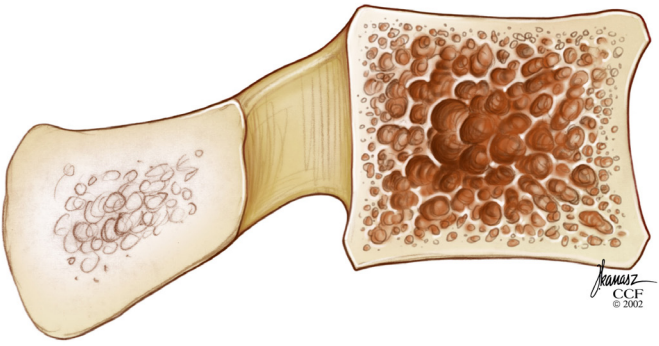
Osteoporosis (Low Bone Mass)



North American Spine Society
Public Education Series

What Is It?

Osteoporosis is the most common bone disease in the United States and developed countries. It is a disease of low bone mass resulting in deterioration of the structure of bones. This deterioration can weaken your bones so much that you can fractures without major trauma. Every day activities, such as lifting a bag of groceries or rolling over in bed, can result in a fracture.

The wrists, hips and spine are at greatest risk of damage from osteoporosis-related fractures. Often these fractures may be your first sign that you have osteoporosis. Unfortunately, by the time a fracture has occurred you have already lost a substantial amount of bone. It is important to assess your level of risk of low bone mass early in life in order to prevent osteoporosis and bone fractures, pain and disfigurement. In cases of hip fracture, there is an increased risk of death that comes with the fracture.

Who Does It Affect?

According to the National Osteoporosis Foundation, 10 million Americans currently have osteoporosis and another 18 million have low bone mass. Although 80 percent of those affected by osteoporosis are women, it does affect men as well.

There are many risk factors associated with osteoporosis. Age, genetics and gender are three important factors.

Age - As you age, whether you are a man or a woman, there is an average loss of 0.5% bone mass every year after age 50.

Genetics - You also have a 50-85% increased risk of developing osteoporosis if you have a family member with it. In the past it was not easy to diagnosis osteoporosis so you may not know if some of your relatives had the disease. However, the development of a dowager's hump (stooped posture), significant loss of height or a bone fracture in a direct relative suggests a family history of osteoporosis.

Gender - If you are a woman you may be at greater risk of developing osteoporosis than a man, in part due to the higher bone mass, or strength, men may develop before the age of 40. One in two women and one in eight men will have an osteoporosis-related fracture in their lifetime.

Women are also at risk of greater bone loss after menopause. You may lose as much as 3% of your bone mass every year in the first 5-7 years after menopause. However, postmenopausal bone loss can often be limited with medications including hormone replacement therapy.

Who Osteoporosis Affects
continued...

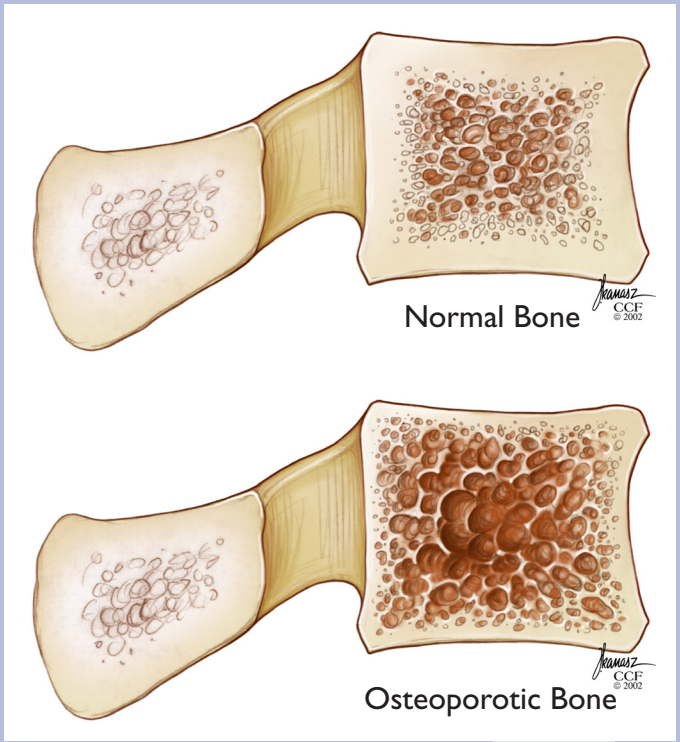
Other risk factors that you can control include lifestyle choices such as smoking and excessive alcohol and caffeine intake. A well-balanced, healthy diet is important. Inadequate dietary intake of calcium and vitamin D, which is needed to absorb the calcium, and poor nutrition can also rob you of the needed building blocks for development and maintenance of strong bones. Whether you are young or older, a lack of physical exercise will also contribute to low bone mass.

