OSTEOPOROSIS IN CANADA
Fact Sheet

What is Osteoporosis?

Osteoporosis is a disease characterized by low bone mass and micro-architectural deterioration of bone tissue.\(^1\) This leads to increased bone fragility and risk of fracture, particularly of the hip, spine and wrist.\(^4\)

What is the Prevalence of Osteoporosis?

- Approximately 1.4 million Canadians suffer from osteoporosis.\(^3\)
- While it affects both sexes and all ages, osteoporosis is twice to three times more prevalent in women than in men and its incidence increases with age.
- Osteoporosis affects one in four women and at least one in eight men over the age of 50; however, the disease can strike at any age.

What are the Health and Social Consequences of Osteoporotic Fractures?

- Osteoporosis-related fractures are a major cause of pain, disability and death.
- Many vertebral fractures are not detectable and show no signs or symptoms; however, an increased mortality rate is associated with them, particularly in the case of hip fractures.\(^5,6,7\)
- Almost 20% of post menopausal women who sustain a vertebral fracture will fracture again within a year.\(^8\)
- For women who sustain a hip fracture, mortality is 20% higher than expected within one year and 50% lose the ability to live independently.\(^9\)
- For women, the 1-in-6 lifetime risk of hip fracture is greater than the 1-in-9 risk of developing breast cancer, and the death rate associated with hip fracture is higher.\(^10,11\)

What are the Economic Costs of Fractures Associated with Osteoporosis?

- In 1993, the cost of treating osteoporosis and its related fractures was estimated to be $1.3 B in Canada.\(^12\)
- Without effective action on osteoporosis prevention and treatment strategies, it is estimated that by 2018 Canada will spend at least $32.5 B treating osteoporotic fractures.\(^13\)

What Are the Risk Factors for Osteoporosis?

The Osteoporosis Society of Canada (OSC) clinical practice guidelines for the diagnosis and treatment of osteoporosis in Canada identify key risk factors for fracture, as well as major and minor risk factors for who should be assessed for osteoporosis. While no single cause for osteoporosis has been identified, certain risk factors play a role in the development of the disease.

Major Risk Factors:

- Age ≥ 65
- Vertebral compression fracture
- Fragility fracture after age 40
- Family history of osteoporotic fracture
- Systemic glucocorticoid therapy of > 3 months duration
- Malabsorption syndrome
- Primary hyperparathyroidism
- Propensity to fall
- Osteopenia apparent on x-ray film
- Hypogonadism
- Early menopause (before age 45)

Minor Risk Factors:

- Rheumatoid arthritis
- Past history of clinical hyperthyroidism
- Chronic anticonvulsant therapy
- Low dietary calcium intake
- Smoker
- Excessive alcohol intake
- Excessive caffeine intake
- Weight < 57 kg
- Weight loss > 10% of weight at age 25
- Chronic heparin therapy

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OSTEOPOROSIS IN CANADA…/2

Four Key Risk Factors for Fractures Related to Osteoporosis

- Low bone mineral density (BMD)
- Prior fragility fracture
- Age
- Family history of osteoporosis

How is Osteoporosis Diagnosed?

- Bone mineral density (BMD) testing is the most commonly used tool in the diagnosis of osteoporosis, and provides a numerical estimate of an individual's bone mass.
- While BMD plays an important role in the diagnosis of osteoporosis in an untreated patient, it does not adequately reflect all of the determinants of bone strength.
- Multiple studies have demonstrated that BMD accounts for less than one-third of the reduction in fracture risk by antiresorptive agents for both vertebral and non-vertebral fractures.

How is Osteoporosis Treated?

- Bisphosphonates, such as risedronate and alendronate, are a first-line preventive therapy in postmenopausal women with low bone density and a first-line treatment for post-menopausal women with osteoporosis, especially for those with pre-existing vertebral fractures. In postmenopausal women with osteoporosis, alendronate and risedronate are efficacious in preventing vertebral/non-vertebral fractures.
- Raloxifene is efficacious in preventing vertebral fractures in postmenopausal women with osteoporosis; however, raloxifene has not yet been shown to be efficacious in preventing non-vertebral fractures.
- Parathyroid hormone (PTH) is efficacious in preventing both vertebral and non-vertebral fractures in postmenopausal women with severe osteoporosis.
- Adequate calcium and vitamin D through diet or supplements and weight-bearing exercise such as walking are also considered important measures to prevent osteoporosis.

References:

2 http://www.osteoporosis.ca/english/about%20osteoporosis/default.asp?s=1