

# Preventing Osteoporosis: New Insights for the New Millennium

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More people are fracturing more bones more often! Today osteoporosis threatens more than 28 million Americans. Ten million already have osteoporosis (up from 7 to 8 million in 1996) and another 18 million people are considered at high risk due to low bone density. More importantly, half of all U.S. Caucasian women aged 50 on will experience one or another needless osteoporotic fracture. Minorities fare better with Afro-Americans and Hispanics reporting respectively 50% to 25% less osteoporosis. A growing number of men also experience needless fractures. In fact, one-quarter of all hip fractures occur in men.

For twenty years, we at the Osteoporosis Education Project have been rethinking osteoporosis. The more we study, the more we discover the ways our culture, lifestyle, attitude and nutritional patterns deplete bone. On the bright side, each day we also uncover actions you can take to build bone health and prevent fractures. Below we encapsulate the latest osteoporosis research findings into simple bone-building action steps.

## **Action Step #1 Increase Your Fitness**

Osteoporotic fractures do not stand alone, but occur within a context of deteriorating health and decreased fitness. For example, most hip fracture patients report having many health problems among which their osteoporosis often ranks of lesser importance. The most comprehensive way to reduce fracture risk is to increase overall fitness. Strong muscles, good flexibility, steady balance and ample aerobic capacity are important signs of fitness. All are linked with strong bones.

To build and maintain fitness cultivate the joy of physical activity. Activities as diverse as weight lifting, isometric and resistance exercises, racket and team sports, running, swimming, even walking, yoga and Tai Chi are all documented to reduce fracture risk. The newest is that high impact, high load activities such as jumping rope, and two-legged hopping are super bone builders. If you are willing, an hour of rigorous weight bearing and aerobic exercise done three times a week, combined with simple nutrient supplementation, can increase bone mass by 6% within twenty four months. Even the elderly confined to wheelchairs can build bone with simple exercises, while vertebral fracture patients halve their risk of new fracture with simple back strengthening exercises.

## **Action Step #2 Maximize Nutrient Intake**

Traditionally calcium and its ally Vitamin D were considered the major bone builders. Today two dozen nutrients are known to be essential for bone health. Many of these newly recognized bone builders were discovered as scientists moved their attention from the crystalline part of bone to the living protein matrix upon which bone crystals are laid. Copper, zinc, manganese, silica and Vitamins K ,C, B6 are essential for healthy bone protein matrix. Boron aids in calcium, Vitamin D and estrogen metabolism while magnesium plays a number of bone-building roles with 60% of the body's magnesium found in the bones.

The hottest bone-building nutrients are antioxidants such as Vitamin E, C and essential fatty acids from fish, flax, nuts and seeds. Like coronary heart disease, osteoporosis is now seen largely as an inflammatory disorder. Both antioxidants and high quality fatty acids reduce inflammation and stabilize bone. In addition to a diet high in vegetables, fruit, fish, nuts, seeds, and beans, baseline supplementation with the RDA levels of all bone building nutrients clearly benefits bone.

### **Action Step #3 Consider the Timing of Supplements**

New research documents that bone loss accelerates during the overnight fast and that this loss can be reduced by taking calcium just before bed. Japanese research suggests a dosage of 150 mg calcium with each meal and 450 mg at bedtime. Sometime during the day you should also take at least half as much magnesium as you do calcium for best mineral balance.

### **Action Step #4 Minimize Anti-Nutrients**

Anti-nutrients reduce our nutritional fitness and here the operative word is excess. Coffee, alcohol, sugar, salt, tobacco, high phosphate processed foods, trans fats and hydrogenated oils are best consumed in marked moderation.

### **Action Step #5 Know the Protein Balancing Act**

Adequate protein is essential for bone health, yet too much protein creates an acid load that damages bone. Bone is favored by daily consumption of not less than 50 but not more than 70 grams of protein. Meat eaters should limit all flesh foods to one serving a day. Vegetarians should make sure to eat beans and whole grains daily.

### **Action Step #6 Beware of Bone Robbing Medications**

Twenty percent of all osteoporosis in this country is caused by corticosteroid drug use. If you are on prednisone or other steroids consider undertaking a program to heal from the underlying immune inflammatory disorder. Such medical programs do exist. We use them widely and offer details on our website. Other medications which damage bone include aluminum-containing antacids, excess thyroid medication, tetracycline, mineral-excreting diuretics like Lasix®, anti-convulsants and Deprovera.

### **Action Step #7 Go Nature's Way, the Alkaline Way**

Selected scientists have long suggested that primary osteoporosis is secondary to metabolic acidosis. Today a growing number of others now agree. Unknowingly we labor under bone-dissolving low grade metabolic acidosis induced by high intake of meat, refined foods, coffee, alcohol, sodas and all manner of junk food. The antidote is to build life-supporting alkaline mineral reserves by consuming a diet high in fresh fruits, vegetables, nuts, seeds and pulses like lentils and spices.

### **Action Step #8 Watch Your Weight**

Undereating and being underweight are among the most important bone risk factors. Having more muscle and even a bit more fat helps protect bone, while cyclic weight gain and loss damages bone architecture. The new nationwide Canadian CAMOS study found four or more episodes of gaining and losing ten pounds or more to be one of the top two risk factors for fragility fractures.

### **Action Step #9 Don't Worry, Be Happy**

Expect it or not, the same large Canadian study found a tendency to worry and lack of happiness to be the second factor most associated with poor bone health. The causal agents here seem to be worry-induced excesses in the distress hormones cortisol, epinephrine and adrenaline, all of which damage bone. This finding supports the previously reported scientific link between depression and osteoporosis. Science is just catching up with what sages told us long ago, "A cheerful look brings joy to the heart, and good news gives health to the bones" (Proverbs 15, v.30).

### **Action Step #10 Monitor Your Success**

No program works for everyone and even drugs like Estrogen and Fosamax fail to halt bone loss perhaps one fifth of the time. New research suggests monitoring with a combination of bone density measurements (DEXA is the best) and urine markers of bone resorption (deoxypyridinium cross links and NTx). Bone density tests give an idea of current bone density while urine resorption tests help detect whether you are currently losing bone or not. Low bone density need not be a problem, unless it is accompanied by on-going loss.

Remember, it is never too early or too late to build and rebuild bone. Many of us will be told we have osteoporosis, yet we need never fracture. Even an unexpected fracture we can chose to see as an gentle nudge from Nature encouraging us to build better bones and a better body!



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Dr. Brown's books, Better Bones, Better Body, (Keats 2000), Natural Medicine for Menopause and Beyond, (Dell 1997) and the **Better Bones, Better Body pH Tests Kit** are available from the **Osteoporosis Education Project, Inc.** in East Syracuse, NY, 315-432-1676. Their website <[betterbones.com](http://betterbones.com)> offers extensive information on the topics highlighted in this article.