

This melanoma patient brochure is designed to help educate melanoma patients and their caregivers. It was developed under the guidance of Dr. Michael Smylie, Professor, Department of Oncology, University of Alberta; Medical Oncologist, Cross Cancer Institute, Edmonton, Alberta.

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Malignant Melanoma – Early Stage

A guide for patients





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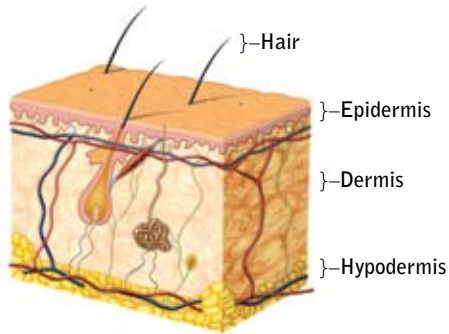
Understanding Melanoma

Melanoma is a type of cancer. Most often, melanoma starts in the skin. To understand melanoma, it is useful to know a little bit about the skin.

The skin

The skin is the largest organ of the body. Skin has many functions:

- It protects the organs and tissues of the body
- It helps control body temperature
- It makes vitamin D
- It stores fat and water.



Skin cancer

There are three kinds of skin cancer. Each one develops from a different type of skin cell in the top layer of the skin:

- *Squamous cell carcinoma* develops from squamous cells.
- *Basal cell carcinoma* develops from basal cells.
- *Melanoma* develops from *melanocytes*.

Melanocytes

Melanocytes make *melanin*. This pigment gives colour to the skin, hair, and eyes. When skin is exposed to the sun, melanocytes make more melanin. This is how the skin tans. A *nevus*, or mole, is a group of melanocytes.



Melanoma Risk Factors

Most people with melanoma have at least one risk factor for the disease. But some people with melanoma have no risk factors. Risk factors for melanoma are listed below.

Ultraviolet (UV) rays

The sun, sun lamps, and tanning beds all produce ultraviolet (UV) rays. UV rays increase the risk of all skin cancers. Bad sunburns during childhood increase the risk of melanoma. UV exposure is the most important melanoma risk factor. People who spend a lot of time outdoors have an increased risk of melanoma.

Moles (nevi)

Moles are common, and most people have at least a few moles, or *nevi*. A normal mole is a small, brown spot on the skin (Figure 1). A large number of moles increases the risk of melanoma.



Figure 1. A normal mole on the left and an *atypical mole*, or *dysplastic nevus*, on the right.

A *dysplastic nevus*, or atypical mole, is *precancerous* (leading to cancer). Atypical moles increase the risk of melanoma.

Fair skin

Fair skin burns more easily in the sun than darker skin. Fair skin is a risk factor for melanoma and other skin cancers.

Family history

Having a close relative (a parent, child, or sibling) with melanoma increases the risk of melanoma by 50%. Having a more distant relative with melanoma also increases melanoma risk, but not as much.

Personal history

A history of *any* skin cancer increases melanoma risk.

Weakened immune system

A weakened immune system increases melanoma risk. Some diseases – like AIDS and cancer – also weaken the immune system. Medications to treat cancer also suppress the immune system.

Where melanomas start

Melanoma develops most often in skin that has been exposed to the sun. However, this cancer can start anywhere there are melanocytes – like the eyes, mouth or vagina. Melanoma can develop in skin with precancerous *lesions* (abnormal cells) and in skin that looks healthy. Melanoma may also occur in skin that has not been exposed to much sunlight, like the palms of the hands and soles of the feet.

How melanomas grow

Melanomas often grow in a specific way. First, they spread *out* from the centre of the lesion, growing in size. Then, they grow *down*, increasing in thickness. After melanomas have grown far enough down, they gain the ability to spread, or *metastasize*, within the body. Not all melanomas have a radial growth phase.

Incidence of Melanoma

Melanoma makes up a small fraction of all skin cancers – about one in 20, but cases have increased over the past several decades. In fact, melanoma is rising faster than any other cancer. The incidence doubles every 10 to 20 years. In Canada, the incidence of melanoma almost tripled over approximately 30 years (Figure 2).

This increase is due to earlier diagnosis and to increased sun exposure. Recently, the growth in melanoma has slowed down. Education has increased awareness about skin cancer prevention and avoiding too much sun exposure.

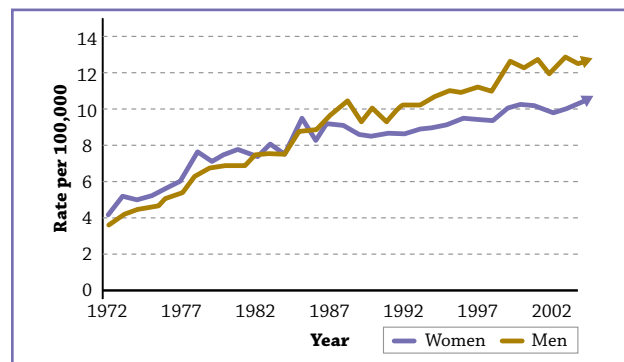


Figure 2. The age-standardized incidence of melanoma (1972–2004) in Canada has increased substantially, especially in men.

