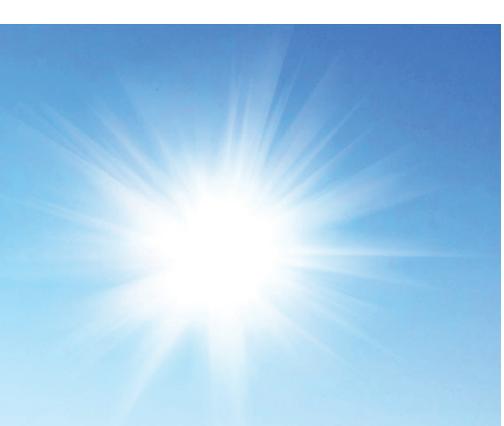


VITAMIN D



Should I take vitamin D supplements?

RECOMMENDATION: Include vitamin D-rich foods in your diet and take at least 400 International Units (IU) of vitamin D supplements per day.

What's the evidence?

For Prostate Cancer Prevention?

Getting enough vitamin D from food, sun exposure and supplements might prevent prostate cancer:

- Men living in northern areas with low sun exposure and who are low in vitamin D from food, have a high rate of prostate cancer, suggesting that having low blood levels of vitamin D (calcitriol) might increase the risk.¹
 - However, having higher vitamin D intakes and blood levels are not linked to a lower risk of prostate cancer in all studies.
- Lab studies show that vitamin D can stop or slow the growth of prostate cancer cells but there is not enough proof to say that supplements will prevent prostate cancer in healthy men.²

For Prostate Cancer Treatment?

Adequate Vitamin D from food, sun exposure and supplements might slow down progression or recurrence of prostate cancer:

- Vitamin D is important for the health of men diagnosed with prostate cancer and some studies have found that it might slow cancer growth.²
 - However, clinical studies where patients took vitamin D supplements have had mixed results and there is not enough proof to recommend large doses for prostate cancer treatment.³
- Current research suggests that men diagnosed with prostate cancer can safely take 400 to 1000 IU per day of supplemental vitamin D, especially if they are on hormone therapy (Androgen Deprivation Therapy or ADT).

Vitamin D is needed for everyone's good health including men diagnosed with prostate cancer

Vitamin D facts:

- Having enough vitamin D is linked to a lower risk of colon, breast, prostate and ovarian cancers.
- Vitamin D has many roles but is best known for controlling blood calcium levels (by increasing how much you absorb from food) and keeping bones healthy.
 - Vitamin D also helps control cell growth and is therefore considered important in fighting prostate cancer.
- There are several forms of vitamin D, all known as 'calciferol'.
 - Vitamin D₂ is called 'ergocalciferol' and is often found in supplements.
 - Vitamin D₃ is called 'cholecalciferol' and is made in our skin when exposed to ultraviolet radiation from sunlight.
- From food or skin, vitamin D is actually a hormone - calciferol is converted in the blood to the hormone called 'calcitriol' which is responsible for all the health effects of vitamin D.
- To convert between IU and mcg use this simple equation:
1 mcg = 40 IU.

Eating balanced diets that include vitamin D-rich foods and taking supplements might help prevent prostate cancer in healthy men and might also reduce cancer progression or recurrence for men already diagnosed with prostate cancer.

The bottom line: Take at least 400 IU daily vitamin D supplements

Most Canadians get enough Vitamin D from all sources for good health, but about 5% of men are still low.

- Vitamin D occurs naturally in only a few foods (including fish, liver and eggs) and in the past people often lacked it in their diets.
 - In Canada, milk (except buttermilk and other dairy products) has added vitamin D, as does most margarines and soy beverages and even some brands of orange juice.
- Health Canada recommends that anyone over 50 should take a total of 400 IU (or 10 mcg) of vitamin D from supplements, especially in winter.
- Vitamin D is often found in multivitamins (often 400 IU) and calcium supplements (often 250-300 IU) so if you already take those you might not need a separate vitamin D supplement.

Approximate vitamin D content for various foods in International Units (IU) and micrograms (mcg)

Food item	Serving/ amount		Vitamin D content	
			(mcg)	(IU)
Fish (salmon, halibut, carp)	2.5 oz	75 g	17-25	680-1000
Salmon, canned	2.5 oz	75 g	10-15	400-600
Cod liver oil	1 tsp	5 ml	11	440
Sardines, canned in tomato sauce	2.5 oz	75 g	9	360
Milk, soymilk, orange juice	1 cup	250 ml	2-3	80-120
Eggs	2 eggs		2	80
Margarine	1 tbsp	15 ml	1.5	60
Salmon oil	1 tbsp	15 ml	0.6	24

Health Canada, Canadian Nutrition File, 2010: www.healthcanada.gc.ca/cnf

Try to get the recommended amounts of vitamin D each day

The Recommended Dietary Allowance (RDA) for vitamin D is based on amounts needed to maintain bone health and prevent bone fractures:

Age (years)	RDA
9 to 70	600 IU (15 mcg)
70 and older	800 IU (20 mcg)
<i>Upper limit all ages</i>	<i>4000 IU (100 mcg)</i>

Health Canada 2010: www.hc-sc.gc.ca/fn-an/nutrition/vitamin/vita-d-eng.php

- Men at risk for low vitamin D - who are older, have darker skin, a poor dietary intake, and/or do not expose their skin to sunlight - might benefit from daily supplements of 600-1000 IU.
- Considering taking more than 2000 IU of vitamin D? We don't know how safe large doses are.
 - Talk to your doctor about watching your blood calcium levels, as very high amounts of vitamin D can cause too-high blood calcium.

Vitamin D - the sunshine vitamin

Not making enough vitamin D in our skin might also be linked to prostate cancer risk and is based on several factors:

- **Age.** A high risk factor for prostate cancer, age causes a drop in the skin's ability for making vitamin D. Older people also often spend less time outdoors and have less sun exposure.
- **Location.** Prostate cancer is more common in the north, partly due to low seasonal sunlight levels. In Canada, sunlight is not strong enough from mid-October to mid-April for us to make enough vitamin D.
- **Ethnicity.** Pigments that make skin darker can block vitamin D production and might explain why men of African ancestry are at a higher risk for prostate cancer.

1. Gupta D, et al. Vitamin D and prostate cancer risk: A review of the epidemiological literature. *Prostate Cancer & Prostatic Diseases*. 2009; 12(3):215-26.
2. Barnett CM, Beer TM. Prostate cancer and vitamin D: What does the evidence really suggest? *Urologic Clinics of North America*. 2011; 38(3):333-42.
3. Swami S, et al. Vitamin D metabolism and action in the prostate: Implications for health and disease. *Molecular and Cellular Endocrinology*. 2011; 347(1-2):61-9.

This information is not meant to replace advice from your doctor or dietitian.



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