

What Is Melanoma?

Melanoma is the most serious type of skin cancer. It begins in skin cells called melanocytes.

Melanocytes are the cells that make melanin, which gives skin its color. Melanin also protects the deeper layers of the skin from the sun's harmful ultraviolet (UV) rays.

When people spend time in the sunlight, the melanocytes make more melanin and cause the skin to tan. This also happens when skin is exposed to other forms of ultraviolet light (such as in a tanning booth). If the skin receives too much ultraviolet light, the melanocytes may begin to grow abnormally and become cancerous. This condition is called melanoma.

In fair-skinned people, the skin cells called melanocytes make less melanin, so there is less protection against the harmful rays from the sun. Fair-skinned people have a higher risk for melanoma and other types of skin cancer if they have too much exposure to sunlight.

Melanoma is also more common in people who live in areas with large amounts of UV radiation from the sun, such as New Zealand and Australia. In fact the rate is 7 times that of the UK and Europe.

Tanning booths and sunlamps also use UV light. These artificial sources of UV light can damage skin cells and increase the risk of melanoma.

Some people may have a hereditary defect that increases their risk of melanoma.

How and where does melanoma appear?

The first sign of melanoma is often a change in the size, shape, or color of a mole. But melanoma can also appear on the body where there has not been a mole in the past. Dermoscopy (scanning the lesion with a skin microscope) is a very helpful way to distinguish a new mole which is benign from a melanoma.

In men, melanoma *most often* shows up:

- on the upper body, between the shoulders and hips
- on the head and neck

In women, melanoma often develops on the lower legs.

In dark-skinned people, melanoma often appears:

- under the fingernails or toenails
- on the palms of the hands
- on the soles of the feet

Although these are the most common places on the body for melanomas to appear, they can appear anywhere on the skin. That's why it is important to always examine your skin to check for new moles or changes in moles.

With early diagnosis and treatment, the chances of recovery are very good.

The chance of getting melanoma increases as you get older, but people of any age can get melanoma. In fact, melanoma is one of the most common cancers in young adults. Each year, more than 2,000 people in New Zealand learn that they have melanoma.

Melanoma is a serious and sometimes life-threatening cancer. If melanoma is found and treated in its early stages, the chances of recovery are very good. If it is not found early, melanoma can grow deeper into the skin and spread to other parts of the body. This spread is called metastasis.

Once melanoma has spread to other parts of the body beyond the skin, it is difficult to treat.

Diagnosing Melanoma

Changes in colour, shape, texture or sensation of an existing mole, or development of a new “mole” usually prompts people to have the mole checked. The first step in making the diagnosis is to use a hand skin microscope to scan the mole (dermoscopy) – this reveals deeper structures that cannot be seen with the naked eye. If the mole is suspicious for a melanoma then it is then cut out.

If the mole turns out to be melanoma, we need to find out more about the disease, based on:

- how thick the tumour is
- how far it may have spread

This process is called staging. The stage of a melanoma is important because it determines what kinds of treatment you will receive. For example, if you have an early stage of melanoma, you might only have surgery and no other treatment. If you have a later-stage melanoma, you might need additional treatment after the tumor has been removed, to reduce the chances of it coming back.

It may be suggested to have a procedure called a sentinel lymph node (SLN) biopsy. This will help us find out whether, and where, the melanoma has spread.

- Other tests may also play a role in staging. These include:
- blood tests
- chest x-rays
- CT (computed tomography)
- MRI (magnetic resonance imaging)

After all traces of the tumor have been removed, you may see an oncologist, a cancer specialist. If the melanoma has spread to other areas or if there is a good chance the melanoma might come back, the oncologist may prescribe additional treatment. The table below shows the different stages of melanoma, what they mean, and what kind of treatment is usually done.

Staging Classifications

IA

What it Means

The tumour is less than 1 millimetre thick. The outer layer of skin does not look cracked or scraped (ulcerated). It has not spread to any lymph nodes or other organs.

Treatment

The tumour and some surrounding tissue are removed surgically. Usually no further treatment is necessary.



IB

What it Means

The tumour is either less than 1 millimetre thick and ulcerated, or 1-2 millimetres thick and *not* ulcerated. It has not spread to any lymph nodes or other organs.

Treatment

The tumour and some surrounding tissue are removed surgically. Usually no other treatment is necessary.



