

# Straight Talk on Strong Bones



Health Matters

By Kerry Sauser

It has been a wonderful autumn, but it's inevitable that winter will soon follow. When ice and snow sets in, many of us will worry about slips and falls that can lead to broken bones. If you are one of the 44 million with weakening bones (osteopenia) or osteoporosis, falls are a particular concern—and with good reason. According to the International Osteoporosis Foundation, 1 in 3 women over 50 and 1 in 5 men will experience an osteoporotic fracture in their lifetime—many from falls that lead to life threatening complications.

Osteoporosis is a progressive disease of excessive bone loss and decreased bone density, with many factors contributing to its cause. It's prevalent in women and men of Northern European descent, particularly white women over 50. Many people—even some health care professionals—mistakenly believe that osteoporosis is a calcium deficiency disease that is caused by menopause, but that is generally not true. To understand what does cause osteoporosis, we first need to understand how healthy bones function.

Bone is living tissue that renews life-long (unlike teeth) via a process called remodeling. Three types of bone cells are involved in the renewal/remodeling process: osteoblasts which build new bone, osteoclasts which dissolve (resorb) old

bone, and osteocytes which maintain bone. If the remodeling process is in balance, every bone in our body will renew within 2 to 12 years-- and will stay resilient with stable density/mass. If osteoblasts (builders) are in majority, as in childhood and puberty, bone formation dominates. If osteoclasts (removers) dominate, as in osteoporosis, more bone is resorbed than renewed, and bones become porous and lose strength. That doesn't mean that bone-resorbing osteoclasts are "bad," however. If old bone cells are not constantly removed, none are replaced, and bone becomes inflexible and brittle--and much more likely to break. Therefore it's important to maintain both sides of the bone health equation.

Bone formation requires exercise for stimulation and raw materials to fuel the bone cells. Most people think the best way to keep bones healthy is to drink milk. Even better is to eat more green vegetables and do regular weight bearing exercises (like walking or weight training). Surprisingly, dark green leafy vegetables contain about as much calcium as milk, and possess significantly more minerals and nutrients for bone building. Lack of calcium is generally not the culprit anyway. Many with osteoporosis consume plenty of calcium; it's just not absorbed by the bones. Why? To be absorbed, calcium must first be broken down with sufficient acidity in the stomach and Vitamin D. Those who lack gastric acid (including older people and those taking antacids/H2 Blockers) or Vitamin D can't break calcium down into a usable form, no matter how much they consume. The solution is simple; addition of a digestive enzyme at mealtime will significantly increase the amount of calcium available for bone

building in such situations.

Bones also require phosphorus, iron zinc, copper, boron, Vitamins A, C, D, K, a range of B's, moderate protein and essential fatty acids. It's a lengthy list, but these nutrients are easily obtained from a diet high in fruits, vegetables and whole grains, and low in refined foods. Magnesium is particularly critical for calcium absorption and bone formation, but it lacks in diets that rely on refined foods. Processing strips this important mineral from the grains, nuts and vegetables in which it naturally occurs, so supplementation may be beneficial. Choose magnesium citrate, magnesium gluconate, or magnesium lactate.

Illness and substances that interfere with bone cell activity also contribute to osteoporosis. Diseases of the thyroid, parathyroid, adrenal glands, liver, kidneys and cancer can affect bone. Diuretics, anticoagulants and thyroid drugs also have negative impacts. Even osteoporosis treatment drugs can be problematic. Some, like alendronate (Fosamax), stop bone removal activity and thus retain bone mass, but consequently halt new bone formation. The bone that remains can become brittle and less likely to heal after injury. Though such drugs are sometimes indicated, consider other alternatives first.

Why does osteoporosis show up in so many women over 50? A number of studies clearly indicate that this is due to a reduction in a bone-growth stimulating hormone called progesterone. Progesterone production begins to diminish in women in their 30's, but the resulting gradual bone loss is often not detected until the age of menopause. Supplementation with natural progesterone (not a synthetic form) can increase osteoblast activity and rebuild

bone mass in post menopausal women—including women well into their 80's.

These suggestions will keep you standing straight and strong:

**DO**

Eat a healthy diet that contains leafy green veggies, whole grains and fruits to provide vital nutrients.

Do weight bearing exercise (walking, weight training) for 20 minutes several times a week to stimulate bones.

Get plenty of micronutrients and trace minerals, including magnesium and Vitamin D to fuel bone cells.

Discuss supplementation of natural progesterone with your health care provider if you are a woman over 50.

**DON'T**

Limit calcium uptake. Antacids, smoking and alcohol severely inhibit calcium availability.

Drink soda. The phosphorus in sodas throws off the calcium/phosphorus ratio in bones, and keeps them from absorbing calcium.

Drink too much caffeine. Caffeine acts as a diuretic, and causes calcium loss due to excess urination. Limit to 2 cups of coffee per day.

Eat too much protein. Excess dietary protein requires calcium to eliminate waste products.

Until next month... Heal well, be well... naturally!

K.S.

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