

Sunscreen



Cancer Council Victoria recommends SPF30+ broad spectrum, water-resistant sunscreen. However sunscreen alone will not provide adequate protection against overexposure to ultraviolet (UV) radiation. Cancer Council Victoria recommends five steps to protect against sun damage when the UV Index is 3 and above:

1. **Slip** on some sun-protective clothing.
2. **Slop** on SPF30+ sunscreen – make sure it is broad spectrum and water-resistant. Put it on 20 minutes before you go outdoors and re-apply every two hours.
3. **Slap** on a hat – that protects your face, head, neck and ears.
4. **Seek** shade.
5. **Slide** on some sunglasses – make sure they meet Australian Standards.

UV levels are most intense during the middle of the day.

To find out UV Index levels look for the SunSmart UV Alert in your daily newspaper's weather section, bom.gov.au/weather/uv or sunsmart.com.au. The UV Alert is also available as a free SunSmart app for iPhones and as a widget for websites.

Live UV levels for capital cities are available from arpana.gov.au/uvindex/realtime

What is SPF?

Sunscreens with a sun protection factor (SPF) of 4 and above are listed on the Australian Register of the Therapeutic Goods Administration (TGA).¹ Products can only be listed on the register if they comply with the Australian/New Zealand Standard for sunscreen products (AS/NZS 2604:1998).² The highest SPF for sunscreen currently available in Australia is SPF30+.³

The SPF number is only a guide to a sunscreen's protection properties. How long a person will take to

burn depends on the time of day, the time of year, the amount of UV reflection, how cloudy it is and their skin type. It is impossible to calculate all these things in everyday situations.

In laboratory conditions SPF30+ sunscreen filters 96.7% of UV radiation. It is anticipated that SPF 50+ will become available in Australia in late 2012. However, SPF50+ sunscreen will provide only a negligible improvement in protection over SPF30+ from 96.7% to 98%.

Much more importantly is how much sunscreen people apply – many Australians apply too little sunscreen. This means they usually get less than half the protection stated on the product label, and they also forget to re-apply every two hours.⁴

What does 'broad spectrum' mean?

There are different types of UV radiation. UVA radiation penetrates deep into the skin, affecting the living skin cells that lie under the skin's surface. UVA causes long-term damage like wrinkles, blotchiness, sagging and roughening, and also contributes to skin cancer. UVB radiation penetrates the top layer of skin and is the main cause of skin damage and skin cancer.

Broad spectrum sunscreen filters both UVA and UVB radiation.

What's in sunscreen and how does it work?

Sunscreens contain ingredients that absorb UV radiation. Examples include octyl methoxycinnamate (OMC) and methylbenzylidene camphor, prime UVB filters; and butyl methoxycinnamate, a prime UVA filter.

Some ingredients absorb and reflect UV radiation, such as zinc oxide and titanium dioxide, which are also prime UVA and UVB filters. These two ingredients are less likely to cause skin irritation.

Is sunscreen safe to use?

The TGA monitors the scientific literature regarding the safety of specific ingredients of sunscreens. Its conclusions are that there is no evidence that sunscreens containing these ingredients pose any risk to those using them.⁵ The only long-term study of sunscreen use in Australia found no harmful effects of regular use.⁶

Recently, there have been questions raised about the safety of sunscreens that contain nanoparticles. Nanotechnology has been used in sunscreens for many years. To date, the best available evidence suggests that nanoparticles used in sunscreens do not pose a risk.

Sunscreens also use 'microfine' or 'micronised' particles, which are larger than nanoparticles (nanoparticles are smaller than 100 nanometres and invisible to the human eye – a nanometre is 0.000001 millimetre). Microfine particles are smaller than those used in conventional white zinc sunscreens, however are larger than nanoparticles – usually in the range of 100 to 2500 nanometres.

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Which sunscreen should I use?

Sunscreen can be bought as a cream, lotion, milk or gel. All sunscreens labelled SPF30+ broad spectrum work well. Price is not always an indication of quality. Choose the one that best suits your skin type and activity.

If you have sensitive skin and have had a reaction to a sunscreen, try a fragrance-free product. If you don't want sunscreen residue left on your hands, a gel may work best for you.

Not all sunscreens contain the same ingredients. If your skin reacts to one sunscreen, talk to a chemist or doctor about choosing another with different ingredients.

Applying sunscreen

Apply sunscreen 20 minutes before you go outside and again every two hours (whether or not the label tells you to do this). Use a generous amount of sunscreen. The average-sized adult should apply more than half a teaspoon of sunscreen (about 3 ml) to each arm and the face/neck (including ears), and just over one teaspoon (about 6 ml) to each leg, front of body and back of body.⁷ That is, 35 ml of sunscreen for one full body application.

Sunscreen can be easily wiped or sweated off. Putting on more sunscreen every two hours helps keep you protected. Always reapply after swimming or water sports.

Sunscreen and babies

The Australasian College of Dermatologists recommends the use of a sunscreen 'at any age when there is unavoidable exposure to the sun' and states sunscreen is safe to use on babies.⁸ However it is best to keep babies and toddlers out of the sun or well protected using other forms of sun protection.

Many brands of sunscreen have a baby or toddler formula. These are just as protective, but much gentler on their skin. Sunscreens with titanium dioxide or zinc oxide work largely by reflecting the UV radiation away from the skin, and are less likely to cause problems with sensitive skin. Test the sunscreen on a small area of the child's skin before using it, to make sure there is no reaction.

How long can you keep sunscreen?

Check the expiry date and storage conditions on the label. Most sunscreens last about two to three years. They should be stored at a temperature below 30°C. If left in excessive heat (e.g. in the glove box of a hot car or in the sun on the beach), over time, the product may not work as well.

Sunscreen use and vitamin D

Regular use of sunscreen when the UV radiation level reaches 3 (moderate) or more does not greatly decrease vitamin D levels over time.^{9 10 11} When sunscreen is tested in lab conditions it blocks vitamin D production. However regular use in real life has been shown to have little effect on vitamin D levels as people who use more sunscreen spend more time in the sun, so naturally they will have higher vitamin D levels.

Further information and resources

Being SunSmart in Victoria information sheet and other information is available at sunsmart.com.au or contact the Cancer Council Helpline on 13 11 20. UV-protective clothing and accessories can be purchased at the Cancer Council Victoria's shop or online at cancervic.org.au/store

References

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This information is based on current available evidence at the time of review. It can be photocopied for distribution.

Latest update: August 2011