Melanoma is more common in whites than blacks or Asians. It is more common in whites with light skin than those with dark skin. Melanoma is a little more common in men than women. Melanoma is often diagnosed in people younger than 55 years of age. It is the most common cancer in women 25 to 29 years of age, but it can develop at any age. On average, people are 57 years old when melanoma is diagnosed.

Signs and Symptoms

Melanomas can be very different from each other. But several signs and symptoms may indicate melanoma.

New mole or growth

The first sign of melanoma is often a new mole or growth on the skin. The new growth could be a pearly nodule, a mole or a scaly, red patch.

Change in a mole

Melanoma can also begin with a change in a mole that has been there for some time. Changes such as the following could occur with melanoma:

- The surface could become rough or ooze or bleed
- The texture of the mole could become hard or lumpy
- The shape could become lopsided or irregular
- The edge could become uneven or jagged
- The colour could change, or the mole could have more than one colour: black, grey, brown, blue, red, pink, or white
- The size could increase, so the mole becomes larger than the eraser on a pencil

Skin lesions

Skin lesions could be a sign of melanoma:

- A sore that does not heal
- A patch of skin that bleeds or oozes
- Skin that is itchy or swollen
- A lesion that becomes red and bumpy.

Many skin problems may look alike. To diagnose melanoma, your doctor needs to gather more information and perform some tests.



Melanoma Diagnosis

Diagnosis overview

Several steps are involved in diagnosing melanoma. Your doctor first takes a medical history and performs a physical examination. If your doctor suspects melanoma, a *biopsy* is the next step. Other tests may be needed if biopsy confirms a melanoma.

Diagnosis in detail

History

A medical history includes a family and personal history of moles and skin cancer.

- *Family history:* About one in 10 people with melanoma have family members with the disease or with many atypical moles.
- *Personal history:* Your doctor needs to know about your history of sun exposure, especially severe burns as a child. It is also important to know about any previous skin cancer and any changes in moles.

Physical examination

A full-body skin examination is vital. Your doctor may photograph your skin to identify any changes at later appointments. A specialist may use a special microscope with a light called a dermoscope to examine your mole.

Lymph nodes are also examined. Lymph nodes are small glands that are part of the immune system. They filter out viruses, bacteria, and abnormal cells and destroy them. If cancer is present in the body, it usually spreads first to the lymph nodes in the area.

Biopsy

A *biopsy* is the surgical removal of tissue for examination. Biopsy is the only test that can diagnose melanoma. There are two kinds of biopsy: *excisional biopsy* and *incisional biopsy*. An excisional biopsy removes the entire mole or growth. If the growth is large, an incisional biopsy may be used to remove part of the lesion.

Microscopic examination of the tissue can diagnose melanoma and determine its type and *stage*. Melanoma stage describes the tumour size, thickness, and how far it has spread.

Other tests

Your doctor may perform several other tests if the biopsy results suggest the melanoma may have spread deep into the skin.

- *Lymph node biopsy*: Your doctor may perform a lymph node biopsy to see if the tumour has spread.
- *Imaging studies*: Imaging studies include the familiar x-rays and a *computed tomography scan*, which is usually called a *CT scan*. Your doctor may order the following imaging studies:
 - *Chest x-ray*: This may be performed to confirm that the lungs are free of melanoma.
 - *Abdominal Ultrasound*: Also called ultrasound scanning or sonography, involves using high-frequency sound waves to produce pictures of the organ.
 - *CT scan of the chest /abdomen*: This test may be performed, based on results of the chest x-ray.



Types of Melanoma

There are five different types of melanoma. The melanoma type is determined by microscopic examination of the biopsy sample.

Superficial spreading melanoma

Superficial spreading melanoma makes up about 70% of melanomas of the skin. This type usually develops from an atypical mole and can be found anywhere on the body.

Nodular melanoma

Nodular melanoma makes up about 10-15% of melanomas. This type starts growing down into the skin and spreading quickly.

Lentigo maligna melanoma

Lentigo maligna melanoma makes up about 10-15% of melanomas. This type of melanoma is most often seen on sun-exposed skin, and it is often large.

Acral lentiginous melanoma

Acral lentiginous melanoma occurs as often in black people as in whites. This type quickly grows down into the skin and begins to spread.

Mucosal lentiginous melanoma

Mucosal lentiginous melanoma develops in the lining of the respiratory, gastrointestinal, and genitourinary tracts. It is often seen in the elderly. It is often diagnosed at an advanced stage.

