



## UV and vitamin D

The sun's ultraviolet (UV) radiation is the main cause of skin cancer and the best natural source of vitamin D.

Sun protection is recommended whenever the UV level reaches 3 or above.

Download the free SunSmart app or visit [sunsmart.com.au](http://sunsmart.com.au) to check what times you need to use sun protection each day.

During the sun protection times, protect yourself in five ways:

1. Slip on clothing that covers as much skin as possible.
2. Slop on SPF30 (or higher) broad-spectrum, water-resistant sunscreen 20 minutes before you go outdoors and re-apply every two hours.
3. Slap on a broad-brimmed hat that shades your face, head, neck and ears.
4. Seek shade.
5. Slide on sunglasses that meet the Australian Standard for UV protection.

### What is vitamin D?

Vitamin D is a hormone that controls calcium levels in the blood. It is needed for strong bones, muscles and overall health.

You can receive a small amount of vitamin D from some foods including egg yolks, liver, oily fish and products fortified with vitamin D (e.g. milk, margarine and cereal).

Most of the vitamin D our body needs is synthesised inside the body, when our skin is exposed to UV.

### How much UV exposure is needed?

UV exposure times vary based on the season and location within Australia. Skin type and the amount of skin exposed also affects the amount of sun needed for healthy bones.<sup>1</sup>

The body can only absorb a limited amount of vitamin D at a time. Spending extra time in the sun won't increase vitamin D levels but will increase your risk of skin cancer.<sup>2,3</sup>

People at high risk of skin cancer (i.e. have naturally light skin tones and / or certain health conditions), are advised to avoid direct UV exposure unless well protected when UV levels are three or above. Vitamin D supplementation may be necessary. People who spend extended times outdoors or take particular photosensitive medications should use sun protection at all times.

People with medium skin tones (i.e. naturally olive or light brown skin) should get some UV exposure to help with vitamin D but ensure sun protection is used during the sun protection times.

People who are typically at low risk of skin cancer (i.e. have naturally very dark skin) are advised to spend time outdoors with their skin exposed to help get the UV exposure required for their vitamin D needs. Sun protection is generally not needed unless spending extended time outdoors when the UV levels are three or above.

## Vitamin D deficiency

Vitamin D deficiency does not always have obvious symptoms, but without treatment there can be significant health effects including osteoporosis, resulting in bone and joint pain, and increasing the risk of falls and related fracture in older people.<sup>1</sup>

Some people are at greater risk of vitamin D deficiency, including:

- **People with naturally very dark skin.** This is because the pigment in dark skin (melanin) doesn't absorb as much UV radiation<sup>4</sup>
- **People who avoid the sun** due to previous skin cancers, immune suppression or sensitive skin and those who have limited UV exposure, such as nightshift workers
- **People who wear covering clothing** for cultural or religious reasons
- **People who spend a long time indoors**, such as those who are housebound or institutionalised
- **People with certain medical conditions** which can impact the ability to absorb / process vitamin D
- **Pregnant or breastfeeding women.**

People who may be at risk of vitamin D deficiency should talk to their doctor for advice.

## More information and resources

For more information about vitamin D, visit [Healthy Bones Australia](#) and [Better Health Channel](#).

For more information about how to protect your skin, visit [sunsmart.com.au/protect-your-skin](https://sunsmart.com.au/protect-your-skin) or contact Cancer Council on 13 11 20.

Certain health conditions and medications mean some people are more sensitive to UV radiation and always need to use sun protection regardless of the UV levels. For more information, visit [sunsmart.com.au/skin-cancer/risk-factors-for-skin-cancer](https://sunsmart.com.au/skin-cancer/risk-factors-for-skin-cancer).

## References

1. Healthy Bones Australia: <https://healthybonesaustralia.org.au/your-bone-health/vitamin-d-bone-health/>, Accessed 26.06.2022
2. Gilcrest BA. Sun Exposure and Vitamin D Sufficiency. *American Journal of Clinical Nutrition* 2008; 88 (2):570S-577S.
3. Van der Pols JC, Russell A, Bauer U, Neale RE, Kimlin MG, Green AC. Vitamin D status and skin cancer risk independent of time outdoors: 11-year prospective study in an Australian community. *Journal of Investigative Dermatology* 2013; 133 (3):637-641
4. Dawson-Hughes B. Racial/ethnic considerations in making recommendations for vitamin D for adult and elderly men and women. *American Journal of Clinical Nutrition* 2004; 80(6): 1763S-6S

Last updated: July 2022