

TRANSCRIPTION

In America, 10 million people suffer from osteoporosis. They're our grandparents, teachers, and friends, and yet many of us don't even know what osteoporosis is! Osteoporosis is a disease that thins and weakens bones, making people more susceptible to fractures. To understand this condition, it helps to look at the role bones play in a healthy body. Bones are composed primarily of calcium. In fact, 99 percent of the calcium that's present in the body is found in bones. However, calcium is also necessary for other bodily functions, like blood vessel contractions. When sources in the blood run low, a normal process called resorption begins. Resorption "steals" calcium from bones to be recycled for use in other parts of the body. During resorption, scavenger cells with saw-toothed membranes, called osteoclasts, attach to bone surfaces. There, they tunnel into bone and regurgitate calcium into the bloodstream for use by other body parts. Resorption is complemented by a normal process called formation. During formation, construction cells, or osteoblasts, move into the tunnels left by osteoclasts and release strands of collagen into the holes, effectively filling them. So how does this relate to osteoporosis? It's simple: Bone weakening and loss occurs when the osteoblasts cannot keep up with the osteoclasts. Put another way, over time, the bone-breaking cells continue about their business while the bone-building cells slow down. The result is bones that are too weak to carry their load, increasing the risk of fractures. The most common form of the disease, primary osteoporosis, is a result of normal bodily changes, like menopause or aging. Type 1 primary osteoporosis occurs in women in the several years prior to, during, and following menopause. During this time, decline of estrogen levels contribute to type 1 osteoporosis. Type 2 primary osteoporosis results from the normal, cumulative effects of aging. This gradual loss of bone density doesn't usually show up until after the age of 75. The other form of osteoporosis, secondary osteoporosis, results from certain prescription medications or medical conditions. Medical conditions like anorexia, alcoholism and type 1 diabetes can all lead to the development of secondary osteoporosis. Meanwhile, medications like corticosteroids, thyroid hormones and chemotherapy drugs also increase the risk of this disease. Although osteoporosis can occur from a variety of factors, its effects are the same: Weakened bones that often break easily. If you have concerns about osteoporosis, please see your doctor.