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## Sunburn

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### Summary

- Sunburn can occur in less than 15 minutes and, depending on the severity, can take a few days or weeks to heal.
  - There is no cure for the symptoms of sunburn except time and patience.
  - Mild sunburn can be treated at home, but severe and blistered sunburn needs prompt medical attention.
  - Excessive exposure to UV damages the skin permanently and may cause skin cancer, including dangerous malignant melanoma.
  - Each time you expose your skin to UV radiation, you increase your risk of developing skin cancer.
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Sunburn is the skin's reaction to the ultraviolet (UV) radiation from the sun. You can see sunlight and feel heat (infrared radiation), but you can't see or feel UV radiation. It can damage your skin even on cool, cloudy days.

Sunburn is a radiation burn to the skin. The signs of sunburn can start to appear in less than 15 minutes and skin can turn red within two to six hours of being burnt. It will continue to develop for the next 24 to 72 hours and, depending on the severity, can take days or weeks to heal. Sunburn will become worse with more exposure to UV rays. Mild sunburn can be treated at home, but severe and blistered sunburn requires prompt medical attention.

The long-term effects of repeated bouts of sunburn include premature wrinkling and an increased risk of skin cancer, including melanoma (the most dangerous type of skin cancer). Once DNA damage occurs, it is impossible to reverse. This is why prevention is much better than cure.

To prevent sunburn, use a combination of sun protection measures during the sun protection times each day (when the UV levels are forecast to reach 3 or higher). You can find these times on the SunSmart app or widget, or at the Bureau of Meteorology website.

In Victoria, UV levels are 3 or higher for much of the day from September to April. From May to August, UV levels are lower, so sun protection is not usually required, unless near reflective surfaces such as snow, or unless UV levels unexpectedly rise again.

People who work outdoors for long periods of time may need sun protection all year, as they have an increased risk of skin cancer.

### Reduce the risk of sunburn

During the daily sun protection times, use a combination of five sun protection measures to reduce your risk of sunburn.

- **Slip** – on sun-protective clothing (make sure it covers as much skin as possible).
- **Slop** – on SPF (sun protection factor) 30 or higher broad-spectrum, water-resistant sunscreen. Apply 20 minutes before going outdoors and reapply every two hours.
- **Slap** – on a broad-brimmed hat that protects your face, head, neck and ears.
- **Seek** – shade.
- **Slide** – on wrap-around sunglasses (make sure they meet Australian Standard AS/NZS 1067).

### Symptoms of sunburn

The symptoms of sunburn include:

- changes in skin colour, ranging from pink to red and even purple
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- skin that feels hot to the touch
- pain and/or itching
- swelling
- fluid-filled blisters that may itch and eventually pop or break
- broken blisters that peel to reveal even more tender skin beneath.

Sunburnt skin will change colour within two to six hours of being burnt and the colour change will continue to develop for up to seventy-two hours.

### **Australians and sunburn**

On a summer's day in Australia, sunburn can occur in as little as 15 minutes. All types of sunburn, whether serious or mild, can cause permanent and irreversible skin damage. This could lay the groundwork for skin cancers to develop. Further sunburn only increases your risk of skin cancer. Over 2,000 Australians die from skin cancer each year.

According to Cancer Council's National Sun Protection Survey, there has been a sustained decrease in weekend sunburn among Australian adolescents and adults, however, further improvements are required.

Even the relatively low sunburn incidence across the 2013–14 summer translates to 2.4 million adults being sunburnt on any given summer weekend.

Males are more likely to get sunburnt than females, because they spend more time outside during peak UV times and are less likely to use sun protection.

### **UV radiation and sunburn**

In addition to light and heat, the sun gives out invisible UV radiation. UV radiation can pass through light cloud. It can also be scattered in the air and reflected by surfaces such as buildings, concrete, sand and snow.

The three types of UV radiation (based on wavelength) are UVA, UVB and UVC. The earth's atmosphere absorbs nearly all of UVC radiation (the most dangerous type) before it reaches the ground.

UVA and UVB radiation are both involved in sunburn, but skin reacts differently to each type of radiation:

- **UVA** – penetrates into the deeper skin layers and damages the sites where new skin cells are generated. Too much UVA radiation leads to roughening, dryness, blotchiness, wrinkling and sagging of the skin. High doses of UVA radiation can also cause sunburn, damage to genes in skin cells and skin cancer.
- **UVB** – is even more dangerous than UVA radiation, causing tanning, burning, ageing, skin damage and significantly promoting the development of skin cancer. It affects the surface skin layer. The skin responds by releasing chemicals that dilate blood vessels. This causes fluid leakage and inflammation – better known as sunburn.

### **How UV affects your skin**

Skin cells in the top layer of skin (epidermis) produce a pigment called melanin, which gives skin its natural colour. When skin is exposed to UV radiation, more melanin is produced, causing the skin to darken and tan. A tan is a sign that the skin has been damaged from UV radiation. It is not a sign of good health.

It is important to remember that tanning without burning can still cause skin damage, premature skin ageing and skin cancer. UV radiation can cause irreparable damage to the genes in the skin's cells. Each time you expose your skin to UV radiation from the sun or from a solarium, you increase your risk of developing skin cancer.

### **Solariums are not safe**

It is a myth that using a solarium is a safe way to tan. Solarium tans offer no protection against genetic damage to skin cells, which can occur without burning.

