

# Weekly and biweekly vitamin D2 prevents vitamin D deficiency

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Boston University School of Medicine researchers (BUSM) have found that 50,000 International Units (IU) of vitamin D2, given weekly for eight weeks, effectively treats vitamin D deficiency. Vitamin D2 is a mainstay for the prevention and treatment of vitamin D deficiency in children and adults. Continued treatment with the same dose of vitamin D2 every other week for up to six years after the initial eight-week period prevents vitamin D deficiency from recurring with no toxicity. The BUSM study appears online in the journal *Archives of Internal Medicine*.

Vitamin D is essential for strong bones because it helps the body absorb calcium and phosphorus from the food we eat. [Vitamin D deficiency](#) can lead to rickets in children and the painful [bone disease](#) osteomalacia in adults. Vitamin D deficiency can also cause osteoporosis and has been linked to increased risk of cancer, heart disease, diabetes, autoimmune diseases and [infectious diseases](#) including influenza, according to senior author Michael F. Holick, PhD, MD, director of the Bone Healthcare Clinic and the Vitamin D, Skin and Bone Research Laboratory at Boston University School of Medicine.

Of the 86 patients researchers studied, 41 patients who were vitamin D deficient received eight weeks of 50,000 IU of [vitamin D2](#) weekly prior to starting [maintenance therapy](#). For those patients, the mean pre-treatment 25-hydroxyvitamin D status (25(OH)D) level was 19 ng/ml, which increased to 37 ng/ml after eight weeks of weekly therapy. These patients were then treated with 50,000 IU of vitamin D2 every other

week and had a mean final 25(OH)D level of 47 ng/ml.

For the 45 patients who received only maintenance therapy of 50,000 IU of vitamin D2 every two weeks, the mean pre-treatment 25(OH)D level was 27 ng/ml and the mean final level was 47 ng/ml.

"Vitamin D2 is effective in raising 25(OH)D levels when given in physiologic and pharmacologic doses and is a simple method to treat and prevent vitamin D deficiency," said Holick, who is also director of the General Clinical Research Unit and professor of medicine, physiology and biophysics at BUSM. "While treating and preventing vitamin D deficiency, these large doses of vitamin D2 do not lead to vitamin D toxicity."

According to Holick, this is the first study demonstrating the efficacy of a prescription therapy to prevent vitamin D deficiency longterm in routine clinical practice.

Source: Boston University Medical Center

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