



## The buzz about the sunshine vitamin & cardiovascular diseases

Vitamin D is a fat soluble (liposoluble) vitamin that is synthesized in the skin in response to ultraviolet light. The biological active form is [calcitriol](#) whose major role is to increase the flow of calcium into the bloodstream. Calcitriol promotes absorption of calcium and phosphorus from food in the intestine and reabsorption of calcium in the kidney. The primary source for Vitamin D is sunshine, but unless you work outside it is impossible to get enough exposure to the sun to supply your body's need for the vitamin. Fortunately, various forms of Vitamin D are available in dairy products, fish, fortified cereals and nutritional supplements.

It has long been established that Vitamin D, specifically Vitamin D3 [cholecalciferol](#), is essential to maintaining calcium levels in the blood necessary for bone growth and bone remodeling. Lack of Vitamin D3 in childhood leads to rickets and also increases the likelihood of developing osteoporosis during aging, especially in women past menopause.

Recent findings suggest that

insufficiency of Vitamin D, due to lifestyle and environmental factors, is a pandemic affecting 50% of the world population. This high prevalence of Vitamin D insufficiency has risen as a major public health issue since low Vitamin D is an independent risk factor for total mortality, and is associated with an increased risk of cardiovascular diseases (CVD). Current studies are focused on definition of a causal role for Vitamin D insufficiency in CVD, and mechanisms for protective effects of the vitamin. Potential beneficial effects of Vitamin D include suppression of the renin-angiotensin system, better vascular compliance, and improved control of blood glucose. These effects of Vitamin D suggest that supplementation could prevent or treat CVD. Unfortunately, to date, there have been no published clinical studies using Vitamin D or its analogs on cardiovascular endpoints. These trials will be important in establishing guidelines for the screening and treatment of Vitamin D insufficiency.

With at least 85 per cent of Americans believed to have Vitamin D insufficiency, it is important to have your Vitamin D blood level checked and bring it up to recommended standards if necessary.



Levels should be at least 50 ng/ml year-round, in both children and adults. At levels below 50 ng/ml, the body uses up Vitamin D as fast as you can produce it or take it in, leading to chronic Vitamin D starvation. In healthy persons a supplement of 1000 IU Vitamin D *per day* is required to maintain a healthy concentration of Vitamin D in the blood. In older people, supplemental oral intakes of approximately 1300 IU *per day* are required to reach the lower end of the optimal range. See NIH [Office of Dietary Supplements](#).

*References used to support this article are available upon request to: [Mary Lowell](#), Room 521 CT Wethington Building, 900 S. Limestone Street, Lexington, KY 40536. Phone: 859-323-4933*

### Vitamin D Risks

High doses of Vitamin D can be toxic. Excessive supplementation may pose serious risks and/or interfere with certain medications. Those who suffer from medical conditions should consult a physician before taking supplements.