

Growth hormone reduces risk of osteoporosis fractures in older women

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For years after it was administered, growth hormone continued to reduce the risk of fractures and helped maintain bone density in postmenopausal women who had osteoporosis, according to a new study published in the Endocrine Society's *Journal of Clinical Endocrinology & Metabolism*.

Osteoporosis is a progressive condition that causes the bones to become weak and more likely to break. More than 10 million American adults have [osteoporosis](#), and 80 percent of the people being treated for the condition nationwide are women, according to the Society's [Endocrine Facts and Figures Report](#). Women are three times more likely to experience an osteoporosis-related bone fracture in their lifetimes than men.

"Our study is the largest and longest controlled study of growth hormone treatment for osteoporosis in [postmenopausal women](#) to date," said one of the study's authors, Emily Krantz, MD, of Södra Älvsborgs Hospital in Borås, Sweden. "Years after treatment stopped, women who were treated with growth hormone still experienced improved [bone density](#) and reduced fracture risk."

During an 18-month-long randomized, double-blind trial, 80 postmenopausal women with osteoporosis received daily injections of either placebo, a single unit of growth hormone or a 2.5-unit dose of growth hormone. The women were between the ages of 50 and 70 when they were recruited for the decade-long study.

After 18 months, the women who received the placebo halted the injections. Women who received growth hormone continued to receive injections for another 18 months. The researchers continued to follow up with the women for seven years after the growth hormone treatment was halted to monitor their bone density, fractures and perception of their quality of life.

The researchers compared the participants' bone density and rate of fractures to those of a group of 120 women who did not have osteoporosis. The controls were identified using the city census in Gothenburg, Sweden.

A decade after the study began, the women who received the larger growth hormone dose still had higher bone mineral density levels than the participants who received the lower dose or the placebo. The rate of fractures in the treated women who had osteoporosis declined by 50 percent during the 10-year-long study. More than half of the participants had fractured bones prior to the start of the study. In contrast, the rate of [fractures](#) rose four-fold in the control group as some of those [women](#) were diagnosed with osteoporosis.

"The findings indicate the beneficial effects of [growth hormone](#) remained long after the treatment ceased," Krantz said.

More information: The study, "Effect of Growth Hormone Treatment on Fractures and Quality of Life in Osteoporosis - A 10-year Follow-up," was published online at press.endocrine.org/doi/10.1210/jc.2015-1757 , ahead of print.

Provided by The Endocrine Society

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