CENEGENICS medical institute

HEALTHY LIFESTYLES FOR HEALTHY AGING

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The Risk: Vitamin D Deficiency Is Red Flag for Cardiometabolic Disorders

The past few years have seen a steady stream of research showing definitive links between low levels of vitamin D and increased risk of disease, including heart attack and diabetes.

Now, results are in from the first-ever systematic review and meta-analysis of the relationship between vitamin D levels and cardiometabolic disorders as a whole, published in the December 2009 edition of *Maturitis*.

Cardiometabolic disorders are a cluster of interrelated risk factors that impact the heart and vascular system as well as promote type 2 diabetes. Often patients with the syndrome also present with hypertension, high LDL cholesterol levels/ low HDL and an imbalance of blood sugar levels.

A look at the meta-analysis.
Researchers at Warwick Medical School in Coventry, England, completed a systematic literature review of the PubMed and Web of Knowledge databases.

- The final analysis included 28 cross-sectional, case-control and cohort studies with 99,745 ethnically diverse, adult male and female participants.
- The studies measured vitamin D levels using serum 25-hydroxyvitamin D (25OHD) and associated those levels with incidence of cardiometabolic disorder (heart disease, heart attack, stroke, vascular disease, diabetes and metabolic syndrome).
- Excluded were studies involving vitamin D supplementation or participants who had conditions that might interfere with calcium or vitamin D equilibrium.

Conclusion. Per the study's lead author, Johanna Parker, "When we evaluated the effects of vitamin D levels on the risk of the individual outcomes included we found a significant association between high levels of vitamin D and a reduction on the risk of having cardiovascular disease (33% reduction compared to low levels of vitamin D), type 2 diabetes (55% reduction) and metabolic syndrome (51% reduction)."

- **Higher levels of vitamin D were linked to a 43% decrease in cardiometabolic disorders overall.**
- **This strong association was found in 85% of the included studies.**

Parker went on to say the findings suggest . . .

- High levels of vitamin D, among adult populations, are associated with a substantial decrease in cardiovascular disease, type 2 diabetes and metabolic syndrome.
- Interventions targeting a positive modification of vitamin D deficiency in adult and elderly populations could substantially contribute to halting the current epidemics of cardiometabolic disorders.
- Further controlled trials are required to evaluate the causal association between vitamin D levels and cardiometabolic disorders as well as the benefit of vitamin D supplementation for reducing cardiometabolic disease.

Adult Vitamin D Deficiency: Where can it lead?

- osteopenia
- osteoporosis
- muscle weakness
- fibromyalgia
- chronic pain
- fractures
- common cancers
- autoimmune disease
- infectious disease
- cardiovascular disease

Why is vitamin D so important? Vitamin D does more than just make healthy bones—at least 36 other tissue types also have receptors for vitamin D. Studies reveal that low levels of vitamin D are linked to multiple sclerosis, some types of cancer, psoriasis, muscle weakness, the inflammatory response, adiposity/obesity, glucose intolerance, diabetes, autoimmune disease, schizophrenia, depression, lung dysfunction, kidney disease, abnormal lipid profile and high blood pressure.

Though the mechanics are not fully understood, the study authors posit that "vitamin D may exert its effects directly through the modulation of gene expression, via activation of vitamin D receptors, or through the regulation of intracellular and extracellular calcium."

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Are you at risk? According to recent data, the majority of us suffer from insufficient vitamin D. Researchers in a 2009 study published in the *Archives of Internal Medicine* tested 13,369 people in the U.S. and found that only 23% had sufficient levels of vitamin D, revealing a shocking 50% decrease from 10 years ago when the same survey found 45% had sufficient levels.

Why the sharp decline? The clue lies in how the body obtains vitamin D. In actuality, vitamin D is not really a vitamin but a hormone. The difference is hormones can be manufactured in sufficient quantities by the body itself but vitamins cannot and must be collected from food or supplements.

Our bodies are able to create all the vitamin D we need with the help of direct sunlight—which is why it is called the "sunshine vitamin." Exposure to direct sunlight enables the skin to manufacture pre-vitamin D, which the liver and kidneys then synthesize into active vitamin D.

The problem is most of us don't get enough direct sunlight to fulfill our vitamin D requirements because of concerns about skin cancer and skin damage, less time spent outdoors and low light quality in winter and extreme latitudes. Keep in mind that sunscreens, clothing and glass block the sun's ability to aid in the manufacture of vitamin D.

Aging factor. Compounding the issue, older people and those with darker complexions have even more trouble manufacturing pre-vitamin D. One study found that people over 55 were twice as likely to have low vitamin D levels than those under 55.

However, even children and young adults (1-21 years) are at risk. The National Health and Nutrition Examination Survey found that 61% of this age group had insufficient levels of vitamin D.

Because the problem is so prevalent, everyone should be considered "at risk."

What you can do right now. Experts suggest standard medical care should include a proactive approach to identify, prevent and treat vitamin D deficiency. And at Cenegenics, preventive medicine is the foundation to all that we do.

Safeguard Your Health with Adequate Vitamin D Intake.

- By far, the best dietary source of vitamin D is fatty fish, salmon and sardines.
- But note: Even a diet made up completely of fish would fall far short of the amount of vitamin D you need.
- And if you think your multivitamin and/or vitamin D supplement has you covered, you may be surprised.
- Many experts believe the recommended dosages quotes on the side of your vitamin bottle are way too low when it comes to vitamin D.
- A daily dose of 5,000 units (make sure it's vitamin **D_3**) is sufficient for most people, but it's important to periodically test blood serum levels to be sure.

Vitamin D: Need To Know Facts

- **D_3, or cholecalciferol, is preferred. It's the more potent form of the vitamin and the type generated by sun exposure when UV rays create a vitamin D synthesis in the skin.**
- **Using sunscreens with an SPF greater than 8, cloudy days, smog, various seasons, etc. can impact the amount of "sunshine" vitamin D we get from the sun.**
- **D_3 is also available in an oral supplement form, but watch what you are buying because vitamin D_2 is more commonly found in supplements.**

We don't wait for disease to appear then treat it—we get proactive, using an in-depth evaluation process to discover your weakest health links and strengths at the get-go. That comprehensive data sets a metabolic, physiologic and endocrine baseline so we can compare and track your progress going forward.

And it's that same data used to customize your age management medicine program—a program centered on low-glycemic nutrition, quality nutraceuticals, exercise, hormone optimization (if clinically indicated) and lifestyle intervention factors.

Rooted in solid science, our established protocols help you maximize your health potential and delay/prevent the onset of age-related disease, delivering a totally new definition of aging:

- Lean muscle mass
- Reduced body fat
- Sharper thinking
- Stronger immune system
- An ability to manage stress
- A vibrant life and well-being

Transform your life now.
Call toll-free 866.953.1510.
Discussions are always confidential and without obligation.