

# Fit for Life

## Osteoporosis

### *What we can do to prevent it*



By Dawn Davis, "The Fitness Diva"

Osteoporosis is a major public health threat for 44 million Americans and can strike at any age. Ten million individuals already have osteoporosis and 34 million more have low bone mass, placing them at increased risk for this disease.

Osteoporosis, or porous bone, is a disease characterized by low bone mass and structural deterioration of bone tissue, leading to bone fragility and an increased risk of fractures of the hip, spine, and wrist. One out of every two women and one in four men over the age of 50 will have an osteoporosis-related fracture in their lifetime.

To understand osteoporosis and how it progresses, it helps to understand that bone is a living, growing tissue. It is made mostly of collagen and calcium phosphate. Collagen is a protein that provides a soft framework and makes bone both flexible and strong, which in turn helps it to withstand stress.

Calcium phosphate is a mineral that adds strength and hardens the framework. As we grow from childhood, old bone is removed (resorption) and new bone is added to the skeleton (formation). Until about age 30, new bone is added faster than old bone is removed. As a result, bones become larger, heavier, and denser. After age 30, bone resorption slowly begins to exceed bone formation.

Osteoporosis development can be increased in people who did not reach optimal peak bone mass during these early bone-building years due to poor nutrition. Women are at higher risk for developing osteoporosis over men because we have less bone tissue to begin with and then, due to the hormonal changes that occur with menopause we lose bone faster than men of the same age. Small, thin-boned women are at an even greater risk.

Reduced bone mass may also be due, in part, to heredity. If your parents had osteoporosis, you probably need to pay close attention to prevention measures for yourself.

#### **Risk factors and prevention:**

**Sex hormones.** Low estrogen levels in women, and low testosterone levels in men can bring on osteoporosis. Your physician may recommend hormone replacement therapy to help slow down or prevent bone loss.

**Low calcium and vitamin D intake.** An inadequate supply of calcium and vitamin D over a lifetime contributes to the development of osteoporosis. Good sources of calcium include low-fat dairy products, dark green, leafy vegetables, sardines and salmon with bones, tofu, almonds; and foods fortified with calcium, such as orange juice, cereals, and breads. If you aren't getting enough calcium each day from your diet, your doctor may recommend a calcium supplement.

Vitamin D is important to assist in the absorption of calcium. This vitamin is made in the skin through exposure to sunlight. While many people are able to obtain enough vitamin D naturally, studies show that vitamin D production decreases in the elderly, in people who are housebound, and for people in general during the winter. Depending on your situation, you may need to take vitamin D supplements.

**Cigarette smoking.** Cigarettes are not only bad for the heart and lungs but for your bones as well. Smoking decreases the ability for the body to absorb calcium for both men and women.

Women who smoke can experience lower levels of estrogen and, in addition, they often go through menopause earlier which further decreases the estrogen levels and thus the bone loss.

**Alcohol intake.** Regular consumption of 2 to 3 ounces a day of alcohol causes a loss of calcium in both men and women. Additionally those who drink heavily often have poor diets and inadequate intake of calcium

rich foods. Heavy drinkers also increase their risk falls, due to having less balance, resulting in fractures.

**Medication use.** Long-term use of steroids and some anticonvulsants (seizure medication) can lead to loss of bone density. Physicians of patients who have had health issues requiring these medications may prescribe one of the new medications which have been shown to slow or stop bone loss and increase bone density which will decrease the risk of fractures.

**Inactive lifestyle.** Exercise is an important component of an osteoporosis prevention and treatment program. Like muscle, bone responds to exercise by becoming stronger. Weight-bearing exercise is the best for bone strength because it forces you to work against gravity. Walking, hiking, jogging, stair climbing, weight training, tennis, and dancing are all excellent exercises.

Exercise not only improves your bone health, but it can help you prevent falls by increasing muscle strength, coordination, and balance. While someone with osteoporosis should exercise, they need to select activities that won't put any sudden or excessive strain on their bones. There are many exercise programs here at the Center that are great for prevention and treatment of Osteoporosis such as OsteoFighters, Zumba Gold, Aerobics, K-Bells, and the Fitness Center. What are you waiting for? Make it a personal goal to improve your bone health!



*Dawn Davis is a Certified Personal Trainer and Senior Fitness Instructor with special certifications in a variety of special programs including yoga, tai chi, pilates and Zumba Gold.*

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