

Calcium and vitamin D improve cholesterol in postmenopausal women

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Calcium and vitamin D supplements after menopause can improve women's cholesterol profiles. And much of that effect is tied to raising vitamin D levels, finds a new study from the Women's Health Initiative (WHI) just published online in *Menopause*, the journal of The North American Menopause Society (NAMS).

Whether calcium or [vitamin D](#) can indeed improve [cholesterol levels](#) has been debated. And studies of women taking the combination could not separate the effects of calcium from those of vitamin D on cholesterol. But this study, led by NAMS Board of Trustees member Peter F. Schnatz, DO, NCMP, is helping to settle those questions because it looked both at how a calcium and vitamin D supplement changed cholesterol levels and how it affected [blood levels](#) of vitamin D in postmenopausal women.

Daily, the women in the WHI CaD trial took either a supplement containing 1,000 mg of calcium and 400 IU of vitamin D3 or a placebo. This analysis looked at the relationship between taking supplements and levels of vitamin D and cholesterol in some 600 of the women who had both their cholesterol levels and their vitamin D levels measured.

The women who took the supplement were more than twice as likely to have vitamin D levels of at least 30 ng/mL (normal according to the Institute of Medicine) as were the women who took the placebo. Supplement users also had low-density lipoprotein (LDL—the "bad" cholesterol) levels that were between 4 and 5 points lower. The

investigators discovered, in addition, that among supplement users, those with higher blood levels of vitamin D had higher levels of high-density lipoprotein (HDL—the "good" cholesterol) and lower levels of triglycerides (although for triglycerides to be lower, blood levels of vitamin D had to reach a threshold of about 15 ng/mL).

Taking the calcium and vitamin D supplements was especially helpful in raising vitamin D levels in women who were older, women who had a low intake, and women who had levels first measured in the winter—what you might expect. But lifestyle also made a difference. The supplements also did more to raise vitamin D levels in women who did not smoke and who drank less alcohol.

Whether these positive effects of supplemental calcium and vitamin D on cholesterol will translate into benefits such as lower rates of cardiovascular disease for women after menopause remains to be seen, but these results, said the authors, are a good reminder that women at higher risk for vitamin D deficiency should consider taking calcium and vitamin D.

"The results of this study should inspire even more [women](#) to be conscientious about their calcium and vitamin D intake—a simple and safe way to improve health. One action can lead to multiple benefits!" says NAMS Executive Director Margery Gass, MD.

The study, "Calcium/vitamin D supplementation, serum 25-hydroxyvitamin D concentrations, and cholesterol profiles in the Women's Health Initiative [calcium](#)/vitamin D randomized trial," will be published in the August 2014 print edition of *Menopause*.

Provided by The North American Menopause Society

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