Reducing your risk of skin cancer

Sunscreen

Key points

- Sunscreen protects against the damaging effects of the sun by reducing the amount of ultraviolet (UV) rays that reach the skin.
- Sunscreen does not block UV radiation and no sunscreen provides 100% protection against UV radiation. When UV levels are 3 or above sunscreen should always be used in conjunction with other forms of sun protection such as clothing, hats and shade.

Sunscreen reduces the amount of ultraviolet (UV) radiation reaching your skin. It works by filtering UV radiation with a chemical barrier that absorbs and/or reflects the UV rays away from your skin. No sunscreen provides 100% protection against UV radiation, and some UV radiation will always reach your skin, damaging the cells below. This damage builds up over time and can increase your risk of melanoma and other skin cancers.

What's in sunscreen?

Sunscreen contains chemicals to protect against UV radiation, as well as preservatives, moisturisers and fragrance.

There are two types of chemicals in sunscreen:

- **Chemical filters** that absorb UV radiation before it can damage the skin
- **Physical filters** that contain micro-fine particles which sit on the surface of the skin and act as a physical barrier.

Sunscreen can contain either chemical or physical filters and many contain both. Chemicals in sunscreen are tested and approved as being safe, and there is no scientific evidence of health side effects from sunscreen.

What are nanoparticles?

A sunscreen that has nanoparticles means that the zinc oxide or titanium oxide particles in the sunscreen have been fragmented into an extremely small size – a nanometre is 0.000001 millimetre in size.

Sunscreen with nanoparticles has become very popular in recent years because the smaller particles make the sunscreen less visible on the skin and easier to apply, and provide good protection from UV radiation.

To date there is no evidence that nanoparticles in sunscreen are harmful to health.

Cancer Council sunscreens are made to contain micro-fine or micronised particles (100 to 2500 nanometres), not nanoparticles. However, it is possible that in the manufacturing process, a very small number of particles may be ground smaller than micro fine. It is important to remember:

- There is no clear evidence that nanoparticles pose a health risk
- There is clear evidence that more than 1500 Australians die from skin cancer every year
- There is clear evidence that sunscreens help protect against skin cancer.

What does 'broad-spectrum' sunscreen mean?

UV radiation comes in different wavelengths called UVA and UVB. Both UVA and UVB contribute to sunburn, skin ageing, eye damage, melanoma and other skin cancers. A sunscreen that is 'broad-spectrum' filters out UVA and UVB radiation.

August 2015

SunSmart Infoline: (02) 9334 1761 **f:** (02) 8302 3529
SunSmart Program Cancer Council NSW PO BOX 572 Kings Cross NSW 1340
cancercouncil.com.au/sunprotection

What do the SPF numbers on sunscreen labels mean?

SPF stands for 'sun protection factor'. A sunscreen is given an SPF number (of between 4 and 50+) after strict laboratory testing.

The higher the SPF number, the more protection the sunscreen provides against sunburn. However, the length of time it takes any one person to sunburn will be also be affected by many other things, including:

- UV levels. The higher UV levels are, the more quickly skin damage and sunburn will occur.
- A person's skin type. Fair skin will burn more quickly than olive or dark skin.
- How well sunscreen has been applied. Most people don't use enough sunscreen to achieve the SPF protection level stated on the label.

How should I apply sunscreen?

- Read the label and always follow the manufacturer's instructions.
- Apply generously. Most people do not apply enough sunscreen and do not re-apply frequently enough to achieve maximum protection. Cancer Council recommends adults use about a teaspoon for the face, neck and ears; a teaspoon for each arm and leg; and a teaspoon each for the front and back of the body.
- Apply 20 minutes before going outside, to allow it to bind to your skin, and reapply every two hours, in case it has been wiped or washed off. Reapplying regularly also means you're more likely to cover any parts of the skin you may have missed.

Can sunscreen cause skin allergies?

Allergic reactions to sunscreen are usually caused by perfumes and/or preservatives in the product, not the chemicals that filter UV radiation. It is recommended to patch test sunscreen on a small area of skin - especially if you have not used the product before. This applies to a new brand you may be trying for the first time and also to different products within a range you may have used in the past.

If you have an allergic reaction to a sunscreen, you should try another brand or speak to your doctor or chemist about choosing another product. Sunscreens that have titanium dioxide as the main agent are usually suitable for sensitive skin.

Sunscreen containing para-aminobenzoic acid (PABA) may cause allergic reactions or sensitivity in some people. Cancer Council products do not contain (PABA) or peanut or any tree nut oil.

Should I use sunscreen on my baby or child?

When UV levels are 3 and above it is recommended that you protect your baby or child from UV radiation with hats and clothing and keep them in the shade. Babies aged under 6 months have highly absorptive skin and the Australasian College of Dermatologist recommends minimizing use of sunscreen. Always patch test any product first on a small area of your baby or child's skin for any negative reactions and apply sunscreen to those areas of exposed skin that can't be covered with hats and clothing. If your baby or child reacts to sunscreen, seek advice from your doctor or chemist.

Do expensive sunscreens give the best protection?

Any broad-spectrum SPF30+ or higher sunscreen, regardless of cost, will provide good protection if it is:

- Applied correctly
- Purchased in Australia (check the label that the product complies with the Australian Standard AS/NZS 2604:2012 and has an AUSTL number).

Does sunscreen prevent vitamin D production?

Sunscreen filters out most but not all UV radiation. Regular use of sunscreen when the UV Index is 3 or above does not greatly decrease vitamin D levels over time. If you have any concerns about vitamin D, talk to your doctor.

Do 'natural' sunscreens work?

A number of sunscreen products are marketed as 'natural' or 'chemical-free'. There is no scientific evidence that 'natural' sunscreen products are safer or more effective than sunscreen products that are not promoted as 'natural'. Always check the label that the product complies with the Australian Standard AS/NZS 2604:2012 and has an AUSTL number.

Is it okay to use sunscreen containing insect repellent?

Some sunscreens contain an insect repellent called DEET. The label should clearly say how much DEET is in the product. When using sunscreen containing DEET, always follow the manufacturer's instructions. Speak to your doctor about using sunscreen containing DEET if you're pregnant or intend using it on young children.

Does sunscreen expire?

Sunscreen must be labelled with an expiry date and storage instructions. Sunscreen won't work as well if past its use-by date, or stored incorrectly. Store sunscreen out of the sun and at temperatures below 30°C.

SunSmart Infoline : (02) 9334 1761 **f:** (02) 8302 3529
SunSmart Program Cancer Council NSW PO BOX 572 Kings Cross NSW 1340
cancercouncil.com.au/sunprotection

Cancer Council NSW recommends that when the **UV Index** is 3 or above, you should protect your skin in five ways:

- Slip on clothing that covers your arms and legs
- Slop on 30+ or higher, broad-spectrum sunscreen
- Slap on a broad-brimmed, bucket or legionnaire hat
- Seek shade
- Slide on wrap-around sunglasses with Australian Standard AS/NZS 1067:2003 and have an eye protection factor of (EPF) of 10.

For more information on skin cancer prevention and sun protection, visit our website

cancercouncil.com.au/sunprotection

SunSmart Infoline: (02) 9334 1761 **f:** (02) 8302 3529
SunSmart Program Cancer Council NSW PO BOX 572 Kings Cross NSW 1340
cancercouncil.com.au/sunprotection