



Sun-protective clothing

Clothing is one of the simplest ways to protect your skin, helping to create a barrier between the sun's UV and your skin. If you can see skin, UV can reach it so wear clothing that covers as much skin as possible.

The sun's ultraviolet (UV) radiation is the main cause of skin cancer.

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

Download the free SunSmart app or visit 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 should I look for when choosing sun-protective clothing?

Look for clothing that:

- covers the chest, back, neck and shoulders
- has sleeves that are at least elbow-length but preferably three-quarter to full-length
- covers the leg to at least the knee but preferably to the calf or full-length.¹

What is UPF?

Some clothing carries a tag with an ultraviolet protection factor (UPF) rating for sun protection. The UPF rating refers to both the design of the garment (how much skin it covers) and fabric (how much UV it blocks). Specific UPF guidelines have been developed by Standards Australia.²

There are only four UPF ratings for clothing: UPF15, 30, 50 or 50+. Material with a UPF rating of 30 would only allow 1/30th (3.3%) of UV falling on its surface to pass through it, blocking 96.7% of UV. Any fabric rated above UPF15 provides minimum protection against UV. UPF50 and UPF50+ (excellent protection) are recommended.

Some fabrics may have their rating improved by being specially treated.

UPF classifications AS 4399:2020		
UPF rating	UPF classification	% UV radiation blocked
15	Minimum protection	93.3%
30	Good protection	96.7%
50, 50+	Excellent protection	98%

What fabrics are best?

Fabrics do not need to be UPF rated to provide protection. Try to choose fabric structures, colours and other characteristics (listed below) that increase protection.

Fabric structure

The tighter the fabric structure, whether knitted or woven, the better the sun protection.³ As the fibres of tightly woven fabrics are closer together, less UV radiation can pass through to the skin. Tightly woven, lightweight, natural fabrics such as linen, cotton or hemp will also help keep you cooler than synthetic fibre equivalents.

Tension

If a fabric is stretched, it will be less protective. This is common in knitted or elasticised fabrics. Take care to select the correct size for the wearer or if wearing stretchy fabrics choose fabric structures and colours that provide greater protection to offset the effect of the stretch.

Layering

Layering of fabrics and garments is an effective way to increase protection from UV.

Colour

Many dyes absorb UV radiation. Darker colours (black, navy and dark red) of the same fabric type will absorb more UV radiation than light pastel shades (white, sky blue and light green).⁴ Choose darker colours where possible. If you want to choose a light-coloured fabric, other choices such as fabric structure will become more important.

Moisture content

Fabrics offer less protection from UV radiation when wet. The level of protection will depend on the type of fabric and the amount of moisture it absorbs. To reduce the effect of the moisture, take dry clothes to change into or, if dipping in and out of the water, choose a fabric that provides effective protection from UV and that will dry quickly.

Caring for your clothes

Washing new clothes can improve their sun protection, especially when made of natural fibres such as cotton, by shrinking gaps in the structure. However, old, threadbare or faded clothes may offer decreased protection over time.

UV absorbers

Some clothing is treated so it can absorb more UV radiation. Check the clothing label to see if your clothes have been treated and ensure you follow the care instructions.

More information and resources

For more information, visit sunsmart.com.au or contact Cancer Council on 13 11 20.

For more information about how to protect your skin, visit sunsmart.com.au/protect-your-skin.

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.

References

1. Gies P, Roy CR, McLennan A, Toomey S. Clothing and protection against solar UVR. *Journal of the Home Economics Institute of Australia* 1998; 5(2).
2. Standards Australia. Australian Standard AS 4399:2020 Sun protective clothing - Evaluation and classification, 17 April 2020.
3. Gies P. Photoprotection by clothing. *Photodermatology, Photoimmunology & Photomedicine* 2007; 23(6): 264–74.
4. Gies PH, Roy CR, Toomey S, McLennan A. Protection against solar ultraviolet radiation. *Mutat Res* 1998; 422(1): 15–22.

This information sheet is based on recommendations from the Australian Radiation Protection & Nuclear Safety Agency's (ARPANSA) Buyer's Guide for Sun Protection <https://www.arpansa.gov.au/our-services/testing-and-calibration/sun-protection-buyers-guide>

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