IIA

What it Means

The tumour is either 1-2 millimetres thick and ulcerated, or 2-4 millimetres thick and *not* ulcerated. It has not spread to any lymph nodes or other organs.

Treatment

The tumour and some surrounding tissue are removed surgically. Usually no other treatment is necessary.



IIB

What it Means

The tumour is either 2-4 millimetres thick and ulcerated, or more than 4 millimetres thick and *not* ulcerated. It has not spread to any lymph nodes or other organs.

Treatment

The tumour and some surrounding tissue are removed surgically. Immunotherapy may be given in cases of thicker tumours.



IIC

What it Means

The tumour is more than 4 millimetres thick and is ulcerated.

Treatment

The tumour and some surrounding tissue are removed surgically. Immunotherapy may be given.



IIIA, IIIB, IIIC

What it Means

The tumour may be any thickness. It may or may not be ulcerated. The cancer cells have spread either to a few nearby lymph nodes, or to some tissue just outside the tumour but not to the lymph nodes.

Treatment

The tumour and lymph nodes that have cancer cells are removed surgically. Immunotherapy may be given.

IV What it Means

The cancer cells have spread to the lymph nodes, other organs in the body, or areas far from the original site of the tumor. This is called metastatic melanoma.

Treatment

The tumour and lymph nodes that have cancer cells are removed surgically. Radiation therapy, chemotherapy, or immunotherapy may be given to relieve symptoms

Treating Melanoma

Early-stage melanoma can usually be treated with surgery alone.

- The treatment for melanoma depends on three factors:
- the age of the person
- the general health of the person
- the stage of the disease

Surgery is the first treatment for all stages of melanoma (IA through IV). The tumor is removed entirely, along with some surrounding tissue (usually 5 – 10 mm all around). If the melanoma has spread to the nearby lymph nodes, the affected lymph nodes may also be removed surgically.

Surgery is usually the only treatment needed for people with early-stage melanomas (thinner melanomas that have not spread to the lymph nodes). However, these people still need regular follow-up skin visits to make sure the melanoma has not come back and that other moles do not need biopsies.

Once a person has had melanoma, there is a higher chance of getting it again.

- For later-stage melanomas (thick melanomas or those that have spread to the nearby lymph nodes), other treatments besides surgery may be needed. These are called "adjuvant" treatments, and they may take the form of:
- immunotherapy
- chemotherapy
- radiation therapy

Melanoma that has spread to distant sites in the body, or to other organs (such as the lungs or liver) cannot be cured. In these cases, treatment usually focuses on relieving symptoms and keeping people as comfortable as possible.

People with advanced melanoma may be enrolled in clinical trials to try new and experimental treatments.

Prognosis of melanoma

Depth of invasion 10 year survival rate

in situ	100%
<0.85 mm	95.7%
0.85-1.69 mm	87.1%
1.70-3.59 mm	66.5%
>3.60 mm	46.0%

Follow-up

The current recommendation is that the operating surgeon should follow the patient for the first 12 months and thereafter by a specialist/general practitioner as appropriate:

Patients that have had more than one primary melanoma or have multiple atypical naevi (funny moles), especially if there is a strong family history of melanoma, may be advised to have follow-up examinations by a specialist for life.

in situ	Every 3 months for one year
<1.4 mm	Every 3 months for 18 months then 6 monthly until the 3 rd anniversary
>1.4 mm	Every 3 months for 18 months then 6 monthly until the 5 th anniversary

Melanoma Prevention

The main cause of melanoma is too much exposure to ultraviolet (UV) rays.

The best way to prevent melanoma is to reduce the amount of time you spend in the sun—especially at certain times of the day—and to make sure that you are well protected when you are in the sun.

You can also do a skin self-exam every 6 to 8 weeks. This helps ensure that you find suspicious moles early and have them checked promptly by your doctor.

Childhood is an especially important time for sun protection.

Protecting the skin during the first 18 years of life can reduce the risk of some types of skin cancer by up to 78%.

Examination of 1st degree relatives

Following the diagnosis of melanoma, first-degree relatives of the patient should be encouraged to have their skin examined for atypical naevi and melanoma. These relatives should be counseled about melanoma and sun protection. How frequently these patients should be reviewed is unclear and depends on risk factors (see guidelines on the management of atypical naevi). Patients should be encouraged to perform monthly self-examinations.