

Vitamin D supplementation for vegans



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Health Professionals UK

Promoting Sustainable Health and Nutrition

Sheetal Ladva Kanwar, Pharmacist

Role of vitamin D

Vitamin D is required for the regulation of calcium and phosphorus metabolism and is therefore *essential* for the maintenance of musculoskeletal health. Any deficiency could result in bone deformities such as rickets in children and osteomalacia in adults.¹

Sources of vitamin D

The main source of vitamin D is from exposure of the skin to sunlight; however, it can be obtained from foods or dietary supplements, which are essential when there is limited exposure to sunlight (e.g., during the winter months) or exposure is restricted (e.g., due to lack of time spent outdoors or little skin exposure).^{1,2}

Many dietary sources of vitamin D (oily fish, red meat, liver, egg yolks) are animal based therefore not suitable for vegans.² Furthermore, many vitamin D supplements are made from animal sources e.g. colecalciferol (vitamin D3) which is derived from lanolin from sheeps wool fat, although it is possible to obtain colecalciferol from plant sources e.g. lichen.³

Current recommendations for vitamin D supplementation

Vitamin D is available as **colecalciferol (vitamin D3)** or **ergocalciferol (vitamin D2)** and intake is expressed in International Units (IU) or in micrograms (µg).

One IU of vitamin D is equivalent to 0.025 micrograms of vitamin D and 1 microgram of vitamin D is equivalent to 40 IU.¹

The Reference Nutrient Intake

(RNI: the amount required to ensure 97.5% of the population's needs are met) for vitamin D is 10 micrograms/day (400 IU/day).¹

In the UK, daily supplement containing 10 micrograms of vitamin D is recommended throughout the year for the following at-risk groups:

- Those who are frail or housebound and do not get enough sunlight
- Those in an institution (such as a care/nursing home)
- Those with darker skin (i.e. of African, African-Caribbean or South Asian background)
- Those who usually wear clothes that cover up most of their skin whilst outdoors
- Children aged 1 to 4 years old²

A daily supplement containing 8.5 to 10 micrograms of vitamin D is recommended for breastfed babies from birth to 1 year of age.

Since infant formula milk is fortified with vitamin D, formula-fed babies should not be given a vitamin D supplement until they're having *less than 500ml (about a pint) of infant formula a day.*²

During the months October through March, a daily supplement containing 10 micrograms of vitamin D is recommended for:

- All adults including the elderly
- Children aged 4 years and upwards
- Pregnant and breastfeeding women²

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Taking too many vitamin D supplements over a long period of time can increase the levels of calcium in the body and lead to weakening of the bones and cause damage to the heart and kidneys.²

The following are considered *safe daily limits* for vitamin D supplementation

Adults, including the elderly	No more than 100 micrograms (4,000 IU) of vitamin D a day
Pregnant and breastfeeding women	No more than 100 micrograms (4,000 IU) of vitamin D a day
Children aged 11 to 17 years	No more than 100 micrograms (4,000 IU) of vitamin D a day
Children aged 1 to 10 years	No more than 50 micrograms (2,000 IU) a day
Infants under 12 months	No more than 25 micrograms (1,000 IU) a day

Please see separate [factsheets](#) on pregnancy and raising children and for further information on plant-based food sources of vitamin D on the Plant-Based Health Professionals' website.

Vitamin D supplements suitable for vegans

Suitable vegan sources of vitamin D include **colecalfiferol (vitamin D3)** derived from lichen or **ergocalciferol (vitamin D2)** which is derived from yeast.³ Colecalciferol may be slightly more effective than ergocalciferol.⁴

Other issues that need to be considered include excipients such as magnesium stearate which can be produced from either a vegetable or animal source, and is used in production of some tablets / powders to aid delivery.⁵



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The following table lists vitamin D supplements that are suitable for vegans and can be purchased from community pharmacies, health food shops or internet retailers.

Most of these are marketed as nutritional supplements therefore they are not subject to the same regulatory controls as vitamin D that is a licensed medicinal product.

Note: Manufacturers alter the contents of their products so they should be consulted to assure that their products are still suitable for vegans. This document should therefore not be used as a sole resource.

Vitamin D supplement: name, strength, formulation	Manufacturer*
Contains ergocalciferol	
Eciferol D2 capsules: 50,000 IU liquid: 3000 IU/mL	Rhodes Pharma
Ergo-D2 tablets: 500 IU	Ennogen
Ergoral D2 tablets: 10,000 IU	Cubic Pharmaceuticals Ltd
Health Aid Vitamin D tablets: 500 IU	Health Aid Ltd
Holland and Barrett Mushroom Vegan Vitamin D capsules: 1000 IU	Holland and Barrett
Contains coilecalciferol	
Lamberts Vitamin D3 Vegan capsules: 1000 IU	Lamberts Healthcare Ltd
SunVit D3 Vegan tablets: 400 IU, 1000 IU	SunVit
Pro D3 Vegan liquid: 2000 IU/mL drops: 400 IU/4 drops capsules: 800 IU, 3200 IU & 20,000 IU	Synergy Biologics
Boots Pharmaceuticals Vegan vitamin D3 tablets 1000 IU	Boots Pharmaceuticals
Natures Aid Vitamin Vegan tablets: 1000 IU Vitamin D3 oral drops: 2500 IU/0.5mL	Natures Aid

The Vegan Society markets a daily vitamin and mineral supplement designed for vegans called VEG 1, which provides vitamin D3 (coilecalciferol) along with other nutrients e.g. vitamins B12, iodine and selenium.³

References

1. Vitamin D and health 2016: Scientific Advisory Committee Nutrition: Available at: [Vitamin D and health](#)
 2. Vitamin D. NHS Conditions. Accessed online via: [NHS Vitamin D](#)
 3. Vitamin D: The Vegan Society: Accessed online via: [Why do we need vitamin D in our diets?](#)
 4. Vitamin D supplements and tests (December 2018). National Osteoporosis Society. Available at: [Vitamin D Supplements and Tests](#).
 5. Is my medication vegan? October 2017: The Vegan Society: Accessed online via: [Is my medication vegan?](#)
- * Personal communication