

Osteoporosis – A Highly Preventable Disease

By Gina DelGiudice, MD, FACP

Board Certified Specialist in Rheumatology and Internal Medicine with Princeton Healthcare System

Years ago, osteoporosis and the fractures that came with it were regarded as inevitable symptoms of the aging process, but today, with greater research about risk factors and prevention, people can learn how to protect their bones and enjoy greater bone health throughout their entire lives.

Osteoporosis, a disease which causes the bones to become thin and fragile, affects 25 million Americans, mostly women who are past menopause. According to the National Osteoporosis Foundation, osteoporosis is responsible for approximately 1.5 million bone fractures each year in the United States. An astounding one in two women and one in eight men over the age of 50 will experience an osteoporosis-related fracture at some point in their lives. Hip fractures, one of the most common types of fractures, are especially dangerous, because many people never regain their mobility. Fractures may also cause chronic pain.

Though it is hard, bone, like muscle, is a living tissue, which means that throughout a lifetime, new bone is formed and old bone is broken down and lost. From childhood and through the teenage years, bone growth happens at a greater pace than bone loss, making bones larger and more dense. However, that trend starts to reverse around the age of 30. For women, the rate of bone loss happens most dramatically in the first few years after she reaches menopause with the drop of estrogen levels in the body. Women can lose up to one-third of their bone mass during this time. While some are put on estrogen replacement therapy, it is not considered the first line for osteoporosis treatment because of the potential increased risk for breast cancer, heart disease and stroke. There are other drugs like estrogen but with fewer side effects that are approved for osteoporosis.

The risk factors for osteoporosis are greatest for women who are small-boned or thin. Asian and Caucasian women have the highest risk. African-American and Hispanic women have a risk that is lower, but still significant. Other risk factors include excessive consumption of alcohol and caffeine, cigarette smoking, use of certain medications, and eating disorders.

The frightening thing about osteoporosis is its stealth nature, since many people start losing bone before they are aware it is happening. In fact, many people with osteoporosis don't know until they suffer a fracture. The most accurate test to determine whether or not there is bone loss is called "Dual Energy X-ray Absorptiometry" (DXA), which can measure as little as one to two percent of bone density. It is recommended annually for people considered high risk for osteoporosis and is covered by most insurance policies.

The good news is that osteoporosis is highly treatable with some lifestyle modifications. There are also some medications that can slow down the loss of bone and in some cases, even help to build bone back. The best treatment, however, as it is with so many diseases, is prevention. The best prevention starts early in childhood, when the body is building bone most rapidly. This is when it is crucial to eat a diet sufficient in calcium. Good sources are low fat dairy products – milk, yogurt and cheese. Broccoli, kale, spinach, and other leafy green vegetables are high in calcium, and so are nuts, tofu, and canned fish such as salmon and sardines. Children who are fussy eaters can be steered toward calcium-fortified foods such as cereals, breads and orange juice

As people age, they need more calcium. Children ages 1-12 need 800 mg of calcium a day. For teenagers, that recommendation goes up to 1200 to 1500 mg a day. Women between 25 and 50 need 1000 mg of daily calcium before menopause and 1500 mg after surgical or premature menopause. For women over age 50, 1500 mg of calcium is recommended if they are not taking estrogen. If they are taking estrogen, the recommended dosage is 1,000 mg. Because in certain patients, kidney stones can form when taking calcium supplements, it is important to check with a physician first about proper dosage.

It is best to take calcium with food or milk for better absorption. Sufficient levels of Vitamin D in the body are also important for absorption. Vitamin D can be obtained through a supplement or by exposure to the sun, since the body creates Vitamin D in response to sunlight. The National Osteoporosis Foundation has increased the dosing recommendations from 400-800 IU to 1000-1200 IU per day.

Exercise strengthens bone and can help ward off osteoporosis if done regularly. The most effective are weight-bearing exercises such as weight training, running, walking, and dancing, because they force the body to work against gravity. Bicycling, therefore, is not as effective, since most of the weight is off the feet and distributed in the hips and buttocks.