

Vitamin D Fact Sheet

Vitamin D is a fat-soluble vitamin that our bodies get mainly from sunlight, with smaller amounts coming from a few foods, fortified products, and supplements. Around 90% of our vitamin D is made when ultraviolet B (UVB) rays from the sun hit bare skin. This is why it's often called the “sunshine vitamin.” However, too much sun exposure increases the risk of skin cancer, so it's important to find a safe balance. Once vitamin D enters the body, it must be activated by the liver and kidneys before it can be used.

Vitamin D plays an essential role in overall health. It helps the body absorb calcium and phosphorus, which are needed to build and maintain strong bones and prevent conditions like rickets and osteoporosis. It also supports the immune system and helps nerves send signals throughout the body. Research suggests vitamin D may also play a role in reducing the risk of conditions such as depression, diabetes, schizophrenia, psoriasis and some cancers.

Because vitamin D needs fat to be absorbed, people with active coeliac disease may be at higher risk of deficiency due to poor fat absorption. Even after starting a gluten-free diet, it can take time for absorption to improve.

Other groups at risk include older adults, people with darker skin, those who spend little time in the sun, and individuals with certain medical conditions affecting the liver or kidneys.

In Australia the recommended daily dietary intake of Vitamin D is:

International Units (IUs) and micrograms (mcg); the biological activity of 40 IU is equal to 1 mcg

Approximate Age	0-6 months	7-12 months	1-3 years	4-8 years	9-18 years	19-50	Pregnant & lactating women	51-70 years	70+
Vitamin D (mcg/day)	5	5	5	5	5	5	5	10	15

FOR FURTHER INFORMATION

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Coeliac Australia is not a medical organisation. Persons reading this material should not act solely on it. The advice of a medical practitioner should always be obtained.



Useful tips:

- The ultraviolet rays required to produce Vit D cannot penetrate glass
- In Australia in Summer, sunlight from a few minutes of exposure to face, arms and hands on either side of the peak UV periods (10am - 3pm), each day of the week, is suitable
- In Winter, people in the Southern regions of Australia may need 2-3 hours of sunlight over the week, while those in the North should get enough from usual outside activities
- An average suggestion is 10 minutes of sun per day on exposed skin before applying sunscreen
- The further you live from the equator the longer time you need in the sun to get adequate levels
- Those with dark skin need more sun to make the same quantity of Vit. D, as fair-skinned people
- The body does self-regulate its production of Vit D from sunlight
- Tanning beds do stimulate the skin to make vitamin D, but pose usual risks for skin cancer.
- Recommended intakes of vitamin D are based on the assumption of little sun exposure.

Food Sources of Vitamin D

Few foods naturally contain vitamin D. Fish liver oils (e.g. cod liver oil) provide the most Vitamin D. The flesh of fatty fish such as salmon, mackerel and tuna are among the best natural food sources. Beef liver, cheese and egg yolks provide small amounts and mushrooms provide even smaller amounts again. In Australia, manufacturers must fortify edible oil spreads such as butter and margarines with Vitamin D. To date dairy milk is not fortified in Australia (as it can be overseas), but plant-based milks are more likely to be fortified.

Approximate quantities of Vitamin D in foods

Food	Vit. D(mcg)	Food	Vit. D (mcg)
Cod Liver Oil 1tbsp	10-34	Smoked salmon 100g	4.2
Canned pink salmon 100g	19.2	Scrambled egg, 1 cup	2.6
Sword fish 100g	14	Canned tuna 100g	2.2
Mackerel 100g	5	Cooked beef liver 65g	1-1.5
Sardine, canned, 100g	4.8	1 large cooked egg, ~70g	~1

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A gluten-free diet itself does not limit vitamin D sources. Low vitamin D intake can occur in people following vegan or ovo-vegetarian diets, especially if they do not consume vitamin D-fortified plant foods.

People with undiagnosed or untreated coeliac disease have a higher risk of osteoporosis, which weakens bones and increases fracture risk. Vitamin D and calcium are both essential for maintaining strong bones. Many adults may need supplements, typically around 800–1000 IU of vitamin D3 and 600–1200 mg of calcium daily, depending on diet. After diagnosis, it is recommended to check vitamin D levels and have a bone density scan. These results help guide treatment, which should be managed with a healthcare professional.

Vitamin D can be harmful if levels in the blood become too high, this may happen from excess supplementation, but not natural exposure to the sun. You may experience nausea and vomiting, constipation, poor appetite, weight loss, weakness and kidney damage. If excess vitamin D raises the blood calcium levels too much you may experience confusion and problems with heart rhythm. Follow your doctors' advice. If supplementing, have levels checked with your doctor at follow up appointments.

References

Nutrient Reference values for Australia and New Zealand. [Vitamin D | Eat For Health](#)

Australian Food Composition Database - Release 3.0

<http://ods.od.nih.gov/factsheets/VitaminD-HealthProfessional/>

<http://www.cancer.org.au/cancersmartlifestyle/SunSmart/VitaminD.htm>

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