MEDICINE CENTRE
Your Pharmacy ...your neighbour

Health Really Matters™

OSTEOPOROSIS

A devastating disease of bone-loss which can be slowed by early detection

About 1.4 million Canadians have osteoporosis costing Canada's healthcare system over $1.3 billion each year. Most of these costs are for hospital and long-term care. There is also a cost in the loss of quality of life of osteoporosis sufferers. Pain, reduced mobility, increased dependence on others impact greatly. In Canada, 70% of hip fractures are caused by osteoporosis and 20% of those will die while 50% will suffer some form of disability.

Osteoporosis is a disease of bone-loss. Bone cells are always being broken down and built up and what you eat and how you live your life can affect this process. When the breakdown far outstrips the building up, we get weaker bones more prone to fractures. The name osteoporosis means "porous bones". It gives you a good picture of the process. While we can't avoid bone loss but we can slow it down.

CAUSES OF OSTEOPOROSIS

After the age of thirty, more bone is lost than is replaced. We naturally lose some of our bone mass each year no matter what we do. The trick is to keep that loss to a minimum. That's where prevention comes in. With proper nutrition and exercise you will lose less bone when you are young and reduce the risk of getting osteoporosis when you are older.

There are many risk factors of osteoporosis. Just being an older female is a risk. More than 80% of persons with osteoporosis are white or Asian women who are post-menopausal. If you have a family history of the disease, you are at greater risk. Your body type also has a bearing. People that have a thin or slight build (less than 125lb) have thinner bones which are more fragile and can break more easily. If you have a sedentary lifestyle with little or no weight-bearing running or walking regularly, your bones will weaken. Smoking is associated with early menopause so is also a risk factor.

Also, there is an increased risk of osteoporosis if a person is taking corticosteroids drugs (e.g. prednisone) for a long duration (over 5 months). Those with an overactive thyroid condition (hyperthyroidism), chronic kidney failure and rheumatoid arthritis are also more prone to osteoporosis.

There are usually no warning signs that there is a problem until a fracture occurs. This is why osteoporosis is called "the silent thief". Bone loss occurs without your knowing it. It is greater after menopause and women can lose bone mass at a rate of about 3% per year.

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DRUG TREATMENT FOR OSTEOPOROSIS

The primary goal of drug treatment is to reduce fractures. Some drugs are prescribed to prevent osteoporosis in those who are at a high risk of developing the disease. Since bone is a living tissue, there is always an on-going process of renewal taking place. Cells called osteoclasts erode the bone creating small cavities in the bone. Cells called osteoblasts fill in the cavities with new bone. Some of the more common drugs used to treat osteoporosis are:

Bisphosphonates (eg. Fosamax®, Didrocal®, Actonel®) work by slowing down the bone erosion of the osteoclasts allowing the bone-building osteoblasts to do their work. These drugs have very specific instructions as to how they are taken. Our Medicine Centre pharmacists will give you all the information you need for the best effect with the fewest side effects.

SERMS: Selective Estrogen Receptor Modulators (e.g. Evista®) are not hormones but they do act like the hormone estrogen in the bones. It can be used by postmenopausal women for the prevention and treatment of osteoporosis. A reduction in estrogen in menopause is one of the causes of osteoporosis.

Hormone-replacement therapy (HRT). Because estrogen helps maintain bone density, HRT is designed not to "replace" the loss of these hormones but to supplement the hormones to the lowest level needed to prevent bone loss. These are available for oral and topical use combined with progesterone.

Testosterone replacement therapy is sometimes used in men with a risk of osteoporosis to help increase bone density.

PREVENTION: WHAT CAN YOU DO?

If you are a young woman in your 20s, now is the time to take these steps to avoid osteoporosis later in life. If you are older, it's not too late to help slow the progression of the disease, especially if you are at risk.

- **Calcium:** Proper calcium levels with vitamin D. If you are not getting enough calcium, calcium will leave your bones to supply the rest of your body. Taking it as a supplement or eating high-calcium foods like milk, cheese and tofu will slow down this process. Women between the ages of 19 and 50 should get at least 1000mg of calcium per day from food and supplements. Women over age 50 should have at least 1200mg. Divide your calcium doses into at least two per day.

Note: For information about calcium and its role in prevention of osteoporosis, see the Health Really Matters topic, "Calcium", available in the waiting area of the pharmacy.

- **Vitamin D:** The latest research says that we need 1000 units of vitamin D each day. To ensure you get this amount, you can buy supplements of 1000 units per tablet or take halibut liver oil capsules. Milk is fortified with extra vitamin D. Vitamin D helps the absorption of calcium.
- **Make weight-bearing exercises** like walking, running, dancing, stair climbing or weight-lifting part of your daily routine. A note of caution: if you haven't normally done much of this type of exercise, check with your doctor before starting.
- **Don't smoke and limit alcohol consumption.** Smoking increases bone loss. No more than 2 drinks per day for men and 1 per day for women.
- **Limit caffeine consumption** (less than four standard caffeine beverages per day (coffee, tea, colas).
- **Screening programs** are available to those people who are at risk of osteoporosis. It uses a special type of X-ray that measures the bone mineral density of your hip bone. Your doctor can assess whether you need this test or not.

Note: Osteoporosis is not just a women's disease. About 20% of osteoporosis sufferers are men. One risk unique to men is low levels of testosterone due to disease or undergoing hormone therapy for prostate cancer. For men, the same dietary and lifestyle rules apply.