Due to the associated health risks, commercial solariums have been banned in Victoria since January 2015. Prior to the ban, it was estimated that each year in Australia, 281 new melanoma cases, 43 melanoma-related deaths, and 2,572 new cases of squamous cell carcinoma were attributable to solarium use.

## **UV and vitamin D**

The sun's UV radiation is the major cause of skin cancer and the best natural source of vitamin D, which is needed for strong bones and overall health. In Victoria, it is important to take a balanced UV approach to reduce the risk of skin cancer, while getting some exposure to help with vitamin D levels.

### **UV in Victoria between September and April**

Between September and April in Victoria (when UV levels are generally high), a combination of sun protection measures should be used – even for people who have been diagnosed with a vitamin D deficiency. During this time of year, most people make enough vitamin D because UV levels are high and more time is spent outdoors.

During these months, most Victorians need just a few minutes of mid-morning or mid-afternoon sun exposure for their vitamin D needs, being extra cautious in the middle of the day when UV levels are most intense.

Sunscreen use (SPF30 or higher) during the daily sun protection times should not put people at risk of vitamin D deficiency.

### **UV in Victoria between May and August**

From May to August in Victoria (when UV levels are generally low) sun protection is not required, so people are encouraged to be outdoors around midday each day, with some skin uncovered. Being physically active outdoors will also help boost vitamin D levels.

At this time of year, sun protection is also recommended when near reflective surfaces (such as snow), or if UV levels reach 3 or higher.

People who work outdoors for long periods of time may need sun protection all year, as they have an increased risk of skin cancer.

## **Daily sun protection times**

UV radiation levels vary depending on the location, time of year, time of day, cloud coverage and the environment. Sun protection is recommended whenever UV levels reach 3 or higher.

To find out when you do and don't need sun protection at your location, check the daily sun protection times,

available as a free SunSmart app, online at **SunSmart** on the **Bureau of Meteorology** website, in the weather section of newspapers, or as a free website widget.

## **Treatment for sunburn**

There is no cure for the symptoms of sunburn except time and patience. Treatment aims to help manage the symptoms while the body heals. Suggestions include:

- Drink plenty of water, because spending time in the sun can lead to dehydration as well as sunburn.
- Gently apply cool or cold compresses, or bathe the area in cool water.
- Avoid using soap as this may irritate your skin.
- Speak to a pharmacist about products that help soothe sunburn. Choose spray-on solutions rather than creams which require rubbing in by hand.
- Don't pop blisters. Consider covering itchy blisters with a wound dressing to reduce the risk of infection.
- If your skin is not too painful, apply moisturiser. This won't stop the burnt skin from peeling off, but it will help boost the moisture content of the skin beneath. Do not apply butter to sunburnt skin.
- Take over-the-counter pain-relieving medication, if necessary.
- Keep out of the sun until your skin has completely healed.

## Peeling sunburnt skin

There's no cream or lotion that will stop burnt skin from peeling off. This is part of the natural healing process. When skin is peeling:

- Resist the temptation and don't pick at the skin. Allow the dead skin sheets to detach on their own.
- Remove detached skin carefully and slowly. Don't rip skin sheets off or you risk removing more skin than you intended.
- Apply antiseptic cream to the newly revealed skin to reduce the risk of infection.

## Treatment for severe sunburn

See a doctor or seek treatment from the nearest hospital emergency department if you experience:

- severe sunburn with extensive blistering and pain
- sunburn over a large area of skin
- headache
- nausea and vomiting
- fever
- dizziness or altered states of consciousness.

## Sunburn prevention is best

Suggestions on how to avoid getting sunburnt include:

- Don't assume that sun exposure is safe when you can't feel it sting your skin – that sting or bite is heat, not UV radiation. If you're not sure, don't chance it – check the sun protection times for your location.
- UV radiation levels aren't linked to temperature. Don't rely on the temperature to gauge when you need sun protection. Check the sun protection times each day and Slip! Slop! Slap! Seek! and Slide!
- Many Australians get sunburnt around water, at the beach or the pool. If there is no shade, you'll need to protect yourself in other ways.
- You can get sunburnt when you're relaxing and taking it easy, such as watching outdoor sports, picnicking at the park or while playing sports.
- Winter activities, such as snow skiing and snowboarding pose a high risk of sunburn because UV radiation is already higher in alpine regions than at sea level. Snow is also very efficient at reflecting UV radiation.
- What many people assume is 'windburn' is actually sunburn. While wind can dry the skin, it doesn't burn.
- A tan doesn't protect against skin and eye damage, or the risk of skin cancer.
- Babies under 12 months should not be exposed to direct UV and should be well protected from the sun. Always try to keep babies and children in the shade and use clothing to cover most of their body. Use small amounts of child-friendly sunscreen on uncovered areas such as the face and hands whenever children are exposed to the sun.

## Where to get help

- Your doctor
- Pharmacist
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
- Cancer Council 13 11 20 for information and support.
- Multilingual Cancer Information Line Tel. 13 14 50
- Radiation Safety Hotline, Department of Health, Victorian Government Tel. 1300 767 469

## Things to remember

- Sunburn can occur in less than 15 minutes and, depending on the severity, can take a few days or weeks to heal.
- There is no cure for the symptoms of sunburn except time and patience.
- Mild sunburn can be treated at home, but severe and blistered sunburn needs prompt medical attention.

- Excessive exposure to UV damages the skin permanently and may cause skin cancer, including dangerous malignant melanoma.
- Each time you expose your skin to UV radiation, you increase your risk of developing skin cancer.

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