

Melanoma Prevention and Early Detection



Melanoma
Institute Australia

The purpose of this booklet

This booklet provides you with information about melanoma and its risk factors. You will also find included tips for spending time in the sun safely, how to use sun protection and checking your skin. These are important steps that can help reduce your risk of developing melanoma and can help lead to early detection. If you have further questions or concerns about melanoma, please see your GP to discuss.

The information in this book is of a general nature and should not replace the advice of healthcare professionals. All care has been taken to ensure the information presented here is accurate at the time of publishing.

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What is melanoma?

Melanoma is a form of cancer that develops in the body's pigment cells, known as melanocytes.

Melanocytes produce melanin to help protect the skin from ultraviolet (UV) radiation (i.e. sunlight). When these cells cluster together in the skin during childhood or adolescence they form a mole.

Melanoma occurs when abnormal melanocytes grow in an uncontrolled way and evade the immune system. About a third of all melanomas arise from existing moles but they can develop anywhere on the skin.

Melanoma is the most serious form of skin cancer and can grow very quickly if left untreated. It can spread to the lower part of your skin (dermis), enter the lymphatic system or bloodstream and then spread to other parts of the body e.g. lungs, liver, brain or bone. Fortunately, in most cases, melanoma is detected early and does not spread to other parts of the body.



Australia has the highest rate of melanoma in the world with one person diagnosed every 30 minutes.

Melanoma is the third most common cancer affecting men and women in Australia.

Other skin cancers

There are three main types of skin cancer:

- basal cell carcinoma (BCC)
- squamous cell carcinoma (SCC)
- melanoma.

BCC is the most common form of skin cancer. This type of skin cancer rarely spreads to other parts of the body and typically develops on parts of the body that have been chronically exposed to the sun, such as the face.

SCC is the second most common form of skin cancer and is most frequently seen on sun-exposed areas, such as the head, neck and back of the hands, but it is possible to get it on any part of the body, including the inside of the mouth, lips and genitals.

Melanoma is rarer than SCC and BCC, but it is the most serious form of skin cancer. Early diagnosis is associated with better outcomes.



What causes melanoma?

Anyone can get melanoma, but we know that certain factors increase your risk. Understanding the risk factors is an important step towards reducing your chances of developing melanoma.

Melanoma risk is increased for people who have:

- unprotected sun exposure
- a history of tanning and sunburn, especially during childhood and adolescence
- lots of moles
- atypical moles
- already had a skin cancer, including BCC and SCC
- fair skin, red hair, blue eyes or skin that burns easily
- a family history of melanoma, especially if they developed it at a young age (i.e. less than 40)
- an older age — like most cancers, the risk of developing melanoma increases with age and is most common in people aged over 50
- depressed immune systems
- certain genetic variations that can be inherited in families.

Find out your personalised risk of developing melanoma by using our 'First Primary Melanoma Risk' calculator at melanomarisk.org.au



Is melanoma inherited?



Melanomas themselves are not passed on from person to person but our risk of melanoma certainly is hereditary – it is affected by our genetic background. Rarely, a specific faulty gene (cancer gene) that carries melanoma risk may be passed from one generation to the next. But for most people it is the combination of a lot of genes that affect our skin colour and mole count that pushes our risk up or down.

Can melanoma be prevented?

The good news is yes, melanoma can be prevented by protecting your skin from the sun.

Whatever risk factors you already have or whatever you have done in the past with respect to your time in the sun, the good news is you can reduce your future risk of melanoma at any age, whether you are 18 or 80, by being careful about how and when you spend time in the sun.

Did you know?

