

LEF

Quick Start Guide

Vitamin D Reboot

Why You Need More of the 'Sunshine' Vitamin and 5 Best Vitamin D Rich Foods

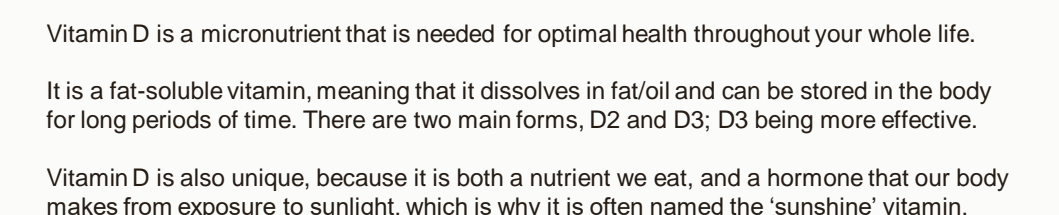
Toogoodnutrition.co.uk

Imagine a world without the sun's heat and light... life on Earth would not exist.

Up to 50% of the world's population might not be getting enough sun, leaving many people deficient in vitamin D, the only nutrient your body produces when exposed to sunlight.

This is partly because people are spending more time indoors, wear sunscreen outside, and eat a diet low in quality sources of vitamin D.

With world-wide attention focused on the importance of vitamin D, here's what you need to know.



What is Vitamin D?

Vitamin D is a micronutrient that is needed for optimal health throughout your whole life.

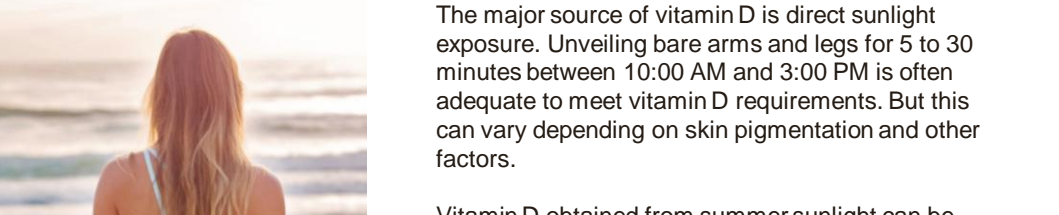
It is a fat-soluble vitamin, meaning that it dissolves in fat/oil and can be stored in the body for long periods of time. There are two main forms, D2 and D3; D3 being more effective.

Vitamin D is also unique, because it is both a nutrient we eat, and a hormone that our body makes from exposure to sunlight, which is why it is often named the 'sunshine' vitamin.

While vitamin D affects various cells related to bone health – like telling the cells in the gut to absorb calcium and phosphorus – but scientists have now generated a strong body of evidence supporting vitamin D as an indispensable hormone, required for regulation of many physiologic functions.

Research shows that vitamin D receptors are present in nearly every tissue and cell in the body, and adequate vitamin D is essential for optimal function of these tissues and cells to carry out important roles, including: reduction of inflammation, modulation of cell growth, immune function and glucose metabolism.

Simply put: Sufficient levels of vitamin D are essential for disease prevention, longevity, and optimizing human health.



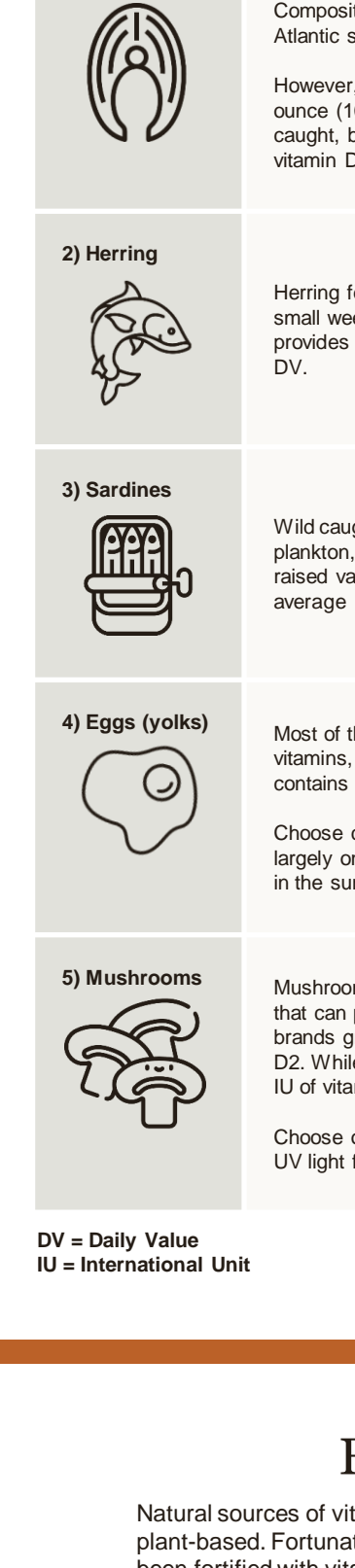
How To Get Your Dose

The major source of vitamin D is direct sunlight exposure. Unveiling bare arms and legs for 5 to 30 minutes between 10:00 AM and 3:00 PM is often adequate to meet vitamin D requirements. But this can vary depending on skin pigmentation and other factors.

Vitamin D obtained from summer sunlight can be stored in our bodies for a long period, however many people cannot store enough to see them through the winter months.

