



Osteoporosis



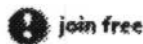
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Osteoporosis-DIRECT

Drug Treatment for Osteoporosis

The past two decades have seen the development of new medical therapies for osteoporosis, including the first non-hormonal therapy for rebuilding bone in postmenopausal women.

Alendronate sodium (Fosamax) works by blocking the activity of osteoclasts, cells that break down bone. As a result, bone loss is slowed, and ultimately, in some women, bone mass is actually restored. This promising new treatment, approved in 1996 by the federal Food and Drug Administration, is non-hormonal, so it offers none of the downsides of estrogen replacement therapy. Alendronate Sodium does, however, have side-effects, which can include stomach pain and ulcers.

An older drug for osteoporosis is Calcitonin-salmon (Miacalcin). The drug is a synthetic version of a hormone produced by the thyroid gland that slows bone breakdown. Approved by the FDA in 1984, calcitonin-salmon can be taken by injection or nasal spray. Generally, the medication works slower than alendronate sodium.

Other agents under study include sodium fluoride; the hormone calcitriol (a form of vitamin D); anabolic steroids; thiazides (diuretics); biphosphonates; a biologically active fragment of parathyroid hormone; and "ADFR" (a complex series of drugs). (One biphosphonate, etidronate, is available in the U.S. and has been shown to increase bone density in vertebra and to decrease vertebral fractures.)

Sodium fluoride holds promise for treatment of severe osteoporosis but remains experimental. Sodium fluoride combined with calcium has been shown to increase bone mass. However, some individuals have experienced side effects such as stomach pain, nausea, inflamed joints, and anemia caused by gastrointestinal bleeding.

At high dosages of sodium fluoride, bone tends to become more crystalline, less elastic, and therefore more brittle than normal bone. Determining the role of sodium fluoride plus calcium awaits the results of ongoing clinical studies.

Calcitriol is also known as 1,25 dihydroxyvitamin D and 1,25 dihydroxycholecalciferol. Some researchers believe it can increase calcium absorption and decrease the rate of fracture in osteoporosis patients. However, ongoing clinical trials must be completed to determine its true effects on bone.