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## JAMA meta-analysis concludes vitamin D supplementation lowers fracture risk

The May 11 2005 issue of the *Journal of the American Medical Association* (<http://jama.ama-assn.org/>) published the results of a meta-analysis of 12 clinical trials involving vitamin D supplementation in the prevention of fracture, which concluded that supplementation with higher doses of vitamin D reduces the risk of hip and nonvertebral fractures in older individuals. The commonly recommended 400 international unit (IU) dose appeared to be insufficient for fracture prevention.

Vitamin D and calcium are recommended to help prevent osteoporosis, <http://www.lef.org/protocols/prtcl-085.shtml> a disease characterized by weak, brittle bones, which leads to fractures and other complications, and is commonly diagnosed in older women.

Researchers from Harvard and other centers in Boston selected five randomized clinical trials of vitamin D in the prevention of hip fracture and 7 which tested the vitamin's ability to prevent nonvertebral fracture risk. The combined studies included a total of 19,114 men and women aged 60 and older. The trials used the form of the vitamin known as cholecalciferol, or vitamin D<sub>3</sub>, which, according to studies cited in the current review, may be three times as potent as ergocalciferol, the dietary form of the vitamin.

The team found that doses of 700 to 800 international units vitamin D per day reduced the risk of hip fracture by 26 percent and nonvertebral fracture by 23 percent. Of the studies that used 400 IU vitamin D, no significant benefit was observed for either type fracture.

The authors state that although the role of additional calcium supplementation could not clearly be defined from the studies, at least 700 milligrams calcium per day may also be necessary for nonvertebral fracture prevention. They recommend that future research compare higher doses of vitamin D, and that scientists determine whether and in what dose calcium increases vitamin D's ability to help prevent fractures.