

Common osteoporosis drugs are associated with a decrease in risk of breast cancer

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Women who take some types of bone-building drugs used to prevent and treat osteoporosis may be at lower risk of breast cancer, according to a study by U.S. researchers published today in the *British Journal of Cancer*.

The study found that women who used bisphosphonate drugs, such as Fosamax, Boniva and Zomita, for more than two years had a nearly 40 percent reduction in risk as compared to those who did not, according to lead author Polly Newcomb, Ph.D., M.P.H., head of the [Cancer Prevention](#) Program at Fred Hutchinson Cancer Research Center.

"This large study provides new evidence that the use of [bisphosphonates](#) is associated with a potentially important reduction in [breast cancer](#) risk," Newcomb said.

The protective effect was observed only among women who were not obese. "Obese women may have elevated estrogen levels, so underlying hormones may influence the ability of bisphosphonates to reduce breast cancer risk," Newcomb said.

The way in which these drugs may prevent breast cancer is not known, but several research observations may be relevant. "These drugs may affect cell function and be important in cell growth and death - specifically the death of tumors or even premalignant disease," Newcomb said. Researchers have found that some kinds of bisphosphonates directly cause tumor apoptosis (cellular suicide), inhibit

angiogenesis (prevent tumors from establishing a blood supply) and prevent tumor-cell adhesion (the ability of [cancer cells](#) to bind to one another).

The study involved nearly 6,000 Wisconsin women, aged 20 to 69. Half had been diagnosed with [invasive breast cancer](#) and, for comparison purposes, half had not. The women were interviewed about their bone health - their history of fractures, whether they'd been diagnosed with osteoporosis and their history of bisphosphonate use.

Breast cancer risk factors such as first-degree family history of the disease, age at first birth, postmenopausal hormone use and [body mass index](#) were accounted for in the analysis. "Because we were able to account for important cofounders, these findings may reflect real benefits due to the anti-tumor mechanisms of these medications," the authors wrote.

Provided by Fred Hutchinson Cancer Research Center

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