

Vitamin D: More may not be better

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In recent years, healthy people have been bombarded by stories in the media and on health websites warning about the dangers of too-low vitamin D levels, and urging high doses of supplements to protect against everything from hypertension to hardening of the arteries to diabetes.

But new research from Johns Hopkins finds that blood levels of the so-called "sunshine vitamin" higher than the top of the range suggested by the Institute of Medicine confer no additional benefit. This finding, combined with results of a previous study by the same group noting potential harm from higher [vitamin D](#) levels in [healthy people](#), has urged investigators to prescribe caution.

"Healthy people have been popping these pills, but they should not continue taking vitamin D supplements unchecked," says study leader Muhammad Amer, M.D., M.H.S., an assistant professor in the Division of General Internal Medicine at the Johns Hopkins University School of Medicine. "At a certain point, more vitamin D no longer confers any [survival benefit](#), so taking these expensive supplements is at best a waste of money."

Amer stresses that there are some groups of people—elderly, postmenopausal women, and people with [kidney disease](#)—who do benefit from higher blood levels of a vitamin vital to [bone health](#). Such groups may need to take supplements.

In an article published online in the *American Journal of Medicine*, Amer and Rehan Qayyum, M.D., M.H.S., also of Johns Hopkins, describe their

review of data from more than 10,000 participants in the National Health and [Nutrition Examination Survey](#) (NHANES) from 2001 to 2004. They matched those data with [mortality data](#) from the National Death Index through Dec. 2006.

When they looked at deaths from all causes and cardiovascular disease specifically, those with blood levels of 21 [nanograms](#) per milliliter of 25-Hydroxyvitamin D—at the top of the range that the IOM considers "adequate" and at the low end of "normal"—cut their risk of death in half. Above 21 nanograms per milliliters, the data suggest that the protective effect appears to wear off.

The primary source of vitamin D is the sun, and although it is found naturally in very few foods, commercially sold milk is usually fortified with it. Amer says as people spend more and more time indoors and slather their bodies with sunscreen when outdoors, concern is rising that many are vitamin D-deficient. But he says there is no set amount of supplementation that can bring someone up to 21 nanograms per milliliter because the way people process vitamins varies.

In research published in January 2012 in the *American Journal of Cardiology*, Amer and Qayyum found that increasing levels of vitamin D in the blood are linked with lower levels of a popular marker for cardiovascular inflammation—c-reactive protein (also known as CRP). Beyond blood levels of 21 nanograms per milliliter, any additional increase in vitamin D was associated with an increase in CRP, a factor linked to stiffening of the blood vessels and an increased risk of cardiovascular problems. The team's unpublished research also suggests a link between excess vitamin D and elevated homocysteine levels, another danger sign for cardiovascular disease.

People should consult with their doctors, Amer says, before starting vitamin D supplements and should have their [blood levels](#) checked. Still,

he says, "most healthy people are unlikely to find that supplementation prevents cardiovascular diseases or extends their lives," and there is no consensus among doctors on what is the right level of vitamin D in the blood for healthy people.

"There are a lot of myths out there and not enough data," he concludes.

Provided by Johns Hopkins University School of Medicine

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