

Osteoporosis

Osteoporosis and osteopenia are conditions in which bone density has decreased. This can be caused by multiple problems including Vitamin C deficiency (rickets), loss of female or male hormones, prolonged use of steroids, and advanced age. It occurs in both sexes.

There are multiple treatment options. One that is always recommended is daily weight bearing exercise. All treatments require that enough calcium is available in the blood for the body to put it back into the bones. Calcium is also used for normal cell functioning including specifically those of the nervous system and muscles. Treatment of osteopenia or osteoporosis requires increased calcium intake. No form of calcium available shows superiority in uptake into the bloodstream and bones. For the calcium to get from the gut into the bloodstream requires the active form of Vitamin D, D3. It is also recommended to take magnesium which counteracts calcium's tendency to cause constipation. Magnesium helps relax muscles and prevent muscle cramping. The basic recommendations for osteopenia and osteoporosis are as follows:

Calcium, 1200 to 1500 mg per day

Magnesium 400 to 500 mg per day

Vitamin D3 800 to 2000 IU per day

Additional treatment options:

Strontium: There are two major studies of *strontium citrate* at major medical centers in the U.S. demonstrating a significant increase of bone density and a significant decrease in bone fractures with 1.8 gm of strontium citrate (680 mg of elemental strontium) per day. It needs to be taken on an empty stomach and at a different time from the calcium. Strontium occurs naturally in ground water but is removed by all water purification systems. Analysis of bones from those over the age of 60 who drink unpurified ground water demonstrates minimal osteoporosis as compared to those who drink purified water. There is a lot of data from Europe that Strontium renalate restores normal bone density and prevents bone fractures. Unfortunately the renalate form increases cardiovascular problems. It is not available in the U.S.

Bisphosphonates: Actonel, Atelvia, Boniva, Didronel, Fosamax, Reclast, and Zometa are all similar in action. All produce increased bone density and decreased fractures but the bone produced is not entirely normal. After 5 years it is recommended that treatment be stopped. It can be restarted after a couple years.

Forteo: is an injectable medication that mimics parathyroid hormone in restoring bone density. It can only be used for one year.

Evista: is a daily oral medication that acts like estrogen to increase bone density (and blocks estrogen-sensitive breast cancer). It is only recommended in women who have had a hysterectomy.



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Prolia: is a new class of medication that blocks the formation of the bone cells responsible for breaking down bone increasing bone density. It requires injection under the skin once every six months.



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