

# The Bones of the Matter

By Dr. Agnieszka Matusik, ND

Bone is living tissue, constantly being remodelled, broken down and built back up. The body breaks down bone tissue to allow calcium and phosphates to enter the bloodstream, which helps with blood clotting, nerve transmissions and fluid movement between cells. The body then rebuilds bone tissue to replace the loss. In cases where the rate of bone breakdown becomes higher than the rate of bone formation, the result is osteoporosis.

Osteoporosis is the deterioration and loss of bone tissue leading to low bone mass and causing increased risk of bone fractures. The good news is that osteoporosis can be prevented and reversed using nutrition, supplementation and lifestyle modifications.

**Calcium** — With so many calcium supplements available, choosing just one can prove difficult. Recent studies indicate that MCHC—a specific form of calcium—provides greater nourishment for bones than calcium alone. Derived from whole bone, MCHC contains phosphorus, magnesium and trace minerals including zinc, all of which naturally occur in bone. For those with low bone mass, there is no arguing that calcium supplements are necessary to maintain strong bones. The highest dose of a calcium supplement should be taken just before bed.

**Vitamin D** —Produced naturally in the body through exposure to sunlight, vitamin D is necessary for maintaining healthy bones. However, several factors can reduce the production of vitamin D from the skin: sunscreens, increased skin pigmentation, normal aging and insufficient sunlight exposure. If you have low bone density, have your vitamin D levels checked with a simple blood test to ensure your levels meet the recommended range.

**Strontium** — Strontium is a mineral found along with calcium in most foods. Research has suggested that it may be an essential nutrient required for the normal development, structure, function, and health of bones. Strontium supports new bone formation and prevents excessive bone loss. It is important to take calcium and strontium supplements at least




three hours apart to maximize absorption.

**Diet** — Calcium can be found in a variety of foods, not just dairy products: dark leafy greens including kale, turnip and beet greens, whole sesame seeds, tahini paste, blackstrap molasses, amaranth and fortified cereals all provide calcium. Lycopene—present in tomato paste, tomato sauce or in a supplement—is an excellent candidate for the prevention of bone loss and osteoporosis. Several recent studies in post-menopausal women show that it stimulates the activity of cells responsible for

bone formation and inhibits the activity of cells that break down bone.

**Exercise** — Weight-bearing exercise is highly recommended for people with low bone density. While stimulating bone formation and strengthening muscles, it helps improve balance and agility, reducing risks of falls and bone fractures. Weight-bearing exercise involves lifting weights, brisk walking, hiking, jogging and stair-climbing. For maximum benefit, exercise for one hour at least three times a week.

**Prevention**— Prevention begins early. Don't wait until your 50s to consider your calcium intake. Pay attention to bone health during childhood and adolescence; most bone growth happens by age 20, and strong bones are one of the best defences against osteoporosis. By following preventive measures you will help your body maintain the integrity of your bones. 

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