Skin cancer - risk factors

Summary

- Australia has one of the highest rates of skin cancer in the world.
- Everyone, regardless of their skin type, is at risk of sun damage and skin cancer.
- All Australians should become familiar with their skin. If you notice anything unusual, including any change in shape, colour or size of a spot, or the development of a new spot, visit your doctor immediately.
- Overexposure to the sun can cause skin damage which may lead to skin cancer. It's important to balance protecting yourself from skin cancer with getting some sun for vitamin D.

Anyone can develop skin cancer. The major cause is over exposure to ultraviolet (UV) radiation from the sun or artificial sources such as solariums.

There are other factors that can increase or decrease your risk of developing skin cancer, including skin type, having many moles and freckles – particularly multiple dysplastic naevi (atypically shaped moles), and having a personal or family history of skin cancer.

Australia has one of the highest rates of skin cancer in the world, with two in three Australians developing some form of skin cancer before they reach the age of 70. Each year, over 2,000 Australians die from skin cancer, yet skin cancer is one of the most preventable cancers. Every additional decade of high sun exposure or solarium use further increases the risk of melanoma (the most dangerous form of skin cancer).

Ultraviolet (UV) radiation from the sun is important for vitamin D levels in the body, but too much UV can cause sunburn, premature ageing, skin and eye damage and ultimately skin cancer. A balanced approach to sun exposure is important to minimise skin cancer risk and help with vitamin D. Protecting skin from over exposure can help reduce the risk of skin cancer.

Skin cancer in Victoria

Over the past 30 years, UV protection programs like the SunSmart program have educated Victorians about the importance of sun protection at every age.

While the overall incidence of melanoma continues to rise in Victoria, the rate of increase has slowed, and incidence appears to be dropping in younger age groups. Those who have grown up with the SunSmart program for a greater portion of their life are benefiting the most with lower rates of melanoma.

UV exposure in Australia

Australia experiences some of the highest levels of UV radiation in the world, because we are close to the equator and have a lot of clear blue-sky days. The Earth's orbit also takes countries in the southern hemisphere (Australia included) closer to the sun in our summertime than countries in the northern hemisphere during their summer.

UV radiation and skin cancer

Skin cells in the top layer of skin (the epidermis) produce a pigment called melanin that gives skin its natural colour. When skin is exposed to UV radiation, more melanin is produced, causing the skin to darken. This is what we call a ‘tan’. A tan is not a sign of good health, but rather of damaged skin cells in trauma.

Tanning can contribute to DNA damage, premature skin ageing and skin cancer. Every time skin is exposed to the sun or a solarium, the total lifetime dose of UV radiation is increased. Over time, this damage adds up, even when no sunburn is experienced.

All types of sunburn, whether serious or mild, can cause permanent and irreversible skin damage, laying the foundation for skin cancer.

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groundwork for skin cancer to develop later in life.

It is recommended that all people, regardless of skin type, use a combination of sun protection measures during the daily sun protection times. The sun protection times are issued whenever the UV level is forecast to be 3 or higher, and sun protection is recommended.

**Hereditary factors and skin cancer**

Family history and hereditary factors (particularly within your immediate family), play an important part in the risk of developing skin cancer. This is demonstrated by the increased incidence of skin cancer among Caucasian people.

If one or both of your parents have had a skin cancer, you too could be at risk, especially as you are likely to have the same skin type as them. Traits such as red or blond hair, light coloured eyes, fair skin, sun sensitive skin, and a tendency to freckle are genetic risk factors for developing melanoma and non-melanocytic skin cancers when combined with UV exposure.

**Skin type and skin cancer**

People with fair skin are at higher risk of developing skin cancer than people with naturally very dark skin. Skin type is hereditary. Parents with fair skin should educate their children about the importance of sun protection and encourage them to develop good sun protection habits from an early age. This is the best way to help reduce their risk of skin damage and skin cancer in later life.

The melanin in naturally very dark skin offers some protection against the damaging effects of UV radiation and the risk of skin cancer is lower. However, when skin cancer is detected in people with naturally very dark skin, it is often found at a later, more dangerous stage when the risk of death is much higher.

