

SCIENTISTS RECOMMEND MORE VITAMIN D

Scientists and health professionals disagree with the meager recommendations of the Food and Nutrition Board on the amount of Vitamin D needed, so they are taking action to promote the scientific studies and conclusions that the FNB did not consider worthy.

One well-known group of scientists have collected under the banner of “D*Action” with their own website containing resources of many types, including studies, video interviews, scientific papers, meeting announcements and other educational means. These scientists say there is a world-wide epidemic of Vitamin D deficiency and that vitamin D serum levels ought to be raised to between 40 and 60 ng/ml to take advantage of what is known about the disease prevention abilities of Vitamin D.

D*Action is conducting its own Vitamin D study with members who join for \$65.00 and agree to take two tests per year. Each test is a mail in test of blood sample on a paper collector that costs \$60 each according to the website <https://www.grassrootshealth.net/questionnaire-welcome?c=1&js=1>. Study participants receive an Email notice of the test results and can obtain a paper copy for consulting with their own physician. The study requires a health questionnaire to be completed with each test, recommended six months apart, twice a year. So the annual cost of participating in the study is under \$200 and you do not have to take Vitamin D at all. What you normally take is what you report.

Data collection started in 2008 and will run for five years, so it is about half completed. Already there are more than 3,600 participants that are enrolled in the study and a report on what the data shows so far was published in late January 2011. The data allow the authors to conclude that Vitamin D serum levels should be a lot higher than currently is the case to prevent chronic diseases. The group of four wrote a paper titled, “Vitamin D Supplement Doses and Serum 25-Hydroxyvitamin D in the Range Associated with Cancer Prevention,” that presents a chart showing the range of Vitamin D serum levels required for what percentage of disease prevention.

This chart can be seen and downloaded at: www.grassrootshealth.net/media/download/disease_incidence_prev_chart_032310.pdf. One has to see this chart to understand the enormity of the possibilities of taking more Vitamin D.

Anthony Norman, Distinguished Professor of Biochemistry & Biomedical Sciences, Emeritus, University of California Riverside, commented on this study, saying: “This paper provides a long awaited insight into a dose-response relationship between orally administered vitamin D3 and the resulting levels of serum 25(OH)D in over 3600 citizens. The results will allow new definition of high vitamin D dose safety and reduce concerns about toxicity. This is a landmark contribution in the vitamin D nutrition field!”

One broad conclusion made from the test results is how much additional Vitamin D intake will result in what level of Vitamin D in the serum. At one point, the authors state that 97.5 percent of the population would be above the serum levels of 30, 40 and 50 ng/ml if they dosed their Vitamin D intake at 6,100, 9,600, and 14,100 IU per day. However, study data indicated that the average, non-supplemental intake was about 3,300 IU/day, the total intake from a Vitamin D deprived basal state would be 9,400, 12,900, and 17,400 IU per day.

The authors pointed out that a single erythematous exposure to sunlight for a few minutes at noon would also result in the same magnitude of Vitamin D as these doses that are of a higher magnitude than recommended for oral doses.

Continued on page 2...

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Continued from page 1 ...

There were no evidences of toxicity in the study individuals at higher levels. Virtually all of the doses did not produce 200 ng/ml serum levels in the study. They emphasized that no doses below 50,000 IU/day produced blood serum levels of 200 ng/ml. This, plus the slow rise in serum levels for each 1,000 IU/day confirms the safety of even high doses.

Since these participants were health conscious individuals, the authors acknowledged they cannot be considered representative of the general population.

The authors were Cedric F. Garland, Ph.D. of the University of California, San Diego, Christine B. French of GrassrootsHealth, Leo L. Baggerly, Ph.D. of GrassrootsHealth, and Robert P. Heaney, M.D. of Creighton University.

VITAMIN D STATUS OF VETERANS AT RISK FOR AMPUTATION AND CARDIOVASCULAR DISEASE

Researchers at Mountain Home Veterans' Administration Medical Center in Mountain Home and Johnson City, Tennessee have looked at cardiovascular disease risk and amputation risks in veterans with peripheral artery disease (PAD) in relationship to Vitamin D status. They looked at medical charts of 1,435 veterans treated between October 2000 and May 2009 at the VAMC.

Vitamin D status was significantly and inversely correlated to body mass index, glucose and triglyceride values. Also hypertension and diabetes emerged similarly.

Individuals who were Vitamin D deficient had an amputation rate of 6.7% compared to those who were nondeficient at 4.2%.

Vitamin D concentrations were checked during the study by immunochemiluminometric assay (Labcorp, Burlington, NC) for 25(OHD). Deficiency was defined at less than 20 mg/ml, Cholesterol, lipid, and glucose concentrations were obtained by standard lab assays. Serum albumin was measured as an indicator of frailty/acute illness.

The average Vitamin D status was 24.1 ng/ml (SD = 11.8; range = 4.0 – 90.0) with 40.8% of the 1435 found deficient. Serum albumin was similar in Vitamin D-deficient (4.1g/L and vitamin D(replete patients (4.2g/L).

Those who were vitamin D deficient had higher BMI, triglycerides, and glucose. Hypertension and diabetes also had higher showing in Vitamin D deficient indi-

viduals.

Of the 75 (5.2%) who had an amputation there was an average Vitamin D level of 22.1 ng/ml and 52 were Vitamin D deficient. The authors interpreted this means that Vitamin D deficiency was associated with a 60% increase in risk of amputation in veterans with PAD.

