

# Osteoporosis

## natural prevention and treatment plan

by Herb Joiner-Bey, N.D.

Osteoporosis can be devastating. This crippling condition can cause an individual to have slumped posture and shuffle gingerly, so as not to risk a fall. Perhaps it has affected your grandmother, your mother, a sister, or an aunt. As this silent epidemic continues its course, osteoporosis will probably touch your life in some way.

According to the National Osteoporosis Foundation's (NOF) 2003 disease statistics:

- 10 million Americans may already have osteoporosis, and 34 million more may have low bone mass, putting them at increased risk for osteoporosis.
- Of the 10 million people with osteoporosis, an estimated 8 million are women and 2 million are men.
- 34 million Americans, or 55 percent of people 50 years and older, have reduced bone mass, which increases their osteoporosis risk.
- One in two women and one in four men will have an osteoporosis-related fracture in their lifetime.
- The estimated cost of osteoporotic and associated fractures was \$17 billion in 2001.

The NOF predicts that, if left unchecked, there will be almost a 50 percent increase in the number of people diagnosed with osteoporosis or low bone mass in just 15 years. This condition is reaching epidemic proportions even though it is largely preventable. There are many dietary and lifestyle factors that can increase your risk of developing osteoporosis, including poor diet, smoking, caffeine, carbonated soft drinks, alcohol, and inactivity, but age and gender, family history, body weight, and menopause also contribute to your risk.

"By following a comprehensive prevention plan that can also be used to complement osteoporosis treatment, you can beat the odds and defy the statisticians," says Freedolph Anderson, M.D., women's health specialist and author of *Build Bone Health* (IMPAKT, 1999).

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Anderson's plan includes the following components:

1. **Diet.** Omit foods that can decrease bone mass and incorporate more items that enhance bone health (see sidebar for recommendations).
2. **Lifestyle factors.** Certain choices can contribute to bone loss, while others, such as exercise, can greatly contribute to bone health (see sidebar for recommendations).
3. **Nutrients.** Dozens of specific nutrients have been shown to benefit bone health, especially calcium, magnesium, boron, and vitamins D and K.
4. **Ipriflavone.** This substance has been shown in clinical studies to minimize bone loss and maximize bone mass, which are the goals of any osteoporosis prevention or treatment plan.

### Bone-building nutrients

Just as your skin needs moisture to look healthy and vibrant, your bones need certain nutrients to remain strong. A balance of essential vitamins and minerals is important, but certain nutrients provide additional bone support.

**Boron.** This is a key mineral for bone health. Although we typically don't hear a lot about this trace mineral, it plays an important role in calcium and magnesium metabolism. Boron also works closely with vitamin D and hormones. Holistic medical doctor and researcher Alan Gaby, M.D., recommends 0.5 to 3 mg of boron per day.

**Calcium.** The most well-known, clinically studied nutrient for bone health is the mineral calcium. This makes sense, considering 99 percent

of the total amount of calcium in our bodies is in our bones. The National Academy of Sciences recently increased the recommended calcium dosage to 1,000 mg per day for people ages 31 to 50, and 1,200 mg for ages 51 and older. The 1994 National Institutes of Health Optimal Calcium Intake Consensus recommends 1,500 mg for people older than 65.

**Magnesium.** Although calcium is important, some experts believe magnesium may be just as vital. According to Gaby, magnesium deficiency appears to be one of the most widespread and clinically significant nutritional problems in the United States. About 60 percent of the magnesium in the human body is concentrated in the bones and nearly 30 percent in muscle tissue. Some magnesium-rich foods include kelp, wheat bran and germ, almonds, and cashews.

**Vitamin D.** This vitamin helps the body absorb calcium. When you're exposed to the sun, your body manufactures vitamin D. Besides the sun, we can get it from enriched milk, cold-water fish, and egg yolks. The RDA for vitamin D is 200 IU daily for both men and women; however, Susan Brown, Ph.D., author of *Better Bones, Better Bodies* (Keats, 1999) and director of the Osteoporosis Education Project in East Syracuse, NY, suggests 400 to 800 IU is more ideal for maintaining healthy bones.

Researchers have associated adequate vitamin D intake with reduced osteoporotic hip fracture risk (*Am J Clin Nutr* 2003 Feb;77[2]). They recommend taking a vitamin D supplement or eating more fish to boost consumption, which is often inadequate, especially among older people.

**Vitamin K.** This vitamin is intricately involved in bone health because it helps produce a specific protein found in bone tissue. Without this protein, known as osteocalcin, bones would not have structure and would be fragile and easily broken. According to the *1995 Annual Review of Nutrition*, "Several studies have demonstrated that a poor vitamin K status is associated with an increased risk of osteoporotic bone fractures." The RDA of vitamin K for adult men is 80 mcg and for women, 65 mcg.

**Zinc.** It has long been hypothesized that zinc deficiency can contribute to diminished bone tissue in athletes. A study at a medical hospital in Madrid, Spain confirmed these findings (*J Bone Miner Res* 1998 Mar;13[3]). Researchers concluded that zinc supplementation prevented the adverse effects of strenuous exercise on bone tissue in animals. Although the RDA for zinc is 12 mg for women and 15 mg for men, holistic health care practitioners often recommend as much as 30 mg.

Keep in mind, however, that none of these nutrients are classified as approved treatments for osteoporosis. They are dietary supplements that can help enhance bone health and bone tissue metabolism.

### Ipriflavone

The scientific community is now confirming the medicinal effectiveness of many natural substances. One agent that may benefit bone health is ipriflavone, an isoflavone or compound that naturally occurs in foods and plants.

