



Sun Protection using Sunglasses

There is well established evidence that exposure to ultraviolet radiation (UVR) from the sun can lead to eye damage. Sunglasses are an effective method of sun protection when used with a combination of other protective measures.

Health effects from solar UVR

ARPANSA and other national and international health authorities, including the World Health Organization have assessed that continuous exposure to ultraviolet radiation (UVR) from the sun causes harmful effects on the skin, eye and immune system.

Long term exposure to UVR can also cause serious damage to eyes, such as clouding in the lens of the eye (cataracts) which obscures vision. Short-term eye damage can also result such as acute photokeratitis, better known as snow-blindness.

Good quality sunglasses that meet the Australian standard provide the eyes with substantial protection against solar UVR and are recommended for both children and adults, particularly the 'wrap-around' type.

Direct and scattered solar UVR

For most of the day there is as much scattered solar UVR from the sky as there is from the direct sun. UVR can also be reflected from surfaces such as snow, water and buildings. For best protection direct, scattered and reflected solar UVR need to be considered.

The eye cannot see UVR so the use of sunglasses to eliminate solar UVR, in particular the more-damaging UVB radiation, is highly desirable. Reducing the amount of UVR that the eye is exposed to over a person's lifetime is likely to prove beneficial in preventing eye damage.

When to wear sunglasses?

During the sun protection times (when the UV level is 3 and above) use a combination of the five sun protection messages.



Wear sunglasses outdoors, particularly in the following circumstances:

DURING SUMMER: The level of UVR at noon in summer can be more than three times as high as in winter. More importantly, the type of UVR that causes the most damage can be as much as ten times higher (which is why sunburn takes such a short time in summer).

ON THE BEACH OR BOATING: There are usually few buildings or structures to block the sun or sky, so people are exposed to direct and scattered radiation from the whole sky as well as reflections from water.

You know what to do. Do it. **SUNSMART**



For further information visit SunSmart.com.au or call 13 11 20



SKIING AT HIGH ALTITUDE: Solar UVR increases with altitude and at 2000 metres (typical of Australian ski fields) can be as much as thirty percent 30% higher than at sea level. The high reflectivity of snow worsens the problem, so that the UVR dose to the eye can be quite large. Consequently, good eye protection while skiing is very important.

Sunglasses and lenses

Sunglass lenses may be made from a variety of plastics such as acrylic or polycarbonate. Plastic lenses are light and impact resistant and the material is naturally UVR resistant. There are sunglass lenses made from glass which have excellent optical quality and are scratch resistant but they tend to be heavier. Polarised lenses are also very popular as they reduce glare from many surfaces alleviating eye fatigue and eyestrain.

Typical lenses for sunglasses have a dark tint. The amount of tint varies between products and the darker the lenses the more they reduce visible light.

It is the UVR-absorbing properties of the plastic that the lenses are made from that provides the protection and not the colouration of the lenses. This means that dark sunglasses are not necessarily more effective at protecting the eyes from UVR than lightly tinted sunglasses.

Australian standards for sunglasses

All sunglasses sold in Australia must be tested and labelled according to the Australian/New Zealand Standard for Sunglasses and Fashion Spectacles. This mandatory standard sets limits on the allowed transmittances of fashion spectacles and sunglasses.

Sunglasses meeting the standard are available in adults and children's sizes. Wearing sunglasses that meet the standard's requirements for effective sunglasses ensures your eyes have adequate protection against UVR damage.

Tinted eye protectors that meet the Australian Standard for Eye and Face Protectors for Occupational Applications provides sun protection, and reduced glare outside for outdoor workers. Untinted eye protectors marked 'O' also have sufficient UV protection for outdoor use.

Guidelines for purchasing sunglasses

- Check that the glasses are labelled as either sunglasses or special purpose sunglasses and not as fashion spectacles.
- It is mandatory that Sunglasses carry a label that indicates they comply with the requirements of the Australian/New Zealand Standard for Sunglasses and Fashion Spectacles AS/NZS 1067.
- If the glasses are to be used while driving, then check that colours are easily recognised when viewed through the lenses.
- There should be clear and legible labelling attached to the sunglasses with the identity of the manufacturer or supplier, the lens category number, description and additional markings if applicable. The label should also refer to Australian Standards.

Protection messages

The Cancer Council Australia provides further protective advice through national, state and territory Sunsmart programs and activities.

Links

World Health Organization – provides international advice on sun protection
www.who.int/uv/sun_protection/en/

Cancer Council Australia – provides advice on preventing cancer in Australia
www.cancer.org.au

Australian Standards - AS/NZS 1067:2003 Sunglasses and Fashion Spectacles
www.standards.org.au

Australian Standards - AS/NZS 1337.1:2010 Eye and face protectors for occupational applications
www.standards.org.au