Everyone, whatever their skin type, should become familiar with their skin. Check all of your skin, not just sun-exposed areas. If you notice anything unusual, including any change in shape, colour or size of a spot, or the development of a new spot, visit your doctor immediately.

**Moles and freckles and skin cancer**

Most people have moles and freckles. However, if you have a great number of freckles or moles, you are at higher risk of skin cancer.

Moles or freckles that grow, change shape or colour, bleed or ulcerate, or any new spots that appear, should be treated with suspicion. Have your doctor check out any unusual changes to your skin as soon as possible.

**Age and skin cancer**

Melanoma is more common in older adults than younger people, with the average age of diagnosis at 61 years. Although early onset melanoma is comparatively rare, melanoma is one of the most common cancers and the leading cause of cancer death for young Australians. The vast majority (83%) of non-melanoma skin cancer treatments were administered to Australians aged 55 years and above.

Older adults have had more cumulative sun exposure than younger people, with every additional decade of high sun exposure shown to further increase the risk of melanoma. However, by limiting recreational sun exposure, a person can likely decrease their risk of melanoma whatever their age.

**Solariums and skin cancer**

Solariums tan the skin by radiating it with both UVA and UVB radiation, which are known to be dangerous to the skin. UV radiation from a solarium is more intense than natural sunlight, up to three times as strong as the midday summer sun. Research shows that people who use a solarium before the age of 35 have a 59 per cent greater risk of melanoma than those who don’t use a solarium.

In 2009, the International Agency for Research on Cancer (IARC) listed ultraviolet-emitting tanning beds in its highest cancer risk category and labelled them as ‘carcinogenic to humans’. In Australia, many states and territories are banning commercial tanning units. In Victoria, a ban will take effect from 1 January 2015

**Reducing your skin cancer risk**

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There is not much you can do about your hereditary risk factors, but you can take steps to reduce your risk of skin cancer from over-exposure to UV radiation and recreational sun exposure. Use a combination of the five sun protection measures during the daily sun protection times to reduce your risk, including:

- **Slip** – on sun-protective clothing. Make sure it covers as much skin as possible.
- **Slop** – on SPF30 (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 the face, head, neck and ears.
- **Seek** – shade.

UV levels are most intense during the middle of the day.

The SunSmart UV Alert indicates when the UV level is forecast to be 3 or higher and provides daily sun protection times as a guide for when you do and don’t need sun protection. This is available as a free SunSmart app, or online at [SunSmart](https://www.sunsmart.com.au) or the [Bureau of Meteorology](https://www.bom.gov.au), in the weather section of newspapers, or as a free website widget.

Winter activities such as snow skiing or snowboarding also pose a high risk of skin damage and sunburn. UV radiation is more intense at high altitude than at sea level. This is because the air is clearer and there is less atmosphere to absorb harmful UV rays.

**Shade Grants Program**

The Victorian Government's School Shade Grants Program provides financial grants to increase shade in public places such as parks, playgrounds, sports clubs and Victorian Government schools.

Funding is available in two streams - the [School Shade Grants Program](https://www.shade.grants.vic.gov.au) and the [Community Shade Grants Program](https://www.shade.grants.vic.gov.au).

For more information on the School and Community Shade Grants Programs, contact the Shade Grants Program on 1300 547 596 or shade.grants@dhhs.vic.gov.au

**UV and vitamin D**

A balance of UV radiation exposure is important for health. Too much UV from the sun can cause skin and eye damage. Too little UV from the sun can lead to low vitamin D levels. Vitamin D is important for regulating calcium levels in the blood. It is also necessary for the development and maintenance of healthy bones, muscles and teeth. When UV levels are 3 or higher for much of the day (generally from September to April in the southern parts of Australia and all year in the north), most people require just a few minutes of mid-morning or mid-afternoon sun exposure on most days of the week to help with vitamin D levels.

When UV levels are usually below 3 (generally during the winter months in the southern parts of Australia), most people require at least 20 minutes of midday sun each day to help with vitamin D levels.

People with naturally very dark skin may require more sun exposure.

**Where to get help**

- Cancer Council 13 11 20 for information and support
- Multilingual Cancer Information Line, Victoria Tel. 13 14 50
- Your doctor
- Your local community health centre

**Things to remember**

- Australia has one of the highest rates of skin cancer in the world.
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