The authors did not exclude the possibility that Vitamin D may have a more direct role in cardiovascular disease. Their bottom line advice was for clinicians to actively treat Vitamin D deficiency for a number of reasons explained in the study.

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SOME LUNG CANCER SURVIVAL MAY BE AFFECTED BY VITAMIN D

According to a small study (tumors from 86 patients) at the University of Michigan Comprehensive Cancer Center, Vitamin D's anticancer activity was slowed by an enzyme, CYP24A1, that is normally involved in metabolizing Vitamin D. The researchers say that when CYP24A1 levels get too high it affects the way Vitamin D works to prevent cancer.

Researchers are working in two areas to make this discovery more useful – finding drugs that would block CYP24A1 and finding exactly who would benefit from treatment with those drugs and Vitamin D.

The U-M comments about the study on its web site at, www.cancer.med.umich.edu/news/lung-cancer-and-vitaminD-011.shtml, contain a note that states “Current recommendations call for 600-800 IU of vitamin D daily, depending on age. Studies looking at vitamin D in lung cancer are testing medically administered doses 200 times

See LUNG CANCER -- Continued on p. 3... ..

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what could be taken by mouth naturally. Taking large amounts of vitamin D supplements is not currently recommended to prevent or treat lung cancer.”

“Lung cancer statistics: 222,520 Americans will be diagnosed with lung cancer this year and 157,300 will die from the disease, making it the biggest cancer killer, according to the American Cancer Society.”

The National Institutes of Health supplied funding for the study at this published in *Clinical Cancer Research*, Vol. 17, No. 4, pp. 817-826.

Lead author of the study was: Nithya Ramnath, M.D., associate professor of internal medicine at the U-M Medical School located at the Internal Medicine Oncology unit in Ann Arbor, Michigan. Other researchers were: Guoan Chen, So Hee Kim, Amanda N. King, Lili Zhao, Robert U. Simpson, Paul J. Christensen, Zhuwen Wang, Dafydd G. Thomas, Thomas J. Giordano, Lin Lin, Dean E. Brenner, David G. Beer.

CALCIUM WITH VITAMIN D MAY INCREASE WEIGHT LOSS

A small study of eleven people by researchers in Perth, Australia, showed that a breakfast with over 500 mg of calcium and 8.7 micrograms of Vitamin D increased fat and energy burning over 24 hours compared to 250 mg of calcium and 0.3 micrograms of Vitamin D. [There are 1000 IUs per 25 micrograms of Vitamin D. – Ed.] The researchers also reported a reduced energy intake followed the high calcium intervention.

These patients were of an average age of 54 with an average BMI of 31.

Source: *Clinical Nutrition*, Published online ahead of print, doi: 10.1016/j.clnu.2010.11.006, “Diet induced thermogenesis, fat oxidation and food intake following sequential meals: Influence of calcium and vitamin D” Authors: Wendy Chan She Ping-Delfos and Mario Soares. Australian New Zealand Clinical Trials Registry (ANZCTR) number: ACTRN12609000418279. Program of Nutrition, School of Public Health, Curtin Health Innovation Research Institute, Curtin University of Technology, GPO Box U1987, Perth, WA 6845, Australia.

DIETARY GUIDELINES RELEASED BY USDA

The 2010 Dietary Guidelines were released in later January 2011 by USDA with a cover letter from Secretary Thomas J. Vilsack and Secretary Kathleen Sebelius of the Department of Health and Human Services. This every 5-year revision is the seventh time that the Federal government has advised the public what to eat. Copies of the 112-page booklet are available for download at: www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf.

Because this *NML* Supplement is generally about Vitamin D, *NML* wants you to know this nutrient is covered under the material about “Nutrients of Concern” beginning on page 40. Here is what the Guidelines say about Vitamin D: “Adequate vitamin D status is important for health. Extreme lack of vitamin D (i.e., vitamin D deficiency) results in rickets in children and osteomalacia (softening of bones) in adults. Adequate vitamin D also can help reduce the risk of bone fractures. Although dietary intakes of vitamin D are below recommendations, recent data from the National Health and Nutrition Examination Survey (NHANES) indicate that more than 80 per cent of Americans have adequate vitamin D blood levels. Vitamin D is unique in that sunlight on the skin enables the body to make vitamin D.”

“In the United States, most dietary vitamin D is obtained from fortified foods, especially fluid milk and some yogurts (Appendix 15). Some other foods and beverages, such as breakfast cereals, margarine, orange juice, and soy beverages, also are commonly fortified with this nutrient. Natural sources of vitamin D include some kinds of fish (e.g., salmon, herring, mackerel, and tuna) and egg yolks, which have smaller amounts. It also is available in the form of dietary supplements”.

“The RDAs for vitamin D, which assume minimal sun exposure, are 600 IU (15 mcg) per day for children and most adults and 800 IU (20 mcg) for adults older than 70 years. As intake increases above 4,000 IU (100 mcg) per day, the potential risk of adverse effects increases.”

Other nutrients of concern are potassium (4700 mg/day needed), dietary fiber 25 g/day for women & 38 g/day for men), calcium, iron, folate (400 mcg/day of folic acid for women becoming pregnant and 600 mcg for those pregnant), and Vitamin B-12 (persons over 50 years may not absorb this nutrient well).

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