

Study looks at predicting fracture risk after women stop bisphosphonate therapy

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Age and testing of hip bone mineral density (BMD) when postmenopausal women discontinue bisphosphonate therapy can help predict the likelihood of fractures over the next five years.

Bisphosphonates can reduce the risk of hip and [spine fractures](#). But recent concerns about safety issues, including osteonecrosis of the jaw, atypical femoral [fractures](#) and esophageal cancer, have increased interest in interrupting or stopping bisphosphonate therapy after several years of treatment. This study tested methods for predicting [fracture risk](#) by measuring BMD using hip and spine dual-energy x-ray absorptiometry (DXA) and also [bone turnover markers](#) (BTMs) when women discontinue bisphosphonate therapy and a few years afterward.

The Fracture Intervention Trial Long-term Extension (FLEX) randomly assigned [postmenopausal women](#) (ages 61 to 86 years) previously treated with the [bisphosphonate](#) alendronate sodium (for four to five years) to five additional years of alendronate or placebo from 1998 through 2003. This analysis included only the placebo group. Hip and spine DXA were measured when the placebo was started and after one to three years of follow-up. Two different BTMs also were measured at baseline and after one and three years.

During five years of placebo, 22 percent of women (94 of 437) had one or more fractures; 82 had fractures after one year. Older age and lower hip BMD at the time alendronate therapy was discontinued were associated with higher rates of clinical fractures during the subsequent

five years. However, neither BMD measures after one-year nor BTM levels one- to two -years after discontinuing alendronate were associated with fracture risk.

"Women with greater total hip bone loss two or three years after discontinuation may be at increased risk of fracture, but these results need to be confirmed in other studies before routine measurement of BMD after discontinuation of alendronate therapy can be recommended. ... In the meantime, short-term monitoring with BMD, BAP or NTX [two bone turnover markers] after discontinuation of four to five years of alendronate therapy does not appear to improve fracture prediction," Douglas C. Bauer, M.D., of the University of California, San Francisco, and colleagues wrote in their today's *JAMA Internal Medicine* article.

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