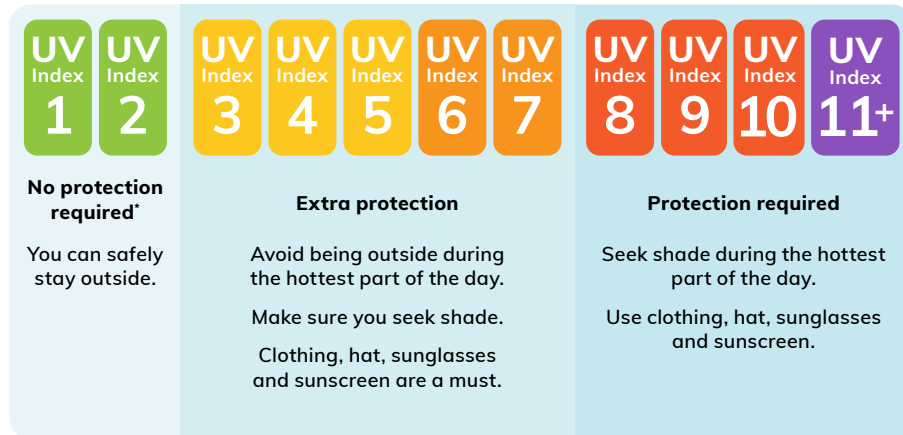
Removing **normal** moles does not prevent or reduce your risk of developing melanoma or improve your health outcomes.



Understanding UV

Did you know that 95% of melanomas in Australia are caused by exposure to ultraviolet (or UV) radiation? Light from the sun contains UV radiation which can damage your skin. It's important to remember that UV can't be seen or felt, and cloud cover won't necessarily reduce UV radiation levels.

The UV index is a tool you can use to know when to protect yourself from UV radiation. When the UV index is 3 and above, sun protection is always needed. If you have very fair skin and will be in the sun for long periods (more than an hour), you may need protection even if the UV index is below 3.



*Very fair skinned people may still need protection if in the sun for more than an hour.

Is it ok to tan?

Many believe a tan looks healthy, but it's actually a sign of skin damage. When your skin is exposed to UV light, melanocytes produce melanin, a pigment that darkens the skin in attempt to protect itself against harmful UV rays. Tanning increases your risk of premature aging, sunspots and significantly raises the risk of developing skin cancer, including melanoma. Remember: Tanning is your skin cells in trauma; there is nothing healthy about a tan.



The five sun safe rules are:



Seek shade, especially in the hottest part of the day



Wear sun-protective clothing that covers your back, shoulders, arms and legs



Wear a broad-brimmed hat



Apply a broad-spectrum sunscreen with an SPF of at least 50+ every 2 hours and after swimming or exercise



Wear wrap-around sunglasses

To protect yourself fully, it is important that you utilise all of these sun safe measures throughout the day, rather than just relying on one.

Applying sunscreen

There are many different types of sunscreen. Choose one that you like the feel of enough to wear every day.

Most people do not apply enough sunscreen to achieve the SPF rating on the bottle. Apply your product generously: a teaspoon for each arm, each leg and on the front and back of your body and a teaspoon for your face, neck and ears (that's 7 teaspoons or a shot glass full of sunscreen in total).

Spread your product lightly and evenly on your skin and allow it to absorb. Do not rub it in completely as you may end up rubbing it off.

Remembering to reapply your sunscreen every two hours is important as it often gets wiped or washed away. When you do reapply you will likely cover parts of your skin that were missed the first time around.

Are sunscreens safe?



Yes, they are safe for long-term use. Sunscreens in Australia are rigorously tested and strictly regulated by the Therapeutic Goods Administration. There is good evidence that regular sunscreen helps prevent melanoma. However, it should always be used in combination with the other sun-safe measures listed on page 7.

Make it a habit to apply sunscreen in the morning as part of your daily routine.



How do I know how much UV I'm getting?

The UV index is a simple way of describing the intensity of UV radiation from the sun at different times of the day. The higher the UV index value, the greater the potential for damage to your skin.

The UV index is higher in spring, summer and autumn than in winter. It is higher in the north than in the south of Australia.

