

Low Vitamin D Linked to High Blood Pressure

By Greg Arnold, DC, CSCS, November 19, 2008, abstracted from "Plasma 25-Hydroxyvitamin D Levels and Risk of Incident Hypertension Among Young Women" in the November 1, 2008 issue of *Hypertension*

Link – <http://www.nowfoods.com/M103758.htm?cat=Cholesterol/Cardiovascular%20Support>

High blood pressure (HBP) is estimated to affect 65 million Americans aged 20 years and older. The death rate from this condition increased by 26.8% from 1992-2002, with nearly 50,000 deaths in the U.S. caused by high blood pressure in 2002 alone¹. High blood pressure is [a significant risk factor for cardiovascular disease](#)² and has been [deemed a worldwide epidemic](#)³.

There are natural ways to help maintain healthy blood pressure, including [fish oil](#)⁴, [calcium](#)⁵, [cocoa](#)⁶, [magnesium](#)⁷, [soy nuts](#)⁸, [fiber](#)⁹, [whole grain foods](#)¹⁰, [whey protein](#)¹¹, [calcium](#)¹² and [hawthorn extract](#)¹³. Now a new study has found that vitamin D, shown recently to [benefit mental health](#)¹⁵, may also help maintain healthy blood pressure.

In the study, researchers compared vitamin D blood levels of nearly 1500 women participating in the Nurse's Health Study 2¹⁶. They found that those with the lowest 25% of vitamin D blood levels (16.7 nanograms per milliliter) had a 66% increased risk of HBP compared to those with the highest 25% of vitamin D blood levels (37.9 nanograms per milliliter). But researchers also found that almost 67% of the patient had a vitamin D deficiency, classified as having vitamin D blood levels below 30 nanograms per milliliter.

When looking at how vitamin D deficiency precipitates HBP, the researchers pointed to vitamin D's ability to increase insulin sensitivity¹⁷ and insulin resistance to contribute to the onset of HBP¹⁸. They therefore concluded that "lower [vitamin D] levels are independently associated with a higher risk of incident hypertension."

Greg Arnold is a Chiropractic Physician practicing in Danville, CA. You can contact Dr. Arnold directly by emailing him at <mailto:PitchingDoc@msn.com> or visiting his web site at www.CompleteChiropracticHealthcare.com

Reference:

¹ "High Blood Pressure Statistics" posted on the American Heart Association website <http://www.americanheart.org/presenter.jhtml?identifier=4621>

² David Conen D. Blood pressure progression: prospective cohort study with high normal blood pressure or blood Risk of cardiovascular events among women. *BMJ* published online 19 Aug 2007; doi:10.1136/bmj.39269.672188.AE

³ Casas JP. Homocysteine and stroke: evidence on a causal link from mendelian randomization. *Lancet* 2005; 365(9455): 224-232

⁴ Rousseau D. Dietary n-3 PUFAs affect the blood pressure rise and cardiac impairments in a hyperinsulinemia rat model in vivo. *Am J Physiol Heart Circ Physiol* 2003 Sep;285(3):H1294-302

⁵ Arends LR. Blood pressure response to calcium supplementation: a meta-analysis of randomized controlled trials. *J Hum Hypertens* 20: 571-580

⁶ Taubert D. Effect of Cocoa and Tea Intake on Blood Pressure. *Arch Intern Med.* 2007;167:626-634

- ⁷ Altura BM. Magnesium and cardiovascular biology: an important link between cardiovascular risk factors and atherogenesis. *Cell Molecule and Biology Research* 1995; 41(5): 347-359
- ⁸ Welty FK. Effect of Soy Nuts on Blood Pressure and Lipid Levels in Hypertensive, Prehypertensive, and Normotensive Postmenopausal Women. *Arch Int Med* 2007; 167(10): 1060-1067
- ⁹ Whelton, SP. Effect of dietary fiber intake on blood pressure: a meta-analysis of randomized, controlled clinical trials. *J Hypertens*. 2005 Mar;23(3):475-81
- ¹⁰ Behall KM. Whole-Grain Diets Reduce Blood Pressure in Mildly Hypercholesterolemic Men and Women. *Jou Am Diet Assoc* 2006; 106 (9): 1445-1449
- ¹¹ Pins JJ. [Effects of Whey Peptides on Cardiovascular Disease Risk Factors](#). *J Clin Hypertens* (2006) 8;11:775-782
- ¹² Arends LR. Blood pressure response to calcium supplementation: a meta-analysis of randomized controlled trials. *J Hum Hypertens* 20: 571-580
- ¹³ Walker AF. Hypotensive effects of hawthorn for patients with diabetes taking prescription drugs: a randomised controlled trial. *Br J Gen Pr* 2006;56(527):437-43
- ¹⁴ Forman JP. Plasma 25-Hydroxyvitamin D Levels and Risk of Incident Hypertension Among Young Women. *Hypertension*. 2008;52:828-832; published online before print October 6 2008, doi:10.1161/HYPERTENSIONAHA.108.117630
- ¹⁵ Evatt ML. Prevalence of Vitamin D Insufficiency in Patients With Parkinson Disease and Alzheimer Disease. *Arch Neurol*. 2008;65(10):1348-1352
- ¹⁶ "Nurses Health Study 2: Risk Factors for Breast Cancer Among Younger Nurses" posted on <http://epi.grants.cancer.gov/ResPort/NursesHealthII.html>
- ¹⁷ Chonchol M, Scragg R. 25-Hydroxyvitamin D, insulin resistance, and kidney function in the Third National Health and Nutrition Examination Survey. *Kidney Int*. 2007; 71: 134–139
- ¹⁸ Reaven GM, Lithell H, Landsberg L. Hypertension and associated metabolic abnormalities—the role of insulin resistance and the sympathoadrenal system. *N Engl J Med*. 1996; 334: 374–381