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Study Shows Potential of Vitamin D to Promote Health

By Greg Arnold, DC, CSCS, July 21, 2010, abstracted from "Estimated benefit of increased vitamin D status in reducing the economic burden of disease in western Europe" in the February-April 2009 issue of Progress in Biophysics and Molecular Biology

Link - http://www.nowfoods.com/BasicArticles/079885

Vitamin D has been known for more than 80 years to benefit bone health, with its first benefits being seen in children (1). Subsequent years have shown that vitamin D also benefits heart health (2), prostate health (3), mental neurological health (4) and improves long-term health (5).

Current recommendations by the National Institutes of Health are:

• 200 IU for people up to 50 years of age
• 400 IU for people 51-70 years of age
• 600 IU for 71 years and older (6).

The realization of vitamin D's crucial role in health has caused the *American Academy of Pediatrics* to recommended doubling the intake for children to 400 IU per day (7). Research has shown 600 IU per day to produce vitamin D blood levels of 75 nanomoles/Liter (8, 9, 10), yet the optimal vitamin D blood levels are suggested to be 40 ng/mL (11). With as much as one-half of the world's population thought to be deficient in vitamin D (12), increased attention to vitamin D intake through sun exposure, diet, and supplementation is needed.

In 2009, a study was done to see what the potential benefits to the European population would be if everyone was able to achieve vitamin D blood levels of at least 40 nanograms/L (13). Because vitamin D is obtained from the sun, blood levels of vitamin D fluctuate significantly with the change in seasons, with European adult blood levels fluctuating between 15 and 30 ng/mL (14) and children fluctuating between 8 and 24 ng/mL through the year (15).

Citing research on remarkable health improvements with adequate vitamin D intake that included:

• 26% reduced risk of hip fractures when getting at least 700 IU per day (16)
• 78% reduced risk of Type 1 diabetes in infants taking 2000 IU per day vs. no supplementation (17)
• 109% increased risk of heart disease for vitamin D blood levels less than 10 ng/mL vs. more than 30 ng/mL (18)
• 218% increased risk of high blood pressure-related disease for blood levels less than 15 ng/mL vs.more than 30 ng/mL (19)
• 108% increased risk of death for blood levels less than 7.6 ng/mL vs. more than 28.4 ng/mL (20)

The researchers estimated that helping raise blood levels of vitamin D to 40 ng/mL would reduce the costs of cardiovascular disease and osteoporosis-related fractures by 33%, reduce type 2 diabetes costs by 27%, and reduce costs of lung-related illnesses like Chronic Obstructive Pulmonary Disease and asthma by 20%. They went on to conclude that "increasing Europeans' serum 25(OH)D levels to at least 40 ng/mL all year could significantly reduce rates and economic burdens of several types of diseases."

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Reference:

Complete Chiropractic Healthcare

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1. Park E. The etiology of rickets. *Physiol Rev* 1923;3:106–119.
2. Giovanucci E. 25-Hydroxyvitamin D and Risk of Myocardial Infarction in Men: A Prospective Study. *Arch Intern M*ed. 2008;168(11):1174-1180
3. Bao BY. Protective role of 1, alpha-25-dihydroxyvitamin D3 against oxidative stress in nonmalignant human prostate epithelial cells. International *Journal of Cancer* 2008; 122(12): 2699-2706
4. Evatt ML. Prevalence of Vitamin D Insufficiency in Patients With Parkinson Disease and Alzheimer Disease.*Arch Neurol*. 2008;65(10):1348-1352
5. Wagner CL. Does Vitamin D Make the World Go 'Round'? *Breastfeeding Medicine*. December 2008, 3(4): 239-250
6. "Vitamin D" posted on the office of dietary supplements http://ods.od.nih.gov/factsheets/vitamind.asp
7. Wagner CL. Prevention of Rickets and Vitamin D Deficiency in Infants, Children, and Adolescents. *Pediatrics* 2008;122:1142–1152
8. Vieth R. Randomized comparison of the effects of the vitamin D3 adequate intake versus 100 mcg (4000 IU) per day on biochemical responses and the wellbeing of patients. *Nutr J.* 2004;3:8
9. Chapuy MC. Vitamin D3 and calcium to prevent hip fractures in the elderly women. *N Engl J Med*. 1992;327:1637–42
10. Dawson-Hughes B. Serum 25-hydroxyvitamin D and functional outcomes in the elderly. *Am J Clin Nutr*. 2008;88:S537–40
11. Lappe, J. M., Travers-Gustafson, D., Davies, K. M., Recker, R. R., Heaney, R. P. 2007. Vitamin D and calcium supplementation reduces cancer risk: results of a randomized trial. *Am J Clin Nutr* 85, 1586-91
12. "More Than Half the World's Population Gets Insufficient Vitamin D, Says Biochemist" - www.sciencedaily.com/releases/2010/07/100715172042.htm
13. Grant WB. Estimated benefit of increased vitamin D status in reducing the economic burden of disease in western Europe. *Prog Biophys Mol Biol* 2009;99(2-3):104-13. Epub 2009 Mar 4
14. Hypponen, E.Power, C. 2007. Hypovitaminosis D in British adults at age 45 y: nationwide cohort study of dietary and lifestyle predictors. *Am J Clin Nutr* 85, 860-8.
15. Zittermann, A., Schleithoff, S. S., Koerfer, R. 2005.Putting cardiovascular disease and vitamin D insufficiency into perspective. *Br J Nutr* 94, 483-92
16. Looker, A. C., Mussolino, M. E. 2008. Serum 25-hydroxyvitamin D and hip fracture risk in older U.S. white adults. *J Bone Miner Res* 23, 143-50.
17. Hypponen, E., Laara, E., Reunanen, A., Jarvelin, M. R., Virtanen, S. M. 2001. Intake of vitamin D and risk of type 1 diabetes: a birth-cohort study. *Lancet* 358, 1500-3.
18. Giovannucci, E., Liu, Y., Hollis, B. W., Rimm, E. B. 2008. 25-hydroxyvitamin D and risk of myocardial infarction in men: a prospective study. *Arch Intern Med* 168, 1174-80
19. Forman, J. P., Giovannucci, E., Holmes, M. D., Bischoff-Ferrari, H. A., Tworoger, S. S., Willett, W. C., Curhan, G. C. 2007. Plasma 25-hydroxyvitamin D levels and risk of incident hypertension. *Hypertension* 49, 1063-9.
20. Dobnig, H., Pilz, S., Scharnagl, H., Renner, W., Seelhorst, U., Wellnitz, B., Kinkeldei, J., Boehm, B. O., Weihrauch, G., Maerz, W. 2008. Independent association of low serum 25-hydroxyvitamin d and 1,25-dihydroxyvitamin d levels with all-cause and cardiovascular mortality. *Arch Intern Med* 168, 1340-9.