

Bone health: beyond calcium

Susan Safyan



You probably don't think much about the health of your bones until you see an older woman making her way slowly down the street, stooped nearly in half, gingerly tapping her cane ahead of each step. She looks so frail the slightest wind could knock her over.

And then the word floats to mind: "osteoporosis." Brittle bones. What are you doing to take care of *your* bones?

At a cellular level, our bones are constantly broken down and rebuilt. The hormone estrogen increases bone building and rebuilding in women and men. But as estrogen levels decrease with age (as they do in post-menopausal women) the body is unable to replace bone mass as quickly as it breaks down. Certain medical conditions and drugs can also result in bone loss. As bone mass decreases, bones become porous, brittle, and fragile. Spinal vertebrae can become compressed, causing shrinking

height and the hunched back known as "widow's hump." Falling can be dangerous, resulting in fractured bones or broken hips.

Estrogen or hormone replacement therapy (ERT or HRT) is an effective therapy in treating bone loss, but it comes at a high price: ERT has been linked to an increase in breast and endometrial cancers, blood clots, and gastrointestinal disorders. Nutritional approaches to treating bone loss are equally effective and less risky.

An array of vitamins, minerals, essential fatty acids (EFAs), and nutrients are integral to the prevention of

osteoporosis. Calcium, of course, is essential to bone health. We can increase blood levels of calcium by eating dairy products and other calci-

“ —————
Isoflavones can reduce bone loss by chemically mimicking estrogen in the body.

————— ”
um-rich foods, including canned sardines, salmon, and dark-green vegetables such as collard greens, kale, and

broccoli. Recommended daily dosage for osteoporosis prevention is 1,000 mg daily of chelated calcium citrate or glycinate.

Magnesium is also essential for boosting bone mineral density. The suggested ratio of calcium to magnesium is generally 1:2. With some conditions, your nutritionist may suggest more magnesium. Look for chelated magnesium citrate or glycinate, or choose brown rice and whole grain cereals, dark green vegetables, legumes (beans, peas, lentils, and peanuts), and seeds.

Vitamin D helps the body absorb calcium. Your body can “photosynthesize” vitamin D, but if you live in a northern country like Canada or work indoors, you’re not likely to get enough sun exposure. Instead, enjoy vitamin D-rich foods such as fortified milk, fish-liver oils, herring, mackerel, salmon, and oysters. You’ll need 400 to 800 international units (IUs) daily for osteoporosis prevention. The best types of vitamin D are cholecalciferol (D3) or ergocalciferol (D2).

Vitamin K is an important component in bone calcification. Unavailable as a supplement in Canada, you will find vitamin K in cruciferous vegetables (broccoli, Brussels sprouts, and cauliflower), eggs, dairy products, and seeds.

The minerals boron, silicon, zinc, and copper also assist the body’s ability to reduce calcium loss, increase estrogen levels, and activate vitamin D levels. Some fruits (grapes, cherries, peaches, and pears), vegetables (you guessed it—dark leafy greens), legumes, and nuts are the main sources of boron in the diet. Silicon (or silica) is integral to healthy bones, skin, and hair; it’s found in whole grains and cereals and in vegetables such as cabbage, dark leafy

greens, radishes, olives, and white onions, as well as in the herb horsetail. A good mineral supplement should provide the body with zinc and copper in a 15:1 ratio. Take zinc citrate, glycinate, or picolinate. In food, zinc is found in many nuts, oats, and split peas, while copper is found in seeds and nuts, sunflower and olive oils, and buckwheat.

“

An array of vitamins, minerals, essential fatty acids, and nutrients are integral to the prevention of osteoporosis.

”

Research has begun to indicate that reduced levels of the hormone progesterone are linked to bone loss. Natural progesterone creams (made from wild yam extracts) applied to the skin may be used preventively against bone loss.

Plant estrogens found in soy, known as isoflavones, can reduce bone loss by chemically mimicking estrogen in the body. Isoflavones work like estrogen to promote bone density, but unlike ERTs, don’t have the same potential to cause cancer. In 2003, the *Journal of the National Cancer Institute* published a study in which researchers concluded that increased soy isoflavone consumption resulted in a *reduced* risk of breast cancer.

Blood compounds known as cytokines link bone health with a healthy immune system. Some cytokines act as pro-inflammatory agents in the blood and fight off infection. However, inflammatory

cytokines may also inhibit bone formation. Certain nutrients and plant derivatives have been found to be effective in regulating the role of cytokines for optimum bone and immune health, including vitamins D and E, quercetin (a bioflavonoid), omega-3 fatty acids, the plant extracts curcumin (turmeric), boswellia, and French maritime pine bark.

Calcium absorption is reduced by drinking caffeine and alcohol and by smoking tobacco. Drugs such as blood thinners, antacids, diuretics, ulcer medications, and corticosteroids also inhibit the body’s ability to absorb calcium. Certain foods—such as those high in oxalic acid (spinach, chard, and rhubarb) and phytic acid (beans)—inhibit calcium absorption, as does eating too much animal protein. We don’t need to completely avoid these foods—just don’t take a calcium supplement at the same meal.

Diet isn’t the whole picture. Weight-bearing exercises such as walking, jogging, stepping, and resistance training with weights or tubes not only protect against bone loss but may increase bone mass. For best results, exercise no less than three times per week; increase the length and intensity of the workout as you become more fit.

More than 1.4 million Canadians suffer from osteoporosis; one in four women and one in eight men over the age of 50 currently have this debilitating disease. Don’t wait for your bones to disintegrate; take a pro-active, holistic approach to bone health today. **■**

Susan Safyan is a professional researcher and informed advocate of organic food and nutritional supplements.

Copyright of Alive: Canadian Journal of Health & Nutrition is the property of Canadian Health Reform Products Ltd. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.