Stages of Melanoma

Staging is a system of grouping melanomas by size, thickness, and spread. The stage helps decide the best treatment. Melanoma is classified into five stages. *Early melanoma* describes stage 0, I and II melanoma. *Advanced melanoma* refers to stage III and IV melanoma.

Stage	Description
Early melanoma	
0	The melanoma is only in the very top layer of the skin. This stage is sometimes called <i>in situ</i> cancer.
I	The melanoma is in only the surface layers of the skin. It has not spread to nearby lymph nodes. It is smaller than 1 mm, with or without ulceration. Or It is between 1 and 2 mm, without ulceration.
II	The melanoma is in only the surface layers of the skin. It has not spread to nearby lymph nodes. It is between 1 and 2 mm, with ulceration. Or It is larger than 2 mm, with or without ulceration.
Advanced melanoma	
III	The melanoma has spread within the skin or to at least one nearby lymph node.
IV	The melanoma has spread to other skin areas, to distant lymph nodes or to other parts of the body, including internal organs, such as the lung.

Treatment of Melanoma

Even though the number of melanoma cases has increased over the past decades, early diagnosis and treatment have improved the *prognosis*, or outlook, for people with melanoma. The main types of treatment for melanoma are surgery, medical treatment, and radiation therapy.

Surgery

Most early melanomas can be removed using a local anesthetic. If the melanoma is small, it may have been entirely removed during the initial biopsy. In this case, no more surgery is needed.

If the initial biopsy only removed a tissue sample, then a second procedure is required to remove the whole lesion plus a *margin*, or border, of normal tissue around the melanoma. If any lymph nodes near the melanoma are enlarged, all lymph nodes in the region of the lesion are removed.

Medical therapy

In early melanoma, medical therapy may be used to prevent the tumour from recurring. Some patients with thicker, stage II melanomas may benefit from medical therapy. The main types of medical therapy are *chemotherapy* and *biological therapy*.

Chemotherapy

Chemotherapy drugs kill both cancer cells and normal cells. Chemotherapy side effects are caused by damage to normal cells. Side effects include nausea and vomiting, fatigue, and hair loss. Chemotherapy can also increase the risk of infection for a time after treatment.



Biological therapy

Biological therapy is also called *targeted therapy*, because the medication *targets* specific types of cells without damaging normal cells. Sometimes biological therapy is called *immunotherapy*, because the therapy is based on natural immune system chemicals to attack cancer cells. Side effects of biological therapy are often less severe than chemotherapy side effects. Biological therapy side effects may include fever or chills, rashes, or reactions at the injection site.

Radiation therapy

Radiation therapy damages both normal cells and cancer cells in its path. Side effects depend on the area of the body treated and include skin redness or irritation and fatigue. In early melanoma, radiation may be used after surgery to prevent recurrence.

Follow-up and Monitoring

Follow-up after melanoma treatment depends on the stage of the melanoma. A melanoma diagnosis increases the risk of another melanoma. Therefore, your doctor will perform a full-body skin examination, at least every year, for the rest of your life.

Self-monitoring

Your doctor will also teach you how to examine your skin and lymph nodes. You should examine your skin at least monthly. Make sure you check the back of your body. Use a mirror or have someone check for you. Look for changes in moles, any new growths, sores that do not heal, and abnormal areas of skin. Contact your doctor right away if you notice any abnormalities. Your doctor may also recommend that you examine your lymph nodes every month.

A schedule like the following one is followed if you have no signs or symptoms of melanoma. If you do develop new signs or symptoms, your doctor will investigate them and determine appropriate treatment and follow-up based on your test results.

Stage 0 (*in situ*)

Your doctor will perform a full-body skin examination at least every year. You should examine your skin every month.

Stage IA

Your doctor will see you on the following schedule to take a history and perform a physical examination:

- Every 3 to 12 months for 5 years
- Once a year after that

Also, at least every year, your doctor will perform a full-body skin examination. You should examine your skin and lymph nodes every month.

Stage IB, IIA, IIB, IIC

Your doctor will see you on the following schedule to take a history and perform a physical examination:

- Every 3 to 6 months for 2 years
- Every 3 to 12 months for 2 years
- Once a year after that

Your doctor may decide to perform selected investigations, such as blood tests or imaging studies, every 6 to 12 months, to screen for tumour recurrence or spread. Also, at least every year, your doctor will perform a full-body skin examination. You should examine your skin and lymph nodes every month.



Your Healthcare Team

Record the names and contact information for the members of your healthcare team in the space below to provide a handy reference.

Oncologist Dr. _____
Tel _____

Family Doctor Dr. _____
Tel _____

Clinic Nurse Name _____
Tel _____

Pharmacist Name _____
Tel _____

Social Worker Name _____
Tel _____

Psychologist Name _____
Tel _____

Nutritionist Name _____
Tel _____

Other Name _____
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Appointments

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