- In the northern states of Australia, sun protection is needed all year round at certain times of the day. In these areas, it is better to spend time outside in the early morning or late afternoon.
- People in southern states may not need sun protection during winter when the UV index is likely to be below 3. However, sun protection is always needed at high altitudes or near highly reflective surfaces like snow and water, or when outside for several hours.

The UV index can be high even on cool and overcast days, so it's important to monitor your local UV levels.

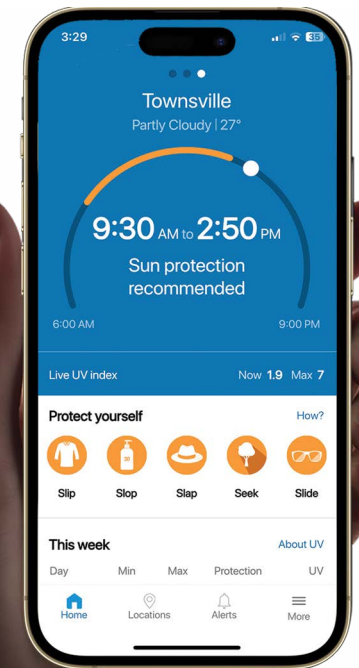
Download the app

Keep an eye on the UV index in your area by downloading the SunSmart Global UV app on your phone or looking for the UV rating on some weather forecasts.

The SunSmart Global UV app tells you when sun protection is needed in your local area, as well as giving you personalised alerts to remind you when sun protection is needed.

The app also includes a sunscreen calculator to help you work out if you are using enough sunscreen.

sunsmart.com.au/resources/sunsmart-app



How much sun do I need to maintain adequate vitamin D levels?

UV radiation from the sun is one of the main causes of melanoma, but it is also one of the best natural sources of vitamin D. In Australia we need to balance the need for sun protection with our body's need for vitamin D. However, it is important to not get burnt.

Some sun exposure is still important because it allows your body to make vitamin D, which is essential for strong bones, muscles and overall health. Small amounts of vitamin D can also be found in foods such as oily fish, liver, eggs and some dairy products. Vitamin D supplements are also available.

For most people, adequate vitamin D levels are reached through regular incidental exposure to the sun, like walking to the bus or hanging out the

washing. During most of the year, the majority of people maintain adequate vitamin D levels just by spending a few minutes outdoors on most days of the week but this will also depend on your skin colour, where you live and time of year. In late autumn and winter in some southern parts of Australia, when the UV index falls below 3, you can spend time outdoors in the middle of the day with some skin uncovered. Naturally dark-skinned people need more UV exposure to produce adequate levels of vitamin D as the pigment in their skin reduces UV penetration.

Using sensible sun protection when outdoors does not put you at risk of developing vitamin D deficiency. Talk to your doctor if you are concerned about your vitamin D levels.



Try to avoid going out in the sun when the UV levels are at their peak (towards the middle of the day). If you do go outside when the UV index is 3 or above, remember to use sun protection and seek shade.



How is melanoma detected?

Early detection is vital as melanomas that are detected and treated early are cured in 90% of cases. It is important to **'know the skin you're in'** and seek medical advice if you notice anything new or changing on your skin. The first sign of a melanoma is often the appearance of a new spot, or a change in an existing freckle or mole.

1. Check your own skin

Being familiar with your skin will allow you to recognise changes early and act quickly. If melanoma does develop, it can be detected at an early stage when treatment is most successful. More than half of all melanomas are first discovered by the patient.

What are moles?

Moles are harmless clusters of pigment cells (melanocytes) in the skin. Almost everyone has moles and they usually appear on our body in our first 40 years of life. Moles can be flat or raised and can differ greatly in colour, size and shape.



Ugly duckling sign

Moles normally resemble each other, so it helps to look out for any moles that look different to the surrounding ones. This is known as the 'ugly duckling sign'. If a melanoma develops, it may look and feel different and may also change differently to the moles near it.

What am I looking for?

The first sign of a melanoma is usually the appearance of a new spot, or a change in an existing freckle or mole. The change is normally noticed over several weeks or months.