The timing of these risk factors has a large impact on bone strength. For example, if you suffered from disordered eating during adolescence and stopped menstruating, you likely never obtained your highest peak bone mass. The risk of developing osteoporosis depends on how much bone mass you obtain by age 30 and how well you maintain it throughout your life. But whatever your age, there are things you can do to minimize your risk.

Many chronic diseases (such as rheumatoid arthritis or hyperthyroidism) as well as some medications (including steroids or blood thinners) can also lead to low bone mass. If you have one of these conditions or require medications that can affect your bones, it is even more important for you to reduce any controllable risk factors and seek medication management when needed.

How Is it Diagnosed?

Diagnosis can now be made quickly and conveniently with a dual-energy X-ray absorptiometry (DEXA) scan. A plain X-ray examination is not sensitive enough to detect osteoporosis until a substantial amount of bone has been lost. A DEXA scan takes 30 minutes, is painless and only exposes you to 1/10 of the radiation from a chest X-ray. Your results are compared to the average score for a young adult, regardless of your age. This is called a T-score and can be used to predict your fracture risk. A low T-score means your bones are fragile. A T-score of -1.0 to –2.5 in considered an indication of osteopenia (weak bones) and a score lower than –2.5 shows that you have osteoporosis.



What Treatments Are Available?

Treatment of low bone mass and prevention/treatment of osteoporosis should address all your risk factors. This includes making sure you are getting enough calcium and vitamin D (either from your diet or with supplements), as well as doing weightbearing exercise such as walking and light strength training, all of which are needed to build strong bones.

The average American diet provides less than 600 mg per day of calcium. The National Osteoporosis Foundation recommends you get 1,000-1,500 mg every day, depending on your age and gender. You can get your daily recommended intake of calcium and vitamin D by eating more dairy products such as cheese, butter, cream, fortified milk, yogurt and ice cream. Green leafy vegetables such as broccoli, collards, kale, mustard greens, turnip greens and bok choy (Chinese cabbage) are other good sources of calcium. Vitamin D is also found in fish, oysters and fortified cereals.

Weightbearing exercise is important, and beginning a strength training program can be simple. Starting off with a difficult routine is associated with a higher dropout rate. The primary goal is to increase physical activity. Walking around the block, or taking longer walks at the local shopping mall, is a good start. Exercise with hand-held weights or resistance training (weight lifting) machines to build strength. Common household items (like small canned goods) can be used instead of hand weights. Swimming, although not a weightbearing exercise, is also an excellent choice as part of an exercise program. Ask your health care professional to prescribe an exercise program that matches your abilities.

Medication

There are many medications available for the prevention and treatment of osteoporosis, including estrogen, alendronate, residronate, reloxifene and calcitonin with new medications currently being developed. Your health care provider can help determine the correct treatment plan for you, and prescribe any medications if necessary.

The key to the treatment of osteoporosis is preventing or slowing bone loss. Assess your risk factors and discuss with your health care provider appropriate steps for you to take. Everyone will benefit from a healthy diet with adequate calcium and vitamin D, cessation of smoking, low caffeine and alcohol intake and an exercise program appropriate to your age and health status.

NASS
NORTH AMERICAN SPINE SOCIETY

DISCLAIMER

The information in this pamphlet is selective and does not cover all possible causes of and treatments for osteoporosis. If you have any questions contact your health care provider for more information.This brochure is for general information and understanding only and is not intended to represent official policy of the North American Spine Society. Please consult your health care provider for specific information about your condition. Special thanks to Dr. Jonathan Schaffer and the Cleveland Clinic for the illustrations used here.

Printed on recycled paper.