

BACKGROUNDER ON OSTEOPOROSIS

The 'Silent Thief'

- Osteoporosis, a skeletal disease, is known as the 'silent thief' because bone loss occurs without symptoms.
- Osteoporosis is a disease characterized by fragile bones that have an increased chance of fracture because of their low bone mineral content.
- While under-diagnosis is a problem, certain factors identified as risk factors influence the chances of developing the disease.
- These factors include family history, age, previous fractures, weight and lifestyle choices such as a history of smoking.

Incidence

- Osteoporosis affects both men and women and can strike at any age.
- One in four women over the age of 50 has osteoporosis.¹
- One in eight men over 50 also has the disease.²
- More than 1.4 million Canadians suffer from osteoporosis.³
- Osteoporosis occurs more frequently in women after menopause.⁴
- Bone loss in women is greatest in the early post-menopausal years.⁵

The Burden of Illness

- For those living with osteoporosis, the human cost of the disease can be devastating and can include a reduced quality of life, possible physical disfigurement, lowered self-esteem, reduction or loss of mobility and independence.

- The health consequences of osteoporosis are significant and can include fractures of the hip, spine and wrist.
- Statistics related to hip fractures are particularly disturbing:
 - Over 25,000 hip fractures occur in Canada each year.⁶
 - 70 per cent of hip fractures are related to osteoporosis.⁷
 - Up to 20 per cent of hip fractures result in death.⁸
 - Up to 50 per cent of hip fractures result in disability.⁹
 - More women die each year as a result of osteoporotic fractures than from breast and ovarian cancer combined.¹⁰
- A Canadian study conducted in 1993 estimated the cost of treating osteoporosis and the fractures that result from this disease to be \$1.3 billion.¹¹ The majority of these costs are attributed to long-term hospitalization and chronic care.
- Without effective strategies in place for osteoporosis prevention and treatment, it is estimated that over the next 25 years Canada will spend over \$32.5 billion treating osteoporotic fractures.¹²
- Evidence suggests that osteoporosis is under-diagnosed in Canada. Consequently, even after a fracture, many patients do not receive appropriate medical management for the underlying cause of their low bone mass.

Getting Tested for Bone Loss

- Assessing the risk factors is an important first step, which needs to be validated scientifically. A physician must conduct a comprehensive evaluation of a patient to diagnose osteoporosis. An evaluation may comprise a physical examination, obtaining a medical history as well as administering selected diagnostic tests.¹³
- The most common test used to measure bone mineral density (BMD) is called dual energy x-ray absorptiometry (DEXA). It involves lying on a table for about ten to twenty minutes while a small X-ray detector scans the spine and/or hips. It is safe, painless and does not entail any injections or other discomfort.¹⁴
- There are also several tools to measure peripheral BMD including DEXA, ultrasound or single x-ray absorptiometry. These tests can be administered at several skeletal sites such as the heel, finger and forearm. Peripheral bone mass assessment may be a helpful tool in underserved areas.¹³

- For patients already diagnosed with osteoporosis, other tests include:
 - blood and urine testing which is essential to rule out secondary osteoporosis;
 - radiographs which are used only after the loss of bone mass becomes severe.¹³

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¹Goeree R. O'Brien B. et al. Assessment of the burden of illness due to osteoporosis in Canada. SOGC Supplement, July 1996.

²Ibid

³Osteoporosis Society of Canada: Osteoporosis to the third millennium: Priorities for prevention and treatment. Summary Report 1996:1-12.

⁴Tenenhouse A. Brown J Joseph A and the CaMOs Research Group. Peak bone mass and prevalence of osteoporosis in a randomly selected Canadian population of women. J. Bone Mineral Res. 1997: Abstract T579.

⁵World Health Organization 1994. Assessment of fracture risk and its application to screening for postmenopausal osteoporosis. Technical Report Series. WHO Geneva.

⁶Papadimitropoulos EA, Coyte PC, Josse R.G., Greenwood CE. Current and projected rates of hip fracture in Canada. CMAJ 1997.

⁷Osteoporosis Society of Canada. Clinical practice guidelines for the diagnosis and management of osteoporosis. CMAJ 1996.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

¹¹Ibid.

¹²Ibid.

¹³Yuen Kin Chui, Kendler D, Brown J et al. Canadian Consensus on Menopause and Osteoporosis. *J Obstet Gynaecol Can* 2001;23(10):978-8

¹⁴Osteoporosisonline (www.osteoporosis.ca)