

THIS INFORMATION IS FOR OUR PATIENTS ONLY

The Center for reproduction & Women's Health Care

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Osteopenia

Osteopenia is defined as a bone density that is somewhat low. The World Health Organization formed a committee in 1994 to define osteoporosis. That committee created four diagnostic categories: Normal, Osteopenia, Osteoporosis, and Established osteoporosis.

These diagnostic categories depend on the bone density, and the presence of fractures. The committee set cut-off values that were relative to young healthy individuals. The definitions involve "standard deviations" which are statistical units of variation. Osteopenia is a bone density between one standard deviation and 2.5 standard deviations below average for young people. Osteoporosis is a bone density lower than 2.5 standard deviations below young people. Established osteoporosis is a bone density lower than 2.5 standard deviations in the presence of fragility fractures.

Bone density naturally declines with age. The percentage of women who have osteopenia depends on age and race and use of hormones. By definition, 16% of white women aged 20-29 have osteopenia, and less than 1% have osteoporosis. Currently about 38% of women aged 65 have osteopenia and 20% have osteoporosis. By age 80 only 15% of women still have normal bone density, and those with osteopenia are above average for their age.

The relationship between osteopenia and fractures depends heavily on age. In general, the risk of a fracture will double with every decade past 50, even with the same bone density. A woman aged 55 with osteopenia has about a 2% chance/year of having a fracture, and a woman aged 75 with osteopenia has about an 8% chance/year (which is approximately average for a 75-year-old woman).

The lifetime risk of a hip fracture depends on age and bone density. A young person with osteopenia doesn't have much risk in the next 5 years, but if no prevention is done, the lifetime risk will be about 20 or 30%. An elderly woman with osteopenia has a lifetime risk of about 10%

Treatment of osteopenia depends on age and the presence of other risk factors for fractures. For women between 50 and 70, the best prevention is estrogen with calcium and exercise. Estrogen improves the bone density better than other new

drugs such as raloxifene (Evista), alendronate (Fosamax) and calcitonin (Miacalcin). The long-term safety of alendronate is unknown, so it is not wise to use it for prevention unless there are other strong risk factors.

There is no evidence that using a combination of these medications helps to prevent osteoporotic fractures - but it does add to the expense and potential toxicity. Another option for the 50-70 year old woman with osteopenia who can't take estrogen due to breast cancer is to wait a few years (just use calcium and exercise) until there is more information about the new estrogen-like medications that may suppress breast cancer.

Osteoporosis is a serious disease and prevention is important. However, recent advertising has led many women to think that they are much worse than they really are (hoping to scare them into taking drugs that they do not need). Young women with osteopenia should not be frightened, but should be concerned enough to discuss estrogen with their physician so that they do not develop osteoporosis in the future. Elderly women with osteopenia are above average for their age and don't require more than activity and a good calcium intake (although even in the elderly estrogen will make the bones even stronger and will have other benefits).