Here is a simple ABCDE guide to monitor your skin for early signs of melanoma. Seek medical advice if you see any of the following changes to a mole:

A Asymmetry

One half does not match the other.



B Border irregularity

The edges are irregular, ragged, notched or blurred.



C Colour variation

The colour is not the same all over, but may have shades of brown or black, or even red, white or blue.



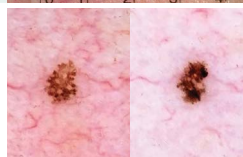
D Diameter

The area is larger than 6 mm, or is growing larger.



E Evolution

Changing in size, shape, colour, elevation or another trait (such as itching, bleeding or crusting). This last point is likely the strongest of all of the warning signs.



Please note that this is just a guide and melanoma may present with different characteristics. Seeking advice from a professional is therefore important.

Where to look:

Make sure you check your entire body, including skin that is not normally exposed to the sun.

Head, scalp, neck and ears

Use a hand-held mirror or ask someone to check areas you can't see easily.

Torso: front, back and sides

Check front, back, then right and left sides with your arms raised.

Arms, hands, fingers and nails

Look carefully at forearms and upper arms.

Buttocks and legs

Check all sides from ankles to thighs.

Feet

Check the soles, between your toes and on nailbeds.

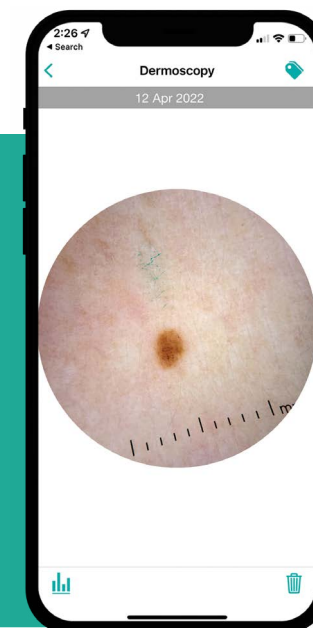
Did you know?

- For men, the most common site of melanoma is the back; for women, it's the legs.
- Melanoma does not always occur on areas of the body that have been exposed to the sun.
- While it usually begins in the skin, melanoma can also start in the eye, under the nails or on moist mucosal surfaces that line the inside your body (e.g. mouth or genitals).

Know your skin and seek help if you notice any changes.

Photographing your moles

Several smartphone apps allow you to photograph your skin and set reminders for skin checks. They can be really helpful for keeping track of your moles over time, making it easier to detect changes. However, they cannot reliably diagnose skin cancer and should not replace a visit to the doctor. If you find something you are worried about, make sure you see your doctor.



2. Have a professional skin check

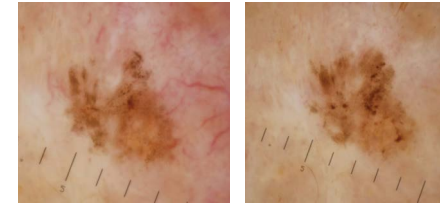
It is important to get a professional skin check by a doctor if anything suspicious appears on your skin or if you are high risk. Talk to your doctor about if and how often you should be getting a professional skin check.

Doctors use a number of tools and techniques to examine skin thoroughly, beyond what the naked eye can see. These include dermoscopy using a dermatoscope, digital monitoring and total body photography. These tools

help reduce unnecessary biopsies and detect melanomas at an early stage, which can lead to a better outcome.

Dermoscopy

During a skin check, your doctor will use dermoscopy to closely examine your skin. They use a handheld microscope called a dermatoscope which allows them to see under the surface of the skin using light and magnification. This helps them identify features that are not visible to the naked eye.



Digital dermoscopic monitoring

Digital dermoscopic monitoring can help doctors spot even the smallest changes in a skin lesion over time. High resolution dermoscopy photos of the same lesion are repeated over time (often 3 months for moles; sometimes 6-12 months for other lesions). They are then compared side-by-side to detect any subtle changes and to help the doctor decide whether or not the lesion should be removed.

