

THE FACTS ABOUT OSTEOPOROSIS

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Osteoporosis can best be defined as a loss of bone mass associated with the deterioration of the stability and strength within bone tissue, making it more fragile and susceptible to fracture. Statistics found in the *Canadian Medical Association Journal* in November 2001 indicated that, of patients who have hip fractures, 50% of these people experience long-term disability, and up to 20% die within one year of fracture. The risk of death from osteoporosis-related fracture exceeds the mortality rates from breast and ovarian cancer combined. Osteoporosis is also a significant burden to the health care system in Canada, with an estimated \$1.3 billion per year to treat osteoporosis related fractures. The purpose of this article is to further identify key facts regarding osteoporosis, including risk factors and natural alternatives that can be beneficial in reducing the risk of osteoporosis-related fractures.

Individuals are thought to reach their maximum bone density between the ages of 20 and 30. After the age of 30, bone loss through life is a normal consequence of aging, with some people more predisposed to developing osteoporosis, and related fractures. There are certain risk factors that cannot be directly controlled by individuals, such as certain diseases, genetics and sex. Specific genetic risk factors include a family history of osteoporosis and individuals of Caucasian or Asian racial origin. Osteoporosis is four times more common in women than men. Postmenopausal women become especially more vulnerable to osteoporosis because of hormone changes, most notably estrogen deficiency. There are also several lifestyle risk factors that can contribute to osteoporosis. These risk factors include poor dietary habits and deficiencies, a lack of exercise and sedentary lifestyle, cigarette smoking, and the long-term use of certain medications. The most effective method of osteoporosis management is through prevention, and more specifically modifying our behaviors as to minimize the lifestyle risk factors identified above.



Low calcium intake is most often associated with an increased risk of osteoporosis and fracture. Most of us need at least 1000 mg each day, but men over 65 and postmenopausal women require between 1200-1500 mg daily. It should be noted that most current research suggests that calcium works best in fighting bone loss when combined with other nutrients, most notably vitamin D. Other key nutrients, which have been identified as being crucial for healthy and strong bones, include the correct balances of vitamins C, E, and K, and micronutrients magnesium, boron, potassium, and folic acid. Individuals should attempt to obtain these nutrients through a well-balanced diet full of fruits, vegetables and healthy proteins. Supplementation of these nutrients should only be relied upon as a compliment to a sensible and nutritious eating plan, and in those instances where required daily intakes may be difficult to reach for various reasons. Additional dietary habits, which have been shown to accelerate bone loss, include

excessive alcohol and caffeine intake, high sodium diets, and cigarette smoking. Prolonged use of certain medications such as corticosteroids, anticoagulants, and antiseizure medications have also been shown to increase the rate of bone loss.

There is overwhelming scientific evidence which supports continuous weight-bearing exercise for reducing the rate of bone loss. Exercise can maintain or enhance bone mass in people of all ages by increasing bone density. Non-weight-bearing exercises such as swimming and cycling are relatively ineffective at enhancing or maintaining bone mass. Even regular walking must be combined with resistance exercise to be of benefit in slowing bone loss. Some basic principles should be kept in mind when choosing exercises for preventing or treating osteoporosis. First and foremost, is the principle of overload. The loads or resistance placed on bones during exercise must be greater than those experienced during normal daily activities. Secondly, the effects of exercise are site specific, meaning that only bones that are loaded through resistance will benefit from the activity. Third, to maintain the positive effects of exercise on bone, the program must continue throughout life. It should be noted that exercises should be safe for the individual performing the exercise. As a result, an exercise that may be considered safe for one individual, may not be safe for another due to age, physical limitations, and other general health concerns. Consult with an exercise or health professional if you are unsure of which exercises may be safe for you.

Although there are certain risk factors that cannot be controlled in combating bone loss, there are many lifestyle choices an individual can make in preventing the onset of osteoporosis and risk of fracture. Preventative measures should be started at an early age to have the greatest impact in fighting bone loss. The goal is to attain peak bone density at physical maturity and then maintain bone health as age sets in. Think of healthy bones as the foundation of a house. If they are strong, your house has the ability to stay physically intact and sturdy, making the aging process more graceful.

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