osteoporosis will rise steeply, as will the cost to the health care system will rise. Rehabilitation is an important part of Canada's solution to this challenge.

Toronto Rehab's expert osteoporosis rehabilitation

- At Toronto Rehab, rehabilitation is the interdisciplinary 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 for people with osteoporosis by helping them improve their balance and posture, make exercise, nutrition and lifestyle changes that increase bone density, and increase their confidence to get out, be active, stay independent and avoid injuries that osteoporosis exacerbates.
- Rehabilitation for osteoporosis involves an individualized treatment program that includes exercise, diet modifications and medication, as well as professional support for pain and depression and peer support.
- 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 all 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 osteoporosis 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 osteoporosis-related research projects include:

- **Follow-up for prevention** – Senior scientist Dr. Susan Jaglal discovered that family physicians seldom connect wrist fractures from minor falls with osteoporosis, so older people walk around at risk for more serious fractures without being followed up on. Dr. Jaglal and her team are piloting a more integrated system for post-fracture care that will coordinate the efforts of various health care providers and community organizations to check for osteoporosis in patients with fractures and take action to prevent subsequent breaks.
- **Improving identification** – Dr. Susan Jaglal and her team have also mounted a province-wide effort to help staff at rehabilitation units identify patients with fractures who do have with osteoporosis and offer specialized care and follow-up treatment. Unless the underlying disorder is diagnosed and treated, low-trauma fractures can happen again and again, but osteoporosis can be hard to diagnose and manage, especially in the frail elderly in rehab.
- **Improving prevention through bone density measurement** – Physiatrist and clinical scientist Dr. Cathy Craven is leading the way in improving prevention of osteoporosis in people with spinal cord injuries (SCI) with a new system for measuring bone mineral density. It targets the knee, which newer research shows is the most common place for fractures in people with SCI. Using this system, Toronto Rehab patients are now given annual bone density tests in the knee region to identify their fracture risk. If their risk is high, people can make diet and lifestyle changes to lower it. Dr. Craven's team has been teaching the protocol at centres across North America. Dr. Craven is also developing North America's first standardized practice guidelines for treating osteoporosis in people with SCI. People with SCI lose up to one third of their bone density within a year after injury. Bone loss makes people with SCI very prone to hard-to-heal fractures

For more information

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