



The vitamin D puzzle

How much should you take?

What's the right amount?

That's a tricky question, since health authorities recommend different amounts. Health Canada recommends that healthy people 9 to 70 years of age take 600 IU per day, with an upper limit of 4,000 IU. Osteoporosis Canada recommends 400 to 1,000 IU daily for healthy adults 19 to 50 years of age and suggests medical supervision for more than 2,000 IU per day.

Too much vitamin D can cause nausea, headache and vomiting and can put you at risk of developing high calcium levels in the blood. However, Schwalfenberg tells *The Connection*, "The risk of toxicity is relatively low. The literature supports up to 10,000 IU per day for short periods of time, up to six months, unless you have a health condition."

Your mileage may vary

Determine your ideal intake by discussing personal risk factors with your doctor. People who are lactose intolerant, obese, dark-skinned or do not get much natural daylight, such as those in nursing homes or who wear long clothing that covers most of the skin, will need to take more vitamin D than others. Vitamin D supplementation is not recommended for people with conditions like hypercalcemia, sarcoidosis, metastatic bone disease or active Crohn's disease. Most provincial health ministries have eliminated funding vitamin D screening tests for healthy people.

"About 15-20 minutes on a summer's day can boost vitamin D levels naturally, but take care not to burn and use a sunblock the rest of the time to prevent skin cancer," says Schwalfenberg. **C**

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THE COSTCO CONNECTION

Costco warehouses carry foods rich in vitamin D, such as fatty fish and eggs. The warehouses and Costco.ca also carry vitamin D supplements.

BY JANE LANGILLE

HAVING FEWER hours of sunlight at our northern latitudes puts most Canadians at risk of vitamin D deficiency. At least one-third of Canadians are not getting enough of the sunshine vitamin to meet the levels required for healthy bones, according to family physician Dr. Gerry Schwalfenberg, a Costco member and an assistant clinical professor at the University of Alberta in Edmonton. Schwalfenberg was co-author of a research review of Canadian vitamin D deficiencies published in the journal *Public Health*.

How it works

We make some vitamin D naturally from sunlight on skin, and obtain small amounts from food sources like fatty fish, egg yolks and fortified milk, but most Canadians need to take supplements to achieve sufficiency.

The most common type of vitamin D sold in Canada is D3 (cholecalciferol) and it is more absorbable than D2 (ergocalciferol). The body must convert a vitamin D supplement a number of times before it can be used. "The vitamin D supplement is an inactive form of the vitamin that the liver converts to the prohormone 25-hydroxy D,

the type of vitamin D measured in a blood test. That prohormone is then converted to an active form used by the body," says Angel Ong, a Costco member, registered dietitian and founder of Onutrissa, a private consulting practice in Montreal.

Much more than bone health

All experts agree that vitamin D plays an important role in maintaining strong bones. "Vitamin D is essential to prevent the risk of developing soft bone conditions, known as rickets in children and osteomalacia in adults," says Ong. There are many observational studies linking vitamin D deficiency to conditions like cancer, diabetes, cardiovascular diseases and multiple sclerosis, but more research is required before we learn if and how vitamin D supplementation might specifically address these illnesses.

Vitamin D may play a broader role in other conditions since there are receptors for it on most tissues, and it is involved in the expression and regulation of over 900 genes. Schwalfenberg says, "Some evidence shows it may increase longevity; it helps your immune system fight infections, and you will have better balance and fewer falls. There's good research to show that if you are over 65 and have higher vitamin D levels, you are four times less likely to enter a nursing home." Several of his patients with back pain and diabetes have shown improvements by correcting vitamin D deficiencies.