

# OSTEOPOROSIS



**What is Osteoporosis?**

Osteoporosis is a condition in which bones become fragile from the breakdown of bone tissue, resulting in loss of bone mass over time. Osteoporosis affects men and women and is one of the leading causes of hip and spine fractures in the elderly population. Maintaining a healthy lifestyle and receiving the recommended amount of calcium daily can maintain healthy bones and prevent osteoporosis.

**Keeping Your Bones Healthy**

The first and most important step to maintaining bone health includes receiving proper nutrition, participating in physical activity and smoking cessation. Proper nutrition is essential to any healthy lifestyle and helps prevent disease, particularly osteoporosis. For the prevention and treatment of osteoporosis, proper nutrition involves receiving the recommended daily amounts of both calcium and Vitamin D. (See Table 1.) Common dietary forms of calcium are milk, yogurt, cheese, ice cream and cottage cheese. (See Table 2.) In addition to maintaining sufficient calcium intake, physical activity provides many benefits beyond weight loss. Aerobic exercise, combined with weight and resistance training, has been shown to preserve bone mineral density in postmenopausal women and improve balance, leading to a decreased number of falls and subsequent fractures. Social habits can also play a role in the development of osteoporosis. Smoking has been shown to cause early menopause, leading to bone loss and increased hip fractures. Excessive daily alcohol consumption has been linked to a decrease in bone formation and a decrease in the body's ability to absorb calcium.

**Treatment Options**

Many different medications are available for both the prevention and treatment of osteoporosis. In addition to calcium and Vitamin D supplements, prescription medications that can help bone formation and prevent loss include alendronate (Fosamax®), ibandronate (Boniva®) and risedronate (Actonel®). These medications are recommended for all patients who are at high risk for developing osteoporosis or who currently have

osteoporosis. Patients must remember to take these medications on an empty stomach with a full glass of water and avoid lying down for at least 30 minutes to prevent serious side effects. Female patients who are unable to tolerate or follow the specific instructions for these medications may benefit from raloxifene (Evista®). Raloxifene mimics the effects estrogen has on bone formation to prevent further loss and treat osteoporosis in women who are postmenopausal. The one medication used solely for the treatment of osteoporosis is calcitonin (Miacalcin®), which occurs naturally in the body and helps halt further bone breakdown. The use of hormone replacement or estrogen therapy for prevention of osteoporosis is not routinely recommended, due to the availability of safer alternatives. The parathyroid hormone teriparatide (Forteo®) is the most recent medication approved for use in the treatment of osteoporosis.

**Table 1 Daily Calcium and Vitamin D Requirements by Age Group**

Age Group	Calcium	Vitamin D
19 to 50 years	1,000 mg	200 units
51 to 70 years	1,200 mg	400 units
>70 years	1,200 mg	600 units

*\*For maximal absorption calcium, intake should be limited to no more than 600 mg per dose/serving*

**Table 2 Estimated Calcium and Vitamin D Content of Dietary Sources**

Product	Portion Size	Calcium Content	Vitamin D Content
Milk	1 cup	300 mg	100 units
Ice Cream	1 cup	200 mg	Varies*
Yogurt	1 cup	240 to 415 mg	60 units
Cheese	1 oz	150 to 200 mg	Varies*
Cottage Cheese	1/2 cup	100 mg	Varies*

*\*Dependent on manufacturer (read product label for accurate amounts)*

*For more information, ask your pharmacist!*

*This information provided by the Michigan Pharmacists Association and:*