Total body photography

Total body photography is a series of high-resolution photographs documenting the size and location of all moles on the skin. Professional medical photography services use specialised equipment and software to help your doctor identify new or changing lesions for further assessment.

Baseline total body photography can be helpful for many people, but it is especially helpful for people with many moles, dysplastic naevus syndrome or multiple primary melanomas. Total body photography can then be repeated at various intervals and new or changing lesions are identified with side-by-side photos for comparison.

How often do I need a professional skin check?

Not everyone needs a regular professional skin check. Sun protection is the most important defence against melanoma. However, it's important to know your skin, and if you see new or changing lesions – see your doctor.

Regular skin checks are recommended for certain high-risk people, including those with:

- previous melanoma
- lots of moles
- strong family history
- previous BCCs and SCCs.

The frequency of skin checks is individual, depending on your risk factors and response to treatments. If you have concerns or are unsure of your risk, discuss with your doctor.

DIY melanoma photography:

You can take your own version of total body photographs as long as the photos are high resolution, in focus and show all your moles. Most melanomas develop as new lesions on the skin and skin lesions that do not change over time are likely to be benign.



Should my children also have skin checks?

Melanoma is rare before puberty. For this reason, younger children usually only have their skin examined by a doctor if their parent is concerned about a particular spot or mole.

While teenagers can develop melanoma, their risk is much lower than adults. Regular skin checks by a doctor in adolescence would usually only occur when other risk factors are present, such as a known genetic mutation.

The most important thing you can do for your children is to prevent them from developing melanoma in the first place by protecting their skin from the sun using the five sun safe rules (see page 7).

Where can I get my skin checked?

Your General Practitioner (GP)

Most GPs can perform a skin check and examine any lesions of concern. They are familiar with your history, can talk to you about other risk factors and can treat some skin cancers. They may also refer you to a dermatologist, if needed.

Skin Cancer Clinics

There are many skin cancer clinics across Australia. Skin cancer clinics are usually operated by GPs with an interest in skin cancer and they may have completed extra training.

Dermatologists

For a second opinion, or for people at high risk of melanoma, a referral to see a dermatologist is recommended. Dermatologists are doctors who have completed additional training to specialise in diagnosing and treating skin disease, including skin cancers.

To see a dermatologist, you will need a referral from a GP. Keep in mind that there can be long waiting times to get an appointment and also be sure to ask about the fees and what is covered by Medicare.



Look for a clinician who:

- uses a dermatoscope to check your skin
- has undertaken additional training in dermoscopy.

Further resources

Melanoma Institute Australia

Melanoma Institute Australia is a not-for-profit organisation involved in preventing and curing melanoma through research, treatment and education programs. There is a lot of information on their website about melanoma, including causes, prevention and early detection, and resources like patient guides, support services and support groups.

melanoma.org.au

Melanoma Institute Australia also has a website where you can calculate your risk of developing melanoma.

melanomarisik.org.au

Melanoma Patients Australia

Melanoma Patients Australia is a not-for profit, patient-driven organisation that provides support and information about melanoma prevention, diagnosis and treatment. They also provide support and advocacy for melanoma patients and their families and have a specialist melanoma nurse telehealth service.

melanomapatients.org.au

Support helpline: 1300 88 44 50

Cancer Council

Cancer Councils throughout Australia have a wealth of information about melanoma and sun safety, as well as providing access to a number of online and telephone support options for people diagnosed with cancer.

cancer.org.au

Support helpline: 13 11 20

Cancer Council also runs the SunSmart program which provides many resources on skin cancer prevention and sun protection.

sunsmart.com.au

Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)

Real-time UV tracking is available via the ARPANSA website - the Australian Government's primary authority on radiation protection and nuclear safety.

uvdata.arpansa.gov.au/uvlevel



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