

New research confirms benefits of calcium and vitamin D in preventing fractures

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Taking both calcium and vitamin D supplements on a daily basis reduces the risk of bone fractures, regardless of whether a person is young or old, male or female, or has had fractures in the past, a large study of nearly 70,000 patients from throughout the United States and Europe has found.

The study included data published in 2006 from clinical trials conducted at UC Davis in Sacramento as part of the Women's Health Initiative (WHI). It appears online in this week's edition of the [British Medical Journal](#).

"What is important about this very large study is that goes a long way toward resolving conflicting evidence about the role of [vitamin D](#), either alone or in combination with calcium, in reducing fractures," said John Robbins, professor of internal medicine at UC Davis and a co-author of the journal article. "Our WHI research in Sacramento included more than 1,000 healthy, [postmenopausal women](#) and concluded that taking calcium and vitamin D together helped them preserve bone health and prevent fractures. This latest analysis, because it incorporates so many more people, really confirms our earlier conclusions."

Led by researchers at Copenhagen University in Denmark, Robbins and an international team of colleagues analyzed the results of seven large clinical trials from around the world to assess the effectiveness of vitamin D alone or with calcium in reducing fractures among people averaging 70 years or older. The researchers could not identify any significant effects for people who only take vitamin D supplements.

Among the clinical trial results analyzed was Robbins' WHI research, which was part of a 15-year, national program to address the most common causes of death, disability and poor quality of life in postmenopausal women such as

[cardiovascular disease](#), cancer and osteoporosis. Those trials were primarily designed to study the effect of calcium and vitamin D supplementation in preventing hip fractures, with a secondary objective of testing the supplements on spine and other types of fractures, as well as on colorectal cancer. The results were published in the Feb. 16, 2006 edition of the New England Journal of Medicine.

Fractures are a major cause of disability, loss of independence and death for older people. The injuries are often the result of osteoporosis, or porous bone, a disease characterized by low bone mass and bone fragility. The National Osteoporosis Foundation estimates that about 10 million Americans have osteoporosis; 80 percent of them are women. Four of 10 women over age 50 will experience a fracture of the hip, spine or wrist in their lifetime, and osteoporosis-related fractures were responsible for an estimated \$19 billion in health-related costs in 2005.

"This study supports a growing consensus that combined calcium and vitamin D is more effective than vitamin D alone in reducing a variety of fractures," said Robbins. "Interestingly, this combination of supplements benefits both women and men of all ages, which is not something we fully expected to find. We now need to investigate the best dosage, duration and optimal way for people to take it."

Provided by University of California - Davis

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