

## Can Vitamin D deficiency lead to serious illness?

There are literally thousands of peer-reviewed scientific articles establishing vitamin D deficiency as a significant causal factor in serious illnesses. At this point we can confidently state that having sufficient levels of vitamin D is essential for both wellness and prevention.

Vitamin D insufficiency can result in thin, brittle, or misshapen bones, while sufficiency prevents rickets in children and osteomalacia in adults, and, together with exercise, helps to protect older adults from osteoporosis. Vitamin D also modulates neuromuscular function, reduces inflammation, and influences the action of many genes that regulate the proliferation, differentiation and apoptosis of cells which is critical in terms of cancer prevention.

The role of vitamin D deficiency in other serious illnesses is also being reported. "As Holick's New England Journal of Medicine review stressed, the litany of vitamin D deficiency diseases is now legion. Evidence even suggests that vitamin D is involved in the triple current childhood epidemic of autism, asthma, and autoimmune diabetes. Not only do tenable mechanisms of action exist to explain vitamin D's role in all three, but epidemiological evidence suggesting a vitamin D connection to these devastating diseases is growing." *Cannell et al. 2008 Cod Liver Oil, Vitamin A Toxicity, Frequent Respiratory Infections, and the Vitamin D Deficiency Epidemic. Annals of Otolaryngology, Rhinology & Laryngology 117 (11): 864-870*

"Improving calcium and vitamin D nutritional status substantially reduces all-cancer risk in postmenopausal women." *Lappe et al. 2007 Vitamin D and calcium supplementation reduces cancer risk: results of a randomized trial. Am J of Clin, Nutr. 85 (6): 1586-1591.*

"Vitamin D is an inhibitor of the renin-angiotensin system and has anti-inflammatory and anticoagulant properties." "Low serum 25 (OH) D levels are associated with a higher prevalence of Peripheral Arterial Disease. Several mechanisms have been invoked in the literature to support a potential anti-atherosclerotic activity of vitamin D." *Melamed et al. 2008 Serum 25-Hydroxyvitamin D Levels and the Prevalence of Peripheral Arterial Disease. Thrombosis and Vascular Biology 28: 1179-1185*