

# Sun-protective clothing



To protect yourself from ultraviolet (UV) damage, wear clothing that covers as much skin as possible.

For best protection during the daily sun protection times (when the UV level is 3 or higher) use all five SunSmart steps:

- Slip on clothing
- Slop on SPF30 (or higher) broad-spectrum, water-resistant sunscreen
- Slap on a broad-brimmed hat
- Seek shade
- Slide on sunglasses.

The free SunSmart app tells you the sun protection times for your location and provides current UV levels. Sun protection times can also be found at the Bureau of Meteorology website and app and live UV levels are also available from ARPANSA.

## What should I look for when choosing sun-protective clothing?

Choose clothing that covers as much skin as possible.<sup>1</sup> The best styles are:

- tops with collars, and sleeves of at least three-quarter-length
- pants or skirts of at least three-quarter-length.

## 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 and its fabric.

To claim a UPF rating, the garment should fully cover the shoulders and extend down to the hip line (AS/NZS 4399:2017). It should also have sleeves that extend to at least as far as the three-quarter measurement between the shoulder point and the elbow. Lower body coverage should extend from the hip line to halfway down the thigh.<sup>2</sup> SunSmart recommends extended coverage with at least three-quarter sleeve and leg length.

The UPF rating also provides information on how much UV will pass through unstretched, dry material. For example, material with a UPF rating of 20 would only allow 1/20th (5%) of UV falling on its surface to pass through it, blocking 95% of UV. Any fabric rated above UPF15 provides minimum protection against UV but UPF50+ is recommended.

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

UPF Classifications AS/NZS 4399:2017		
UPF rating	Classification	% UV radiation blocked
15	Minimum	93.3%
30	Good	96.7%
50, 50+	Excellent	98%

## Which fabrics are best?

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

### Fabric structure

The tighter the fabric structure, whether knitted or woven, the better the sun protection.<sup>3</sup> As the fibres of tightly woven fabrics are closer together, less UV radiation is able to 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).<sup>4</sup> Choose



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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**

Visit [sunsmart.com.au](http://sunsmart.com.au) or contact the Cancer Council on 13 11 20.

UV-protective clothing and accessories can be purchased at Cancer Council Victoria's shop or online at [cancercouncilshop.org.au](http://cancercouncilshop.org.au).

## **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/Standards New Zealand. Australian/New Zealand Standard AS/NZS 4399 Sun protective clothing - Evaluation and classification Standards Australia/Standards New Zealand, 2017.
- 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 is based on current available evidence at the time of review. It can be photocopied for distribution.**

**This information sheet is based on recommendations from the Australian Radiation Protection & Nuclear Safety Agency's (ARPANSA) Resource Guide for UV Protective Products. The guide can be downloaded from [arpansa.gov.au/uvrg](http://arpansa.gov.au/uvrg). SunSmart appreciates the assistance in the development of this information sheet provided by Dr Cheryl Wilson, University of Otago [otago.ac.nz/textiles](http://otago.ac.nz/textiles)**

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