

# Spring is the season for vitamin D deficiency, Australian study shows

September 25 2012

---

September marks the start of spring but new research reveals it is also the month when Australians' vitamin D levels are at their lowest ebb.

The University of Sydney study also shows [vitamin D deficiency](#) affects more [Australians](#) and lasts longer than previously believed.

"Our results suggest that the current guidelines for both [vitamin D](#) testing and the use of supplements need to be reviewed," said Professor Steven Boyages from Sydney [Medical School](#).

Professor Boyages and his [PhD student](#) Kellie Bilinski recently published their findings in *Clinical Endocrinology*.

"This is the largest ongoing Australian study on vitamin D deficiency ever undertaken," said Professor Boyages.

"Vitamin D deficiency is implicated in a number of serious diseases including [diabetes](#) and cancer so improving our understanding is critical.

"The fact that the government-subsidised cost of testing for deficiency was \$96.7 million in 2010 and rising is another reason better knowledge is important."

The study looked at vitamin D levels (by studying the presence of a [metabolite](#)) in over 24,000 samples taken from walk-in patients and inpatients in NSW between July 2008 and July 2010. It investigated the

effect of age, gender, season, [socioeconomic status](#) and remoteness on results.

"Our study indicates that large segments of the Australian population are at risk of deficiency for prolonged periods of the year, particularly during [autumn](#) to the end of spring. The prevalence of deficiency was higher and more persistent than previously reported, ranging from 33 percent in summer to 58 percent in spring. The seriousness of the deficiency was also greater than in most other Australian reports."

The study found that vitamin D levels peaked in summer, reaching a maximum in January for women and February for men, before declining gradually in late summer and falling sharply in the winter months. They reached their lowest point not in winter, as previously reported, but in early spring.

"Even by December, the first month of summer, levels were still 46 percent below their peak. Although levels of ultraviolet-B radiation, the body's principal source of vitamin D, would be rising by then, this reflects the time it takes to replenish the body's stores."

Current testing guidelines do not address the need to taken seasonal variation into account.

"Ideally testing would occur in spring when vitamin D levels reach their lowest concentration. If an individual is found to be deficient a subsequent test three months afterwards would see if they have been able to replenish their vitamin D," said Professor Boyages.

"Similarly use of vitamin D supplements currently fail to address this factor of seasonal variation. A modified approach would see the use of supplements commence, or increase, at the end of summer and be maintained until the end of spring when they would either be stopped or

reduced depending on an individual's sunlight exposure."

The study also found that a previously unidentified at risk group is females between 20 and 39 years of age. Further investigation is required to determine the underlying cause for the higher prevalence of vitamin D deficiency in this and other groups.

**More information:** [onlinelibrary.wiley.com/doi/10.1111/1365-2012.04398.x/full](https://onlinelibrary.wiley.com/doi/10.1111/1365-2012.04398.x/full)

Provided by University of Sydney

Citation: Spring is the season for vitamin D deficiency, Australian study shows (2012, September 25) retrieved 7 May 2024 from <https://medicalxpress.com/news/2012-09-season-vitamin-d-deficiency-australian.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--