Information Sheet

Cancer Council ACT

UVR Protection and Vitamin D

Some people are confused about whether they should get more sun to make sure they get enough vitamin D. This information sheet explains that you need to protect yourself from over-exposure of the sun's ultraviolet radiation (UVR) because it puts people at risk of developing skin cancer. The sun's UVR also helps your body to produce vitamin D, however you only need a little exposure to get the benefits.

The sun and our health

The link between over-exposure to the sun's UV radiation and skin cancer is proven. Australians have been advised to protect themselves from the sun's UV for over two decades.

Vitamin D is also needed for strong and healthy bones. People mostly produce vitamin D through exposure to the sun's UVB radiation. Recent studies have found that some groups of people who have limited exposure to the sun don't have enough vitamin D. So does this mean that everyone should ignore sun protection messages and go out and get more sun? If not, how do you get enough vitamin D without increasing your long term risk of skin cancer?

Australians are at high risk of skin cancer

Australia has high levels of UV radiation, mainly because the country is close to the equator. Australians are also at high risk of skin cancer because they are mostly fair-skinned and enjoy an outdoor lifestyle[1].

UV radiation levels vary through the day and the year. This can depend on:

- the height of the sun (the higher the sun is in the sky, the higher the UV radiation level)
- whether you're in the north or south of the country
- the amount of cloud cover
- the altitude
- ozone levels
- UV reflective surfaces (e.g. light coloured concrete, water or snow).

The higher the UV levels, the less time it takes for skin damage to occur. UV radiation levels are strongest around the middle hours of the day, outoor activities should be minimised if possible during the daylight saving/summer period of the year between 11am and 3pm when UV levels in Canberra are at their strongest during this time of the day!

How intense is the sun? Using the UV Index

The UV Index (UVI) is a simple way to understand the sun's UVR intensity throughout the day. It divides UV radiation levels into **Low** (1–2), **Moderate** (3–5), **High** (6–7), **Very High** (8–10) and **Extreme** (11 and above).
In Australia, the Bureau of Meteorology (BOM) forecasts the highest UV level for the following day **and** the period of the day *when* sun protection is recommended on their website at **www.bom.gov.au.** When the UV levels are forecast to reach **3 or above**, sun protection is recommended because UV radiation is intense enough to damage your unprotected skin.

Protect yourself against skin cancer when UV levels reach 3 (moderate) or above by:

- using shade wherever possible
- wearing clothing that covers your skin
- wearing a hat that protect the face, ears and neck
- wearing close fitting, wrap-around sunglasses that meet the Australian Standard 1067
- applying a broad spectrum, water resistant SPF 30+ sunscreen, reapply it every two hours.
- minimise outdoor activities and events between 11am and 3pm during the summer/daylight saving period.

When in alpine regions, or near highly reflective surfaces like snow or water, use sun protection at all times of the year, anywhere in Australia.

Do you need more sun to get enough vitamin D?

Most people should receive enough vitamin D simply by going about their day-to-day lives. So you shouldn't need to make a special effort to go outside to increase your 'dose' of vitamin D. However some people are at a higher risk of vitamin D deficiency than others (see over page).

How much sun to get – in Canberra (Central Australia)

- Protect yourself against skin cancer from August to May when UV levels reach 3 and above.
- UV radiation levels are "Moderate" or higher during this period in Canberra for part of or most of each day.
- To get enough vitamin D:
  - from August to May, expose your face, arms and hands to the sun for a few minutes either side of the peak UV period on most days of the week.
  - Around June and July, expose your face, arms and hands to the sun for two to three hours spread over the week.

Will sunscreen stop you from getting enough vitamin D?

Sunscreen filters out most but not all UV radiation. Regular use of sunscreen when UV levels reach 3 (moderate) or above does not greatly decrease vitamin D levels over time[2,3,4].

Who is at a higher risk of low vitamin D

Certain sections of the population are more likely to be at risk of low vitamin D[5]. These include:

- the elderly, especially those who do not go outdoors very often – older people also don't produce vitamin D as well as younger people
- babies of mothers who have low levels of vitamin D
- people with very dark skin, who naturally have more melanin, the pigment that reduces the amount of UV radiation getting though the skin
- people who cover their skin and heads with clothing and veils, for cultural or religious reasons, so less skin is exposed to UV radiation.
- patients with osteoporosis
- people who are hospitalised long-term
- people at high risk of skin cancer
- people with a disability or chronic disease
- people who deliberately avoid sun exposure for cosmetic or health reasons
- people in occupations that restrict sunlight. Ie factory workers and night-shift workers.

These people generally have little exposure to the sun, especially during winter if they live in the southern half of Australia. This is usually why they may have a deficiency in vitamin D. If you are concerned about your vitamin D levels you should speak to your GP.

Low vitamin D may have no obvious symptoms, but without treatment, it can have significant health effects. Low vitamin D and vitamin D defeciency causes bone and muscle pain and poor mineralisation (softer bones) causing rickets (bone deformity) in children and osteomalacia in adults. Low vitamin D is a contributer to osteoporisis.

More recently, vitamin D deficiency has been linked to various types of cancer (particularly colon cancer), heart disease, stroke, altered immunity and auto immune diseases, although more research is still needed.

People with a diagnosed lack of vitamin D may need to add vitamin D to their diet rather than seek more exposure to the sun. Your vitamin D level can be checked with a simple blood test.

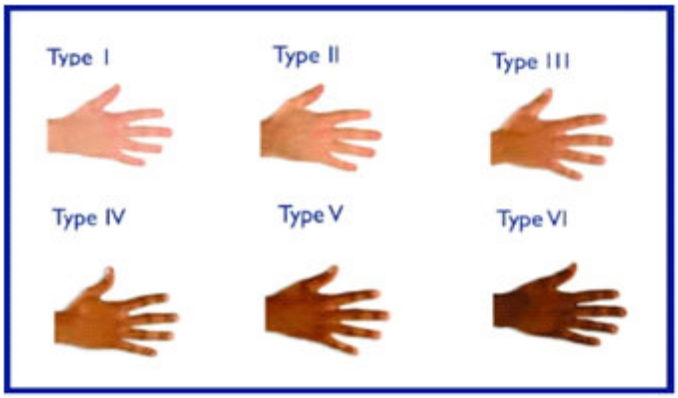
Naturally very dark skinned people

All skin types can be damaged by too much UV radiation. However, naturally very dark-skinned people need three to six times the exposure time and supplimentation may be required depending on their vitamin D levels. Those who need this level of exposure usually have skin type 5 or 6.[6] People with this skin type still need to take care in the sun, whilst skin cancer is less common in such skin types they can still occur and are often diagnosed at a later and more dangerous stage. People with this skin type do not generally need to apply sunscreen and can safely tolerate relatively high levels of UVR without getting burnt.[7]

It is recommended that ALL people, regardless of skin type, wear a hat and sunglasses to protect their eyes from over-exposure to UVR.

Further information and resources

View Cancer Council Australia's Position Statement- **Risks and Benefits of Sun Exposure** at www.cancer.org.au or download the brochure **How much sun is enough? Getting the balance right** from our website at www.actcancer.org or contact the **Cancer Council Helpline on 13 11 20.**



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