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Osteoporosis



AMERICAN COLLEGE OF  
RHEUMATOLOGY

What Is Osteoporosis?

Osteoporosis is a decrease in bone mass and strength causing susceptibility to fractures. It is the major cause of bone fractures in postmenopausal women and older persons in general. Osteoporosis has no clear beginning, and until recently its first visible sign was a debilitating fracture of the hip, wrist, or vertebral fractures causing back pain or deformity.

### Cause

Formation and resorption enable bones to remodel and serve as a calcium reservoir in the body. After age 35 everyone begins to lose very small amounts of bone. A variety of medical and lifestyle factors may increase bone loss causing osteoporosis to occur at a younger age. Some women are predisposed to osteoporosis by achieving only a very low adult bone density.

Menopause is the most predictable medical cause of osteoporosis in women due to the decrease in estrogen levels. Estrogen loss, whether by menopause or surgical removal of the ovaries, has been shown to result in rapid bone loss. Women, especially Caucasian and Asian women, start out with lower bone density than men. After menopause, the disease is more common in women. Bone loss results in reduced bone strength that can easily lead to fractures in the wrist, spine, and hip. A higher likelihood of developing osteoporosis may result from:

- \* Early menopause, whether natural or surgical
- \* High consumption of alcohol or caffeine
- \* Cigarette smoking
- \* Loss of menstrual periods
- \* Some medication, such as long-term corticosteroids
- \* Some medical abnormalities such as thyroid disease, rheumatoid arthritis, and problems that block intestinal absorption of calcium
- \* Low dietary calcium over a prolonged time, especially during adolescence or young adulthood
- \* Scoliosis (spinal curvature)
- \* Lack of exercise, particularly those that stress the long bones, such as walking

### Health Impact

- \* 25 million women affected in the United States.
- \* Affects one in five women over age 45; four in 10 women over age 75.

## Diagnosis

Low adult bone density can be detected by either dual energy x-ray densitometry or by quantitative CT scans.

## Treatment

The best treatment for osteoporosis is prevention. Adequate calcium consumption and weight-bearing exercise by adolescent and young adult women can increase peak bone mass which can reduce bone loss and lower the risk of fractures in later years. Adequate consumption of calcium and vitamins is essential throughout adulthood for healthy bones.

In early menopause, women should take estrogen to prevent postmenopausal bone loss. A progestational agent must also be used if her uterus is intact. Estrogen replacement is an effective treatment to prevent postmenopausal bone loss and is effective in the prevention of fractures in women with established low bone mass or osteoporosis. Hormone replacement requires close and regular medical supervision and careful selection of patients.

If a postmenopausal woman with established low bone mass or osteoporosis has a contraindication to hormone replacement therapy, biphosphonates (alendronate or etidronate) and calcitonin are effective treatments to prevent bone loss. Lower extremity exercises such as walking and back extension exercises can stabilize or slightly increase bone mass and improve balance, and can strengthen muscles to prevent falls and fractures.

Initially, fractures of the spine must be treated with rest, pain relievers, a back brace, and rehabilitation treatments. Other possible treatments being investigated include vitamin D, fluoride and parathyroid hormone.

## The Rheumatologist's Role In The Treatment Of Osteoporosis

Trained to evaluate rheumatic diseases, rheumatologists can differentiate osteoporosis from other types of bone loss and can provide and monitor a therapy program. Rheumatologists are active in educating the public and other physicians about this serious health problem.

## For More Information

If you want to find a rheumatologist in your area, check the American College of Rheumatology web site at <http://www.rheumatology.org> or call (404) 633-3777. If you want more information on this or any other form of arthritis, contact the Arthritis Foundation at (800) 283-7800 or visit the Arthritis Foundation web site at <http://www.arthritis.org>

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