



Comment on Cashman paper (2009)

A new clinical study published in the American Journal of Clinical Nutrition claims that older people need to consume up to four times the recommended amount of vitamin D to maintain optimal blood levels of the nutrient. People who are deficient in vitamin D are more prone to bone fractures, heart disease and perhaps even cancer. Vitamin D deficiency in both adults and children is more common in winter because of inadequate sun exposure.

Irish researcher, Professor Kevin Cashman, supplemented 225 adults, aged over 65 years, with either vitamin D or a dummy pill for 22 weeks. The aim was to ensure a minimum level of blood vitamin D for the majority of subjects, identified as >25 nanomoles per litre. The Food Standards Agency suggests this level would prevent deficiency. However, other experts think the optimal level is closer to 80 nanomoles per litre because of the number of chronic conditions, e.g. cancer, heart disease, that are linked with low vitamin D levels.

Professor Cashman's results showed that a minimum dietary intake of 8.7 micrograms per day was needed in winter to ensure a blood level of vitamin D >25 nanomoles per litre. However, an intake of 39 micrograms per day was needed to ensure the optimal level of 80 nanomoles per litre. This is nearly four times the current UK recommended daily amount of 10 micrograms per day.

Dr Carrie Ruxton, nutrition advisor to the Health Supplements Information Service said: "This important new study shows that older people need to improve their vitamin D intake considerably to safeguard their bone health and help prevent chronic disease. The National Diet and Nutrition Survey reveals that the average vitamin D intake amongst the over 65s is less than 4 micrograms per day. This is only a third of the recommended amount set for people aged over 50 years.

"Research from the Government's nutrition advisory committee¹ shows that British adults are more likely to be deficient in vitamin D if they don't take supplements and shun oily fish. Unless people are prepared to eat more vitamin D-rich foods, such as oily fish, eggs, milk and breakfast cereals, a vitamin D or multivitamin supplement should be considered".

-ENDS-

For more information on vitamins and minerals visit www.HSIS.org.uk

The Health Supplements Information Service (HSIS) (www.hsis.org.uk; Tel: 020 7052 8955) is an independent information body, set up to provide balanced information on vitamins and minerals. It is supported by a restricted educational grant from the Proprietary Association of Great Britain (PAGB).

¹ The Scientific Advisory Committee on Nutrition (SACN)

Abstract

Cashman KD et al (2009). Estimation of the dietary requirement for vitamin D in free-living adults ≥ 64 y of age. *Am J Clin Nutr*, Mar 18. [Epub ahead of print]

BACKGROUND: Older adults may be more prone to developing vitamin D deficiency than younger adults. Dietary requirements for vitamin D in older adults are based on limited evidence. **OBJECTIVE:** The objective was to establish the dietary intake of vitamin D required to maintain serum 25-hydroxyvitamin D [25(OH)D] concentrations above various cutoffs between 25 and 80 nmol/L during wintertime, which accounted for the effect of summer sunshine exposure and diet. **DESIGN:** A randomized, placebo-controlled, double-blind, 22-wk intervention was conducted in men and women aged ≥ 64 y (n = 225) at supplemental levels of 0, 5, 10, and 15 $\mu\text{g}/\text{d}$ of vitamin D(3) from October 2007 to March 2008. **RESULTS:** Clear dose-related increments ($P < 0.0001$) in serum 25(OH)D were observed with increasing supplemental vitamin D(3) intakes. The slope of the relation between total vitamin D intake and serum 25(OH)D was $1.97 \text{ nmol} \cdot \text{L}^{-1} \cdot \mu\text{g intake}^{-1}$. The vitamin D intake that maintained serum 25(OH)D concentrations $>25 \text{ nmol}/\text{L}$ in 97.5% of the sample was 8.6 $\mu\text{g}/\text{d}$. Intakes were 7.9 and 11.4 $\mu\text{g}/\text{d}$ in those who reported a minimum of 15 min daily summer sunshine exposure or less, respectively. The intakes required to maintain serum 25(OH)D concentrations of >37.5 , >50 , and $>80 \text{ nmol}/\text{L}$ in 97.5% of the sample were 17.2, 24.7 and 38.7 $\mu\text{g}/\text{d}$, respectively. **CONCLUSION:** To ensure that the vitamin D requirement is met by the vast majority ($>97.5\%$) of adults aged ≥ 64 y during winter, between 7.9 and 42.8 μg vitamin D/d is required, depending on summer sun exposure and the threshold of adequacy of 25(OH)D.