How is melanoma diagnosed?

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Every melanoma diagnosis starts with an examination of the suspicious spot or mole and any other moles on your body. The doctor will also ask if you or your family have a history of melanoma.

Excision biopsy

If your doctor suspects that a spot on your skin may be a melanoma it will be removed for examination by an excision biopsy. An excision biopsy is a quick and simple procedure that can be done by your GP, dermatologist or surgeon.

You will be given a local anaesthetic injection around the suspicious mole. The doctor will use an instrument called a scalpel to cut out the mole and some surrounding tissue. You will have a stitch or two to close up the affected area.

The tissue sample will be sent to a laboratory for testing, where a person who specialises in medical diagnosis (pathologist) will examine it. The biopsy results will show whether or not the cells are cancerous (malignant). Results take about a week to be ready so you will probably have a follow-up appointment. This waiting period can be an anxious time and it may help to talk things over with a close friend, a relative or your GP.

Pathology report

If you have melanoma, the pathologist will provide a report that specifies the thickness of the tumour and how deeply into the skin the cancer cells have grown.

Breslow thickness
This describes the thickness of the tumour in millimetres. Melanomas are classified in four categories:

• less than 1mm
• 1 – 2mm
• 2.1 – 4mm
• 4mm or thicker.

Clark level
This may be on your pathology report. It is a number (1-5) describing how deeply the cancer has
penetrated into the skin. Lower Clark levels indicate that the cancer remains close to the skin’s surface (more superficial); higher levels show that the cancer has penetrated more deeply in the skin.

The greater the Breslow thickness and the deeper it has grown into the skin (higher Clark levels), the more likely it is that the cancer will come back or spread to lymph nodes or internal organs.

If the abnormal cancer cells are only in the uppermost layer of the skin and have not penetrated into deeper tissue, this is called a melanoma in-situ. This type of tumour can be removed with surgery, with a very low risk of it coming back (recurrence). A more invasive melanoma will sometimes recur even if it is adequately removed from the skin. It can sometimes be difficult to tell a melanoma in-situ from an invasive melanoma so your doctor may request further tests.

**Further tests**

When it’s confirmed that you have a melanoma, the doctor will check your nearby lymph nodes to see if the cancer has spread. Lymph nodes are part of your body’s lymphatic system which removes excess fluid from tissues, absorbs fatty acids, transports fat and produces immune cells. Sometimes melanoma cells can travel through the lymph vessels to other parts of the body.

**Physical examination**

If you have a thin melanoma your doctor will feel the lymph nodes nearest to the melanoma to see if the cancer has spread to the lymph nodes. If your doctor doesn’t feel any lumps you may not need more diagnostic tests.

If your doctor feels a lump in a lymph node under your skin you will probably have another type of biopsy to check for cancer cells in the lymph node. The only way to check for cancer is to take a tissue sample so the cells can be examined by a pathologist.

**Lymph node biopsies**

You may have a fine needle biopsy or a sentinel node biopsy to check your lymph nodes for cancer.

**Fine needle biopsy**
The doctor will insert a thin needle into a lymph node and take out a small sample of cells.

**Sentinel node biopsy**
This is often used for melanomas thicker than 1mm. It is possible to work out which lymph node has the closest connection to the melanoma (i.e. the node it drains to first, called the sentinel node) by injecting a small amount of radioactive fluid into the skin around the melanoma. The fluid travels through the lymph vessels and identifies the sentinel node. Injecting the fluid into the lymph vessels is called lymphoscintigraphy and is conducted in the nuclear medicine department.

Your surgeon will identify the sentinel lymph node with a blue dye injection and, if possible, remove it so it can be checked for melanoma cells. You will have a brief stay in hospital and you will usually be given a general anaesthetic. If melanoma cells are found the nearby lymph nodes may need to be removed as well.

**Staging melanoma**

Based on the diagnostic tests the doctor will be able to tell how far the disease has spread into the skin and whether or not it has moved from the starting point on the skin (the primary site) to the lymph nodes or other parts of the body. This is called staging.

Staging the melanoma helps your health care team decide what treatment is best for you.
Stages 1–2
The melanoma has not moved beyond the primary site, its starting point on the skin (localised cancer).

Stage 3
The melanoma has spread to lymph nodes near the primary site.

Stage 4
The melanoma has spread to other parts of the body.

Prognosis

Prognosis means the expected outcome of a disease. You will need to discuss your prognosis and treatment options with your doctor but it is not possible for any doctor to predict the exact course of your disease.

Melanoma can be treated most effectively in its early stages when it is still confined to the top layer of the skin (epidermis). The deeper a melanoma penetrates into the skin, the greater the risk that it may spread to draining lymph nodes or to other organs.

Melanoma is more dangerous than other skin cancers because of its ability to spread from the skin to other parts of the body.

In Australia more than 85 per cent of people with melanoma are cured by surgery. With early detection and treatment, the percentage of people cured has grown steadily over the past 20 years.

Assessing prognosis

Test results, the type of melanoma you have, the rate and depth of tumour growth, how well you respond to treatment and other factors such as age and medical history are all important factors in assessing your prognosis.

Want to know where this information comes from? Click here.

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