

Taking Control of Your Bone Health

Osteoporosis is a disease where bones become thin and brittle. Peak bone strength occurs by age 30, and then gradually starts to decrease with age. This leads to fragile bones that can fracture at the hip, spine, wrist or other areas. Osteoporosis affects 55 % of people over the age of 50, but can also develop at a younger age depending on risk factors and health.

What are the risk factors for osteoporosis?

- White & Asian women are at the highest risk
- Post menopausal not on hormones or premature menopause before age 45
- Absence of periods (amenorrhea) or infrequent periods
- Low body weight or body mass index (BMI) less than 19
- Family history of osteoporosis or hip fracture
- Diet low in calcium and vitamin D or lactose intolerance
- Current cigarette smoking (cadmium in cigarettes has a negative effect on bones)
- Excessive alcohol intake (interferes with calcium and vitamin D absorption)
- Sedentary lifestyle
- History of hyperthyroidism, hyperparathyroidism, celiac disease, Crohn's disease, and long term use of prednisone

Evaluating Osteoporosis

A special test called a DEXA Scan can measure how dense your bones are in the hips and spine. It can be used to tell if you have osteoporosis before a fracture happens. It can also evaluate your risk of future fractures as well as monitor therapy. The DEXA Scan compares your bones to that of a 30 year old woman with normal bone density and reports the results as a T score. It is usually repeated in 2 years as indicated. Below is a chart of how your provider interprets the T score results.

	Normal Bone Density	Osteopenia (thinning bone)	Osteoporosis
T score	+1 to -1	-1.5 to -2.5	Below -2.5

Reducing Your Risk of Fracture

Osteoporosis is *painless* until you break a bone. Hip or spine fractures can affect your ability to retain your independence and mobility. Below are recommendations to lower your risk of fracture:

- Eat a balanced diet rich in calcium, vitamin D, magnesium, and vitamin K
- Walking, jogging and resistance training for at least 30 minutes 4 times a week
- Avoid smoking or excessive alcohol intake (> 7 drinks a week)
- Eliminate sodas (depletes bone calcium)

Post menopausal women require 1,000 to 1,500 mg of calcium daily for bone health. Vitamin D3 (cholecalciferol) 800-1,000 IU can help with calcium absorption and increase the density in the hips and other bones. Adding a calcium (with vitamin D) supplement will insure you are meeting your daily requirements. Calcium citrate (Citracal plus D for example) is absorbed more easily by older women and can be found at the grocery store or pharmacy.

Medication Management Options

The goal of therapy for decreased bone density is to prevent fractures. Weight bearing exercises and calcium supplements can help increase bone density. Estrogen replacement therapy is indicated for osteoporosis prevention by not for treatment. The following medications have been shown to increase the *quantity* and *quality* of bone.

Bisphosphonates: Fosamax, Actonel and Boniva are approved by the FDA in the prevention and treatment of osteoporosis. These medications can be taken daily or weekly. Actonel and Boniva also have monthly dosing available. Take with a full glass of water first thing in the morning at least 30 minutes to an hour *prior* to eating or drinking anything else. It is important that you remain upright during this 30-60 minute wait time. Calcium (dairy or supplement) can interfere with absorption and should be avoided at breakfast. The major side effects of this medication class include burning in the esophagus. This is not a good choice for patients with GERD or stomach ulcers.

Reclast is indicated for treatment of osteoporosis and is given IV once a year. Temporary side effects include flu like symptoms, joint or muscle pain. Osteonecrosis of the jaw and visual disturbances have been reported as rare side effects. Reclast is an alternative for people who can not tolerate oral medication.

Selective Estrogen Receptor Modulator (SERM): Evista (raloxifene) is taken daily at any time with or without food. It has similar benefits like estrogen on the bone, but blocks estrogen effects to the breast and uterus. Recent findings show a reduced risk of invasive breast cancer by 60%. Evista does not help hot flashes and some women may notice leg cramps. There is a small risk of blood clots similar to ERT.

Teriparatide: Forteo is indicated for people who have a high risk of fracture (T score > 3.0). It is a type of parathyroid hormone that is self administered daily by injection. It works by stimulating new bone in the hip and spine and reduces the risk of fracture. Side effects may include nausea, dizziness and leg cramps. It is indicated for use up to 24 months.

Calcitonin: Miacalcin is a nose spray used once daily. Miacalcin slows bone loss, increases bone density in the spine and is helpful in providing pain relief from bone fractures. The only side effect is occasional irritation of the nasal passages.

More information about osteoporosis can be found at the National Osteoporosis Foundation www.nof.org or the National Institutes of Health www.osteoporosis.nih.gov.