



Osteoporosis Is Not Just An Elderly Woman's Disease

Many people think of osteoporosis primarily as a disease of elderly women, yet it affects men and younger people as well. In the United States, 10 million women and men currently have osteoporosis, and 18 million more have low bone density, a condition that places them at an increased risk for developing osteoporosis, the American Physical Therapy Association (APTA) says. Sometimes referred to as "the silent thief" because it is a disease without symptoms, osteoporosis is a condition in which once-strong bones become brittle, fragile and more likely to break. Warning signs of osteoporosis in both men and women are a loss of height, a change in posture and sudden back pain. If osteoporosis is present, a physical therapist can design an exercise program that can help increase bone density with proper strengthening and weight-bearing exercises, lessen stress on bones through improved balance, posture and body mechanics, and identify potential hazards in the home or workplace environment that could lead to fractures in those with osteoporosis. "Throughout our lives, our bones are in a constant state of change, continuously absorbing calcium from or giving up calcium to our blood," says physical therapist Kathy Brewer, PT, MEd, GCS, director of operations for the Arizona Osteoporosis Coalition. "There are many factors that regulate this process, and elderly women are not the only people who need to attend to their bone health. Physical therapists can recommend ways to strengthen bone density and maintain a balanced diet rich in calcium and vitamin D."

Not Just for Women

Although men typically have larger, stronger bones than women, *2 million men are affected by this disease and another 3.6 million are at risk due to low bone mass.* One in eight men will suffer an osteoporosis-related fracture during their life, and one-third of all hip fractures occurs in men. Risk factors that lead to osteoporosis in men and women include use of prescription steroids taken for conditions such as asthma, chronic pulmonary disease, rheumatoid arthritis and osteoarthritis. Adults with irritable bowel syndrome are often at risk for developing osteoporosis because of the medications needed for this condition and decreased calcium absorption in the colon.

Not Just for the Elderly

Younger Americans are also at risk for developing osteoporosis. Young women who experience early menopause, or pre-menopausal women who have undergone a total hysterectomy are at risk for low bone density. Adolescents who have an eating disorder or who dabble with crash dieting are at increased risk for developing the disease. Also, diets low in calcium, smoking and excessive alcohol consumption are risk factors for everyone, regardless of age or sex. The foundation for strong bones is laid during childhood and adolescence. "Children need to build up their bones while they are young, like a bank account," says Brewer. When we're young, our bodies deposit much more calcium into our bones than they withdraw, until we reach our peak bone mass in our late teens or early twenties. Around age 30, the pattern reverses and the body removes more calcium than it deposits. "It's just like a retirement account," explains Brewer. "The earlier you start depositing, the more you have to withdraw when you need it." Regular exercise and a good diet with enough calcium should stock this "bone bank." The U.S Surgeon General recommends at least 30 minutes of moderate exercise each day. "More than ever

before, we need to encourage our children to get plenty of physical exercise," says Brewer, "and the sooner, the better."

Treatment

Unfortunately, osteoporosis is often undiagnosed until after a fracture has occurred. While any bone can be affected by osteoporosis, the bones in the hip, spine and wrist are most at risk. "The classic hunched-over posture in elderly people may actually be a compression fracture of the spine," says Lucy Buckley, PT, who serves as APTA's liaison to the National Osteoporosis Foundation. "These fractures lead to pain, decreased mobility, and often pulmonary problems such as limited lung expansion." Proper rehabilitation after a fracture is critical, especially with hip fractures and compression fractures of the spine. "A physical therapist understands the musculoskeletal system and can design an intervention plan that includes exercises to reduce pain from fractures and targeted weight bearing exercises to strengthen bones and help prevent future fractures," says Buckley. Exercises to build bone density must be directed at the muscles supporting or attached to the affected bone. For a spine fracture that leads to a rounding of the spine, exercises focus on strengthening the key muscles along the back of the vertebrae. "A physical therapist will focus on exercises that make the muscles pull against the bones in the weak areas, while helping the patient maintain proper body mechanics. This kind of resistive force is what builds bone density," says Buckley. These muscles support upright posture and minimize the stress on the front of the vertebrae. Other exercises focus on dynamic (or moving) balance to prevent falls. These exercises will typically strengthen the lower legs and muscles surrounding the ankle, so that a patient can walk on uneven or moving surfaces without falling. Patients must also avoid those activities that will place stress on weakened bones. "Although a lot of my patients don't like to hear it, golf is definitely not advisable for someone with bone weakness in the spine. There is too much twisting," says Buckley. "I also counsel patients to avoid biking, bowling and rowing machines. It is too easy to hunch over in these activities. And while swimming is great for people with joint problems, it unfortunately cannot help those with osteoporosis, who need weight-bearing exercise." Buckley recommends "water walking" using the resistive force of the water, regular walking, walking on a graded treadmill, and stair climbing.

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