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## **Preventing Osteoporosis – Bones Need More Than Calcium**

*By Dr. Patricia J Wales ND & Dr. Jennifer Bunzenmeyer ND*

Osteoporosis is a growing problem. Post-menopausal women are definitely at risk but the condition can also affect men. In fact, even younger people can experience loss of bone density.

The early stages of bone loss can be hidden with no symptoms or warning signs to indicate the bones have weakened and are susceptible to dangerous fractures. Hip and spine fractures can be life-threatening, decreasing mobility for long periods of time and increasing the possibility of blood clots. Even when fracture healing is achieved, quality of life is often severely affected.

Healthy bones are constantly remodelling, breaking down old bone and depositing protein and calcium as new bone structure. Once bone loss is detected, drugs can stop the breakdown process to retain bone density but such bone is older and more brittle. Bone that retains density through the natural remodelling processes will bend and resist breakage better. Building strong and supple bones, supporting the remodelling process and retaining bone structure throughout our lives is the ticket to bone health. .

In addition to a bone density scan, assessment with a naturopathic doctor is a pro-active step to improve the state of your bone health. With a health history, physical examination, appropriate testing and a review of dietary and supplement intake, your naturopathic doctor can help you to make positive dietary and lifestyle changes to benefit your bones.

### **Bone Builders**

**Exercise** and **gravity** are essential stimuli for bones to lay down protein and minerals. The highest volume of calcium is deposited in bone during early puberty and is replenished throughout life with weight-bearing and muscle-strengthening activities.

Many nutrients are essential to bone formation and the remodelling process. Obviously, our **calcium** intake must be adequate – we hold over 4 lbs. of calcium in our bones. But other nutrients also play critical roles in maintaining healthy bones: **Vitamin C**, **copper** and **manganese** are needed for the production of collagen which is the protein that forms the matrix for bones, ligaments, tendons and connective tissue. **Magnesium** is the partner for calcium in bone mineralization. The mineral **boron** acts like estrogen in preventing bone breakdown, while **strontium** acts like progesterone in increasing calcium deposition in the bone matrix. **Vitamin D** is needed to absorb and utilize calcium. In our northern climate, we can only make Vitamin D from sun exposure from May to October and so need to supplement in the winter.

## **Bone Depleters**

Non-smokers have healthier bones and heal fractures more quickly than smokers as Vitamin C is depleted by smoking. Pregnancy is a big draw on calcium and other mineral reserves in the mother. These need to be replenished through adequate dietary intake or both the bones and teeth of the mom will suffer. Anorexia and /or excessive exercise causing cessation of periods in young women will decrease normal estrogen and progesterone levels, leading to early osteoporosis.

Another major draw on calcium mineral reserves in bones comes from acidity. When the body becomes too acidic, it compensates by pulling alkaline minerals including calcium from the bone to help buffer the excess acid. Over time the bone density decreases immensely due to this draw on bone mineral reserves. At menopause, the sudden decrease in hormones compounds the bone loss that may already have been occurring from acidity and dramatically increases the speed at which bone is depleted.

## **A pro-active plan to preserve bone density**

- **Eliminate** foods that increase **acidity** such as canned foods and soft drinks (both contain acid-forming phosphorus), concentrated sugars and excessive protein intake.
- Eat lots of **vegetables and fruits** to provide high amounts of alkaline minerals.
- Remember that ongoing stress causes us to produce more acid, so **stress-reduction and management** helps to keep us in a bone-preserving acid-alkaline balance.
- **Hair Tissue Mineral Analysis (HMA)** measures levels of calcium, magnesium, manganese, copper, boron and strontium that are needed to create and maintain healthy bones. HMA results also indicate the tendency towards acidity in the tissues. Repeat HMA monitors how well a preventive program of dietary changes, mineral intake, stress reduction and organ support is doing.
- **NTX urine analysis** determines the rate at which bone is being lost by testing for the protein that is released when bone breaks down. NTX is useful for early detection of bone loss and to see if your treatment program is stopping or reversing the bone loss.
- Testing urine and saliva for acid/alkaline levels with **pH strips** allows patients to see the effects of diet, exercise and stress management on acid-base balance on a daily basis.
- Testing of **saliva for hormone production** can indicate when botanicals, homeopathics and acupuncture could be used to rebalance hormones.