

Do circulating bone turnover markers indicate hip fracture risk?

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The evidence that circulating levels of markers of bone turnover correlate with hip fracture risk among postmenopausal women is limited. In a new *Journal of Bone and Mineral Research* study, neither serum C-terminal telopeptide of type I collagen (CTX) nor serum procollagen type 1 aminoterminal propeptide (PINP)—two markers of bone turnover— were associated with hip fracture risk.

The findings are consistent with results of 5 out of 6 previous studies; however, this study was the first study to examine associations between PINP and CTX and hip fracture risk using serum samples collected in the fasting state, in accordance with the International Osteoporosis Foundation/International Federation of Clinical and Laboratory Medicine Bone Markers Working Group recommendations. (Food intake can affect bone turnover marker levels).

Although the sample size was relatively small (400 cases and 400 controls), hip [fractures](#) were ascertained prospectively and confirmed via medical records, the analyses were adjusted for multiple relevant covariates, and [bone](#) turnover marker levels were assessed in the fasting state.

The findings do not support the diagnostic utility of serum CTX level or PINP level to predict hip fracture risk in [postmenopausal women](#).

"These results will help to inform future versions of guidelines regarding the role of [bone turnover markers](#) for hip fracture prediction in clinical practice among postmenopausal women not taking osteoporosis

pharmacotherapy," said lead author Dr. Carolyn Crandall, of the David Geffen School of Medicine at University of California, Los Angeles.

More information: Carolyn J Crandall et al, Bone Turnover Markers Are Not Associated With Hip Fracture Risk: A Case-Control Study in the Women's Health Initiative, *Journal of Bone and Mineral Research* (2018). [DOI: 10.1002/jbmr.3471](https://doi.org/10.1002/jbmr.3471)

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