

Calcium supplements may not prevent bone loss in women with breast cancer

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Women undergoing treatment for breast cancer are widely prescribed calcium and vitamin D supplements to prevent and manage osteoporosis, an unwanted side effect of breast cancer therapies. However, new research from Wake Forest Baptist Medical Center finds that the recommended daily doses of these supplements may not prevent loss of bone mineral density (BMD) in these women.

Study author Gary G. Schwartz, Ph.D., a cancer [epidemiologist](#) at Wake Forest Baptist, said the purpose of the study was to examine whether a seemingly common sense prescribing practice actually works. "We evaluated clinical trial evidence for calcium and vitamin D supplementation in maintaining [skeletal health of women](#) with breast cancer," he said. "At the doses recommended, the data show that these supplements are inadequate to prevent loss of BMD."

Schwartz and co-author Mridul Datta, Ph.D., a [postdoctoral fellow](#) at Wake Forest Baptist, reviewed data from clinical trials that evaluated the effect of antiresorptive drugs on BMD and used the "before-after" data from the comparison group to assess change in BMD in pre- and in post-menopausal women. Overall, the results from 16 trials indicate that 500-1500 mg calcium and 200-1000 IU vitamin D, the doses commonly recommended, do not prevent loss of BMD in women with breast cancer. Despite supplementation, women lost BMD in virtually every clinical trial reviewed.

The study appears online ahead of print this month in the journal *Critical Reviews in Oncology/Hematology*.

Women with breast cancer lose BMD at a higher rate than their healthier counterparts, increasing their risk of fractures which are associated with significant declines in function and health-related

quality of life, and in higher [mortality rates](#).

Consequently, it is a common practice to prescribe calcium and vitamin D supplements to these women, a "low intensity" intervention that seems to make sense, Datta said, although it's never really been tested. In the clinical trials reviewed, BMD in the women was measured at the beginning and end of the studies, Datta said, so if the supplementation worked to prevent BMD loss, "you should be able to see that in the data, and we clearly didn't."

Datta said it is possible that the BMD deficits could be worse in the absence of the supplements, but the results are concerning overall because cardiovascular disease is the main cause of mortality in women with breast cancer. There is growing evidence that calcium supplements may increase the risk of heart attack and stroke.

"The take-home message is that this very common practice of supplementation doesn't really seem to be working," Schwartz said. "Future trials are needed to evaluate the safety and efficacy of calcium and vitamin D supplementation in women undergoing [breast cancer](#) therapy."

Provided by Wake Forest University Baptist Medical Center

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