Variables such as age can also affect the amount of vitamin D converted in the skin. The cholesterol precursor in the skin (7-dehydrocholesterol) for vitamin D2 and vitamin D3, decreases as we age. In fact, it decreases at a rate of 50% between the ages of 20-80. This inhibits the amount of vitamin D3 older people can make.

Thankfully, you don't have to rely solely on the sun. Vitamin D dietary supplements are safe and inexpensive, and are becoming widely available. But ideally exploring whole-foods like oily fish and mushrooms can deliver a good source of vitamin D.



Here's 5 best foods for vitamin D, that should be on your shopping list:

DV = Daily Value
IU = International Unit

1) **Salmon**
According to the United States Department of Agriculture (USDA) Food Composition Database, one 3.5-ounce (100-gram) serving of farmed Atlantic salmon contains 526 IU of vitamin D, or 66% of the DV.
However, wild-caught salmon can contain 988 IU of vitamin D per 3.5-ounce (100-gram) serving, or 124% of the DV. Ideally aim for wild-caught, but either way, salmon is an easy fatty fish to get your source of vitamin D.

2) **Herring**
Herring feed on small fish such as anchovies and sardines, as well as small weed-dwelling crustaceans and insects. Fresh Atlantic herring provides 216 IU per 3.5-ounce (100-gram) serving, which is 27% of the DV.

3) **Sardines**
Wild caught ocean-raised fish, such as sardines, feed on vitamin D-rich plankton, so they contain much higher levels of vitamin D than farm-raised varieties of fish. One can of sardines (3.8 ounces) contains on average 177 IU, or 22% of the DV.

4) **Eggs (yolks)**
Most of the protein in an egg is found in the white, however, the fat, vitamins, and minerals are found mostly in the yolk. One typical egg yolk contains 37 IU of vitamin D, or 5% of the DV.
Choose carefully, because vitamin D levels in chicken egg yolk depends largely on the sun exposure. Pasture-raised chickens that roam outside in the sunlight can produce eggs with higher levels of vitamin D.

5) **Mushrooms**
Mushrooms are the only non-animal, unfortified food source of vitamin D that can provide a substantial amount of D2 in a single serve. Some brands grow mushrooms in the dark, which drastically reduces vitamin D2. While some brands use ultraviolet light, which can provide 130–450 IU of vitamin D2 per 3.5 ounces (100 grams).
Choose only wild or sun-dried mushrooms or mushrooms treated with UV light for a good source of vitamin D.

Fortified Foods

Natural sources of vitamin D are limited, especially if you're vegetarian or plant-based. Fortunately, over the past few decades, many foods have been fortified with vitamin D.

These can include:

	Tofu		Soy milk
	Cereal		Orange juice
	Cheese		Oatmeal
	Cow's milk		Yogurt

The Upshot

Get outside as often as you can. Even sitting in your garden for 10-15 minutes in the mid-day sun will help. If you work in an office, take your lunch break outside.

Starting a new outdoor hobby can also help you spend time in the sun, like running, bike riding, surfing, or simply walking daily. These are all great ways to get your daily dose of vitamin D.

Remember: Eating plenty of vitamin D-rich foods will help you keep on top of this essential micronutrient.



Sources & Further Reading

Vitamin D deficiency: A single centre analysis of patients from 136 countries.
<https://pubmed.ncbi.nlm.nih.gov/26877203/>

Comparative analysis of nutritional guidelines for vitamin D.
<https://pubmed.ncbi.nlm.nih.gov/28387318/>

William B. Grant, PhD, and Michael F. Holick, PhD, MD. Benefits and Requirements of Vitamin D for Optimal Health: A Review
<https://pubmed.ncbi.nlm.nih.gov/15989379/>
<https://altmedrev.com/wp-content/uploads/2019/02/v10-2-94.pdf>

Lips P, Hosking D, Lippuner K, Norquist JM, Wehren L, Maalouf G, et al. The prevalence of vitamin D inadequacy amongst women with osteoporosis: An international epidemiological investigation.
<https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2796.2006.01685.x>

H F DeLuca. The control of calcium and phosphorus metabolism by the vitamin D endocrine system.
<https://pubmed.ncbi.nlm.nih.gov/7015957/>

H F DeLuca, H K Schnoes. Vitamin D: recent advances.
<https://pubmed.ncbi.nlm.nih.gov/6311080/>

Joan M. Lappe, PhD, RN, FAAN. The Role of Vitamin D in Human Health: A Paradigm Shift.
<https://journals.sagepub.com/doi/pdf/10.1177/1533210110392952>

Li X, Liu Y, Zheng Y, Wang P, Zhang Y. The effect of vitamin D supplementation on glycemic control in type 2 diabetes patients: A systematic review and meta-analysis.
<https://pubmed.ncbi.nlm.nih.gov/29562681/>

Human Nutrition and Health (IB, AF, FFR), and Nutrition Science & Advocacy (PW, ME), DSM Nutritional Products Ltd., Basel, Switzerland. Vitamin D: a critical and essential micronutrient for human health.
<https://www.frontiersin.org/articles/10.3389/fphys.2014.00248/full>

Mousa A, Naderpoor N, Teede H, Scragg R, de Courten, B. Vitamin D supplementation for improvement of chronic low-grade inflammation in patients with type 2 diabetes: A systematic review and meta-analysis of randomized controlled trials.
<https://pubmed.ncbi.nlm.nih.gov/29490085/>

A Review of Mushrooms as a Potential Source of Dietary Vitamin D.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6213178/>

United States Department of Agriculture (USDA) Food Composition Database.
<https://fdc.nal.usda.gov/index.html>

