

VITAMIN D – THE SUNSHINE VITAMIN

What is vitamin D?

Vitamin D is a nutrient that helps our bodies use calcium and phosphorous to build and maintain strong bones and teeth. Vitamin D deficiency has been linked to diseases such as fibromyalgia, multiple sclerosis, certain types of cancer, Crohn’s disease, and ulcerative colitis.

Why is vitamin D important?

Vitamin D deficiency can cause rickets in children, and osteomalacia (softening of the bones) and osteoporosis (fragile bones) in adults. Vitamin D is also needed by many other parts of the body, including muscles, nerves, skin, glands, and the immune system.

Why is it called the “sunshine vitamin”?

Vitamin D is known as the sunshine vitamin because our bodies can make vitamin D from the sun. When sunlight hits our skin, the ultra-violet B (UVB) sun rays are used to make vitamin D.

Can I meet my vitamin D needs from sunlight?

Sunlight on our skin is a major source of vitamin D; however, it is not possible to safely get all the vitamin D we need from the sun. The reasons for this include:

- Time of year: during the winter months (October to March) northern parts of the world, such as Alberta, lack the UVB rays needed to make vitamin D.
- Skin colour: people with dark skin do not make vitamin D as efficiently as light-skinned people. Sunlight is not a good source of vitamin D for people with dark skin.
- Sunscreen: exposing our skin to sun increases our risk of skin cancer. Using sunscreens to prevent skin cancer also blocks out the UVB rays needed to make vitamin D.

How much vitamin D do we need?

Current vitamin D recommendations are listed below.

Age	Minimum Daily Vitamin D (IU/day)&	Daily safe upper limit vitamin D (IU/day)
Birth to 12 months	See section “What about vitamin D supplements?”	1000
1 to 50 years	200	2000
51 to 70 years	400	2000
71 years and over	600	2000
Pregnant and breastfeeding women	200	2000

* 40 International Units (IU)= 1 microgram (ug) of vitamin D

Source: Dietary Reference Intakes, National Academy of Sciences (2001)

Note: For children under one year, the safe upper limit of vitamin D is 1000 IU. It is 2000 IU for everyone else. See “ Can I get too much vitamin D?”

Getting enough vitamin D

Including good food sources of vitamin D in your diet will help you get the vitamin D your body needs. Fortified foods (foods with vitamin D added to them) are common sources of vitamin D. In Canada, milk, margarine, and infant formula are fortified with vitamin D. Fish and eggs are other good sources of vitamin D. Listed below are common sources of vitamin D:

Food	IUs
Fortified soy beverage* 250 mL (1 cup)	120
Infant formula 80 mL(1/3 cup)	20-60
Margarine 5 mL (1 tsp)	60
Milk 250 mL (1cup)	100

Fish: Mackerel 90 g (3 oz)	310
Salmon, canned 90g (3 oz)	650
Sardines, 1 can 100g (3.75 oz)	250
Tuna 90g (3 oz)	236

* Soy beverages do not have to be fortified with vitamin D. Read the label to see if vitamin D has been added.
Source: USDA National Nutrient Database for Standard Reference, Release 18 (2005)

What about vitamin D supplements?

Babies: Health Canada recommends that all breastfed, healthy, term babies in Canada receive a daily vitamin D supplement of 400 IU. This is to reduce the risk of rickets, a disease that can affect bone growth in children. Vitamin D supplements should begin at birth. Supplements should continue until the baby’s diet includes at least 400 IU of vitamin D from food sources or until the breastfed baby reaches one year of age. Formula-fed babies do not usually need a vitamin D supplement because commercial infant formulas are fortified with vitamin D.

Adults over 50 years: Aging causes skin to lose some of its ability to make vitamin D from the UVB rays. Also, as our bodies age, we are less able to absorb vitamin D from the food we eat. Because of this, adults over 50 have a higher need for vitamin D.

People with limited food choices: People who do not drink milk or eat fish may not meet their minimum daily needs for vitamin D.

Adults over 50 and people with limited food choices should:

- Carefully plan all meals and snacks to include good food sources of vitamin D
- Consider taking a vitamin D supplement or multi-vitamin supplement if unable to get enough vitamin D from food sources. Most supplements contain 400 IU of vitamin D. Some calcium supplements also have vitamin D added
- Talk to a dietitian or doctor

Can I get too much vitamin D?

In large amounts, vitamin D can be harmful to the body. Very high levels of vitamin D have only been reported when taking large doses of vitamin D supplements.

The upper limit of vitamin D is 1000 IU/day for babies and 2000 IU/day for everyone else. This includes vitamin D from both food and supplements.

Summary

- Include good food sources of vitamin D as part of a healthy diet for strong, healthy bones and teeth throughout life.
- All breastfed babies need a vitamin D supplement in their first year.
- Adults over 50 and people with limited food intakes should think about taking a vitamin D or multi-vitamin supplement.
- Talk to your registered dietitian or doctor for more information about vitamin D and specific health conditions.
- Get more information from the website, www.calgaryhealthregion.ca/nutrition
- Speak to a registered nurse 24 hours a day, seven days a week by calling Health Link Alberta at 1-866-408-LINK (5465) toll-free. Mandarin Health Link Calgary 403-943-1554, Cantonese Health Link Calgary 403-943-1556.

If you want to read any of the previous ‘Road To Healthy Living’ series articles, please go to http://www.calgaryhealthregion.ca/programs/diversity/multilingual_health_services.htm and get health information in your own language.