

The Vitamin D and cancer controversy

Bottom Line

- Additional research is required to confirm that vitamin D supplements prevent cancer (and at what dose)
- In the mean time it is unlikely to be harmful for adults to take up to 1000 IU/day of Vit D but WARN patients to avoid taking >2000 IU/day FROM ALL SOURCES (including diet, milk and dairy, vitamins)

What is the controversy?

Recently, the Canadian Cancer Society has recommended:

1. ADULTS take a Vit D supplement of 1000 IU/day during fall and winter months
2. ADULTS at high risk (i.e., elderly, dark skin, minimal sun exposure) take a Vit D supplement of 1000 IU/day year around

Why did they do this?

- A recent RCT¹ of 1179 postmenopausal women assessing the impact of Calcium + Vit D on fractures found a 60%↓ in overall cancer rates in those who took Calcium 1400-1500mg/d + Vit D 1100IU /d
- A 2nd study published in May 2007² found a trend towards ↓ breast cancer rates in women who had higher Calcium and Vit D intake
- Multiple previous epidemiologic trials (*poor level of evidence*) found possible correlations between increased Vit D levels & decreased cancer incidence

Does everyone agree with this?

- No – Health Canada has published an advisory stating that they have not changed their recommendations regarding Vit D intake and are awaiting an international conference in September 2007 (where this will be discussed) to make a decision regarding higher dosage recommendations ([click for link: http://www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/2007/2007_72_e.html](http://www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/2007/2007_72_e.html))
- Cdn Osteoporosis Guidelines continue to recommend Vit D 800 IU/day for treatment and 400-800 IU/day** for prevention of osterporosis^{3,4}
**Based on Level C evidence; expert consensus

What is the concern?

- Excessive Vit D intake can lead to hypercalcemia, hypercalcuria, kidney stones, bone resorption and soft tissue calcification
- Precise “toxic” Vit D doses are not known, but Health Canada recommends a maximum dose of 2000 IU/day from ALL SOURCES (incl. vitamins, food, milk and dairy products)
- The study published most recently (i.e., the first study mentioned above) has some important limitations¹:
 - a VERY small number of cancers were diagnosed and patients were followed for only 4 years
 - long term safety was not assessed
 - only Caucasian women were studied
 - only one Vit D level was drawn & dietary intake was not monitored

How much Vit. D is in various foods?

- Click for table [here: http://ods.od.nih.gov/factsheets/vitaminD.asp](http://ods.od.nih.gov/factsheets/vitaminD.asp)
(e.g. Salmon, tuna, fortified milk and cereals)

1. Lappe et al. Amer J Clin Nutrition 2007; 85: 1586. 2. Lin et al. Arch Intern Med 2007; 167: 1050.
3. Cheung et al. CMAJ 2004; 170: 11. 4. SOGC February 2006.