

Sunscreen

Cancer Council ACT recommends SPF 30+ broad-spectrum, water resistant sunscreen.

Sunscreen should not be used to extend the time you spend in the sun, and should always be used with other sun protection measures: shade, clothing, hats and sunglasses. Sunscreen should not be used as the only line of defence against UVR.

What does 'SPF' on a sunscreen label mean?

SPF stands for 'sun protection factor'. Sunscreens with an SPF rating 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)².

The highest SPF for sunscreen available in Australia is currently SPF30+³. An SPF30+ rating has been set by Standards Australia.

The SPF number is only a guide to its strength. How long a person will take to burn depends on the time of day, the time of year, the amount of reflection, how cloudy it is and their skin type. It is almost impossible to calculate all these things in everyday situations.

In laboratory conditions SPF30+ sunscreen filters around 97% of UV radiation. However, many Australians apply too little sunscreen. This means they usually get less than half the protection stated on the product label⁴.

What does 'broad spectrum' mean?

UVA radiation penetrates deep into the skin, affecting the living skin cells that lie under your 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 sunburn that leads to skin damage and skin cancer.

Broad spectrum sunscreen filters both UVA and UVB radiation from reaching important cell layers.

What's in sunscreen and how does it work?

Sunscreens contain ingredients that absorb and reflect UV radiation. Examples include:

- octyl methoxycinnamate (OMC): a prime UVB filter
- methylbenzylidene camphor: a prime UVB filter
- butyl methoxycinnamate: a prime UVA filter.

Some ingredients reflect UV radiation. Examples include:

- zinc oxide: a prime UVA and UVB filter
- titanium dioxide: a prime UVA and UVB filter.

These last two ingredients are less likely to cause skin irritation as they work as a 'physical' barrier and sit on the skin.

Is sunscreen safe to use?

The United States Department of Health and Human Services' 'Eleventh Report on Carcinogens'⁵ lists compounds that have been proven to cause cancer. This list is updated frequently and has never included the chemicals found in sunscreen such as titanium dioxide, zinc oxide or OMC.

There is currently no scientific evidence showing long-term side effects from regular use of sunscreen⁶.

However we do know that UV radiation from the sun causes skin cancer⁵. It is therefore important to protect ourselves from UV radiation using a combination of sun protection measures, including SPF 30+ broad spectrum, water resistant sunscreen.

Cancer Council sunscreens do not contain nanoparticles, nanotechnology has been used in sunscreens for many years with no reports of adverse affects. Cancer Council continues to review research and to be guided by the Therapeutic Goods Authority, however at this time there is no conclusive evidence that justifies removing nanoparticles from sunscreen.

Which sunscreen should I use?

Sunscreen can be bought as a cream, lotion, milk or gel. All sunscreens labelled SPF 30+ broad spectrum work well. Price is not always an indication of quality. Choose the one that best suits your skin type and your type of 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 15 -20 minutes before you go outside.

Use a generous amount of sunscreen. The average-sized adult should apply at least a teaspoon of sunscreen to each arm, leg, front of body and back of body and at least half a teaspoon to the face (including the ears and neck). That is, 35 ml of sunscreen for one full body application.

If outdoors, reapply sunscreen every two hours (whether or not the label tells you to do this). Sunscreen can be easily wiped or sweated off. Putting on more sunscreen every two hours helps keep you protected. Do not use sunscreen to extend your time in the sun!

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 babies⁷. However it is always best to keep babies and toddlers out of the direct sun or well-protected by using other forms of sun protection, so that sunscreen use is kept minimal.

Many brands of sunscreen have a babies or toddlers formula. These are just as protective, but much gentler on sensitive 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 skin⁷.

How long can you keep sunscreen?

Test the sunscreen on a small area of the baby or toddler's skin before using it to make sure there won't be any reaction.

Check the expiry date and storage conditions on the label. Most sunscreens will last about two or three years. They should be stored at a temperature less than 25°C. Avoid storing in excessive heat (for example, in the glove-box of a hot car or in the sun on the beach), over time, the product will not work as well.

Further information and resources

For further information and advice contact the Cancer Council Helpline on 13 11 20.

A wide range of sunscreen can be purchased at Cancer Council ACT's Fairbairn shop'.

This information can be photocopied for distribution.

References

- 1 Therapeutic Goods Administration. *Australian Regulatory Guidelines for OTC Medicines: Sunscreens*. Canberra: Commonwealth Department of Health and Ageing, 2003.
- 2 Australian/New Zealand Standard, AS/NZ 2604:1998. *Sunscreen Products – Evaluation and Classification*.
- 3 Australian Radiation Protection and Nuclear Safety Agency. *Resource Guide for UVR Protective Products*. Canberra: Commonwealth Department of Health and Ageing, 1999.
- 4 Stokes RP, Diffey BL. How well are sunscreen users protected? *Photodermatol Photoimmunol Photomed* 1997;13(5–6): 186–8.
- 5 U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program. *Report on Carcinogens, Eleventh Edition*. Research Triangle Park, NC: USDHHS, 2005.
- 6 Marks R. *Sunscreens: Questions and Answers*. Sydney: Australian Cancer Society, 1993.
- 7 Sullivan JR. *A–Z of Skin: Baby and Toddler Protection*. Australasian College of Dermatologists, 2001. Retrieved from http://www.dermcoll.asn.au/public/a-z_of_skinbaby_toddler_protection.asp on 31 October 2006.

Cancer Council ACT acknowledges Cancer Council Victoria for the original preparation of this information sheet.

Nov 2009