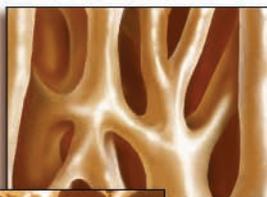
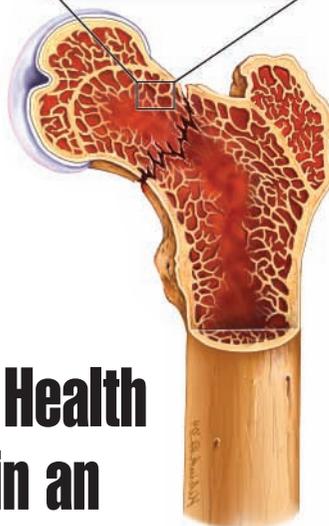


Osteoporosis

Normal



Osteoporosis



A Serious Health Condition in an Aging Population

Low bone density affects 44 million Americans, including 10 million people whose bone density is so low that they have been diagnosed with osteoporosis. Osteoporosis occurs most often in people older than 50, and as the population in the United States ages, it is rapidly becoming a serious health problem. Its costs are estimated at \$17 billion per year and growing. Osteoporosis is a condition in which bone tissue weakens, and is thus more likely to fracture. One of every two women and one of every four men will have a fracture as a result of bone weakening. Osteoporosis can be prevented or delayed by taking preventive measures. Prevention begins with changes in lifestyle that can help reverse bone loss and put a stop to continued bone weakening. One of the most important ways to keep bones strong is to have a high intake of calcium and vitamin D, which prevents calcium from leaving the bone tissue. This can be done through diet or by taking supplements containing calcium and vitamin D. Other preventive measures include regular but limited exposure to the sun, daily weight-bearing exercise, and avoidance of smoking and excess alcohol. Bone density testing tests are readily available and they can assess the risk of osteoporosis.

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TEAR ALONG PERFORATION

MEDICAL ILLUSTRATION: LYDIA V. KUBIUK 2004

There Are Ways to Prevent Bone Loss

Bone is a living tissue made up of collagen (the flexible protein framework) and calcium (the mineral strength). Throughout our lives, old bone tissue is resorbed (broken down and removed) and new bone is added. In order for new bone to be laid down, adequate calcium is needed, as is vitamin D to help absorb the calcium in the diet. During the childhood and teen years, old bone is resorbed more slowly and new bone is added faster. As a result, bones become larger and heavier during these years of rapid growth. But after peak bone density is reached around age 30, bone tissue is removed faster than it is added. This begins a period of gradual bone weakening. For women, more rapid bone loss takes place at the beginning of menopause due to low estrogen levels. Men can develop bone loss due to low testosterone levels.



Bone fractures are a major risk of osteoporosis. Persons with low bone density are at high risk of osteoporosis. One way to determine if bone density is low is have a bone density test.

Preventive Measures: Women who are older, have small bone structure, are white or Asian, or have a family history of osteoporosis are at greater risk for bone loss than the general population. Poor diet, especially inadequate calcium and vitamin D, can result in bone weakening. Smoking, excess alcohol, and a sedentary lifestyle can also lead to a loss in bone mass. In addition, gastrointestinal or kidney disease, alcoholism, thyroid disease, or the chronic use of certain drugs such as corticosteroids or anticonvulsants can cause osteoporosis, regardless of a person's age, lifestyle, or risk from family history. Calcium is an important mineral needed for many body functions, such as heartbeat, blood clotting, hormone release, and nerve conduction. Almost all calcium is stored in bone and teeth; only a small amount is found in the bloodstream. Because the body does not produce calcium, the only way it can satisfy the demand is through diet or vitamin supplementation. If the amount of calcium in the body is low, it is pulled from the bones into the bloodstream, thus leading to a weakening of bone tissue.

Taking a Bone Density Test: In many women osteoporosis is often diagnosed after a fracture. People can take a simple test to determine their bone density. It is recommended that bone density testing be done on all women older than 65, women age 60 who have an increased risk of osteoporosis, or postmenopausal women who have either had a fracture or have an increased risk for osteoporosis. The test for bone density is easy, painless, and requires no preparation. There are essentially two versions of the test: The simple test found at the pharmacy or doctor's office examines the density of bone at the heel or finger, and the more complex test measures bone density at the hip and spine (considered more accurate). The results of the tests are reported as a T-score and a Z-score. A T-score is the patient's bone density compared to the bone density of a normal young adult of the same sex, reported as the number of units above or below this standard bone density. If the T-score is between zero and negative 1, it is normal. If the T-score is between negative 1 and negative 2.5, there is bone weakening present, and a score below negative 2.5 is considered osteoporosis. A Z-score compares bone density to that normally expected of someone of the same age, sex, weight, and ethnic background. If a Z-score is quite different from the comparison bone density, there may be other reasons for the bone loss besides aging.

If a person is shown to have low bone density, there are steps that can be taken to improve bone strength, including drug therapy. If you have questions about medications used to treat or prevent osteoporosis or questions concerning supplements, be sure to ask your pharmacist.