Alfalfa is the richest source of ipriflavone. However, it is also found in some other plants and propolis (from bees). Now that some scientific studies indicate ipriflavone may have bone-health benefits, researchers have developed a technology for creating a chemical derivative of ipriflavone

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and mass-producing it. Today, ipriflavone is available over the counter as a dietary supplement in many bone-building formulas.

"A Hungarian pharmaceutical company actually isolated and discovered ipriflavone in 1969," states pharmacist Steven Lee.

"In the early 1980s, pharmaceutical companies in Europe, Italy, and Japan began investigating ipriflavone's ability to enhance bone density," Lee says.

Although the research is far from conclusive, in some studies ipriflavone has been shown to:

- Stimulate the synthesis and secretion of calcitonin, a hormone that promotes calcium metabolism.
- Promote bone formation and increase bone mineral density.
- Decrease fracture rate and complement prescription estrogen.

Ipriflavone is an approved therapeutic agent for osteoporosis pre-

vention and treatment in Italy and Japan. Some health care professionals in the United States also are witnessing positive clinical results. Popular radio host and medical director of the Hoffman Center in New York, Ronald Hoffman, M.D., says, "I use ipriflavone as either an adjunct to medical treatments such as Fosamax or estrogen, or as a stand-alone treatment. Ipriflavone works specifically on bone receptors and is very safe. I have used it on hundreds of patients."

According to Brown, ipriflavone has been the subject of some 31 human clinical trials between 1989 and early 2000. The studies involved

4,298 patients, of them, 1,495 were treated with ipriflavone; 18 of the trials were placebo controlled and examined bone density. Of these 18, half showed ipriflavone to either enhance bone density or reduce bone loss significantly more than calcium alone, Brown says.

"It may work well for some women," says Brown, who recently conducted several ipriflavone pilot studies. Based on her work and her study of the international research on ipriflavone, she says, "[Women] should be monitoring that it works, that their bone resorption goes down and their bone density goes up, and that they're not having any adverse effects on lymphocytes [immune-enhancing white blood cells]."

The concern over lymphocytes stems from results of a four-year study conducted in Belgium, Denmark, and Italy showing not only that 200 mg ipriflavone taken three times daily did not prevent bone loss, but it reduced lymphocyte concentrations significantly (*JAMA* 2001 Mar 21;285[11]). Reduced lymphocyte concentration negatively effects immunity.

"The bottom line is we think it helps some people," Brown says. "We think individuals should definitely monitor [bone status and lymphocytes] yearly. Given a choice between trying ipriflavone and trying a drug, I'd definitely try ipriflavone first."

Brown gives some examples of when ipriflavone use is contraindicated: "You shouldn't use it if you have a duodenal ulcer or an active

**"Adequate vitamin D intake is associated with reduced osteoporotic hip fracture risk. Sources include sunshine, enriched milk, and fish."**

### **DIET AND LIFESTYLE MAKE A BIG DIFFERENCE!**

Following are dietary and lifestyle guidelines from *Build Bone Health* (IMPAKT, 1999) by Freedolph Anderson, M.D.

1. Eat plenty of fresh green, leafy vegetables and naturally colored foods, such as tomatoes and peppers. These foods are great sources of bone-building nutrients, such as calcium and vitamin K.
2. Eat other foods high in calcium and magnesium, such as kale, seeds, and raw nuts, broccoli, brown rice, avocados, and beans.
3. Reduce intake of animal fats. Concentrate instead on "good" fats found in fresh, cold-water fish, as well as olive, canola, evening primrose, and flax oils.
4. Reduce intake of sodium, caffeine, alcohol, and carbonated drinks. They all interfere with calcium metabolism.
5. Don't smoke! Smoking has been shown to increase the risk of developing osteoporosis.
6. Eat a moderate amount of protein. Too much or too little protein can lead to poor bone health.
7. Exercise frequently and consistently, with a special focus on weight-bearing exercises such as walking.
8. Eat organic whenever possible, and eat whole grains instead of refined flour.

gastric ulcer, if you have liver or kidney damage, or if you have a tendency for low lymphocyte counts, and, of course, if you are pregnant."

Many women trying to prevent or treat osteoporosis are often presented with conventional hormone replacement therapy (e.g., Premarin). For women who cannot tolerate the side effects of estrogen, or are concerned about their risk of developing breast cancer, many experts believe ipriflavone is a good alternative to estrogen for bone health.

**Note:** Ipriflavone has only been studied on bone health, not menopausal symptoms such as night sweats, hot flashes, or insomnia.

Another reason to be monitored by a physician during supplementation is that ipriflavone is metabolized in the liver. This means the

way the body detoxifies or inactivates certain drugs and chemicals may be altered in people using ipriflavone.

"We are not sure how ipriflavone interacts with other medications that are metabolized in the liver, such as oral contraceptives, epilepsy medications, some tranquilizers, and some antidepressants," Anderson says.

The dose of ipriflavone used in the studies was 600 mg per day in divided doses (200 mg three times daily). One side effect is gastrointestinal discomfort. To prevent stomach upset, take ipriflavone with a meal. Definitely consult with your health care provider before and during ipriflavone supplementation.

### Stop osteoporosis

There was a time when physicians viewed osteoporosis as an

inevitable part of aging, beyond our control. But osteoporosis does not have to come automatically with age. It can be prevented and treated effectively.

"Osteoporosis is the most common bone disorder encountered in clinical practice," according to an October 1997 report by Mayo Clinic researchers. "It is also one of the most important diseases facing our aging population."

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