

Vitamin D

Science has revealed that sunlight is as necessary as food and water, and that humans are meant to obtain vitamin D through sunlight exposure.

Human skin is rich with 7-dehydrocholesterol, which reacts with ultraviolet B (UVB) light to make vitamin D3 (also known as cholecalciferol). Cholecalciferol undergoes further biochemical changes in the liver (to calcidiol) and kidney, transforming it into the steroid calcitriol. Calcitriol is the hormonally active form of vitamin D.

The major biologic function of vitamin D is to maintain normal blood levels of calcium and phosphorus, promoting bone mineralization. However, science has revealed that calcitriol controls more than 200 genes, including those responsible for the regulation of cellular proliferations (cell growth), differentiation (type of cell, i.e., brain, liver, etc.), apoptosis (normal programmed cell death) and angiogenesis (the vascular network responsible for cancer malignancies and metastases).

We now know that tissues and organs such as the breast, colon and prostate have the enzymatic machinery to produce calcitriol. The immune-modulating effects of vitamin D are profound as evidenced by the following conditions, which are associated with vitamin D deficiency/insufficiency:

- Osteoporosis
- Cancer
- Autoimmune diseases
- Diabetes
- Heart disease
- Hypertension
- Mental illness

- Fibromyalgia
- Chronic fatigue and pain
- Depression
- Periodontal disease

Exposure to just 15-20 minutes of sunlight (without sunscreen) can yield approximately 20,000 IU of vitamin D. The established AI (Adequate Intake–RDA) for vitamin D is a paltry 200-600 IU. Due to these inadequate recommendations and established sun phobia, more than 50 percent of the population is deficient in this very important nutrient.

Oral intake of vitamin D3 and moderate exposure to sunlight and/or artificial light (tanning beds or lamps) can help to replete low serum levels of 25-hydroxyvitamin D. The best course of action is to check serum levels and have an experienced physician or nutritionist devise a treatment plan to ensure optimum levels.

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