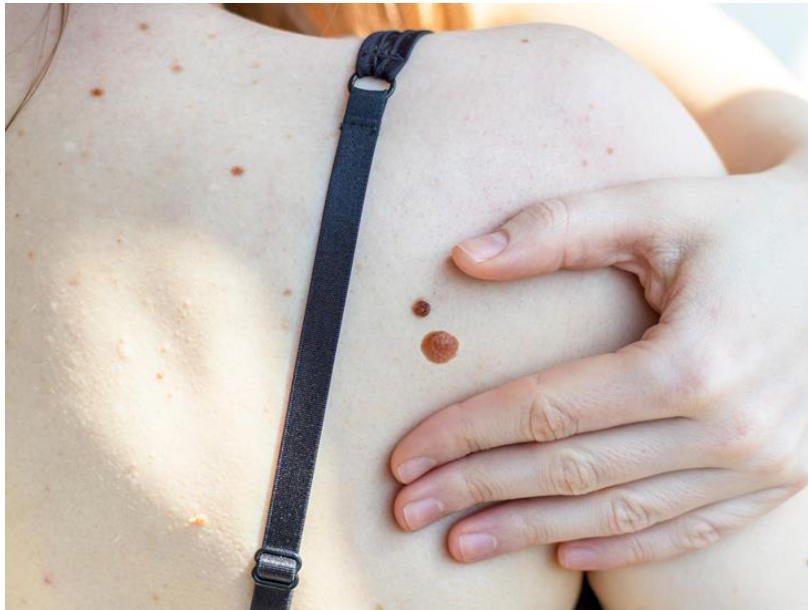


# healthline



*With summer coming, we all need to be aware of the damaging effect of UV radiation to skin. This is why May is Skin Cancer Awareness Month, a time to join together to educate people about skin cancer, share the facts and help save lives.*

## Everything You Need to Know About Melanoma

Melanoma is a specific kind of skin cancer. It begins in skin cells called melanocytes. Melanocytes produce melanin, the substance that gives your skin color.

Only about 1 percent of skin cancers are melanomas. Melanoma is also called malignant melanoma or cutaneous melanoma.

When melanoma is diagnosed in the early stages, most people respond well to treatment. But when not caught early, it spreads easily to other parts of the body.

### **What are the symptoms?**

Early signs and symptoms of melanoma are:

- changes to an existing mole
- the development of a new, unusual growth on your skin

If melanoma cells are still making melanin, the tumors tend to be brown or black. Some melanomas don't make melanin, so those tumors can be tan, pink, or white.

Clues that a mole might be melanoma are:

- irregular shape
- irregular border
- multicolored or uneven coloring
- larger than a quarter of an inch
- changes in size, shape, or color
- itchiness or bleeding

Melanoma can start anywhere on your skin. The most likely areas, though, are:

- chest and back for men
- legs for women
- neck
- face

This may be because these areas have more exposure to the sun than other parts of the body. Melanoma can form in areas that don't receive much sun, such as the soles of your feet, palms of your hands, and fingernail beds.

Sometimes, the skin will appear normal even though melanoma has begun to develop.

### **Types of melanoma**

The most common type of melanoma is superficial spreading melanoma. It tends to spread across the surface of the skin, has uneven borders, and varies in color from brown to black, pink, or red.

Nodular melanoma is another type that grows down into deeper layers of the skin and may appear as a raised bump or growth.

Lentigo maligna melanoma tends to appear on parts of the body that get more sun, especially the face, and it often affects older people. It looks like a large, uneven dark patch on the surface of the skin.

Metastatic melanoma occurs when the cancer spreads, or metastasizes, to other parts of the body, possibly including the lymph nodes, organs, or bones.

Other rare types of melanoma also exist, and while it most commonly affects the skin, some affect internal tissues, as well as the eyes.

Mucosal melanoma can develop in the mucous membranes that line the:

- digestive tract
- mouth
- nose
- urinary tract
- vagina

Eye melanoma, also known as ocular melanoma, can occur underneath the white of the eye.

### **Risk factors**

The American Cancer Society states that the lifetime risk of developing melanoma is about:

- 2.6% for white people
- 0.1% for Black people
- 0.6% for Hispanic people

Melanoma is reportedly 20 times more common in white people than Black people. Keep in mind that this data may be due to inequities in healthcare and other contributing factors.

Besides skin with less pigment, having many moles may also be a risk factor.

### ***Genetics/family history***

If a parent or sibling has had melanoma in the past, you may have a higher chance of developing melanoma.

### **Age**

The risk of melanoma grows as you age. The average age at diagnosis is 65, even though it's one of the most common cancers among young adults.

### **What are the stages of melanoma?**

Cancer staging tells you how far cancer has grown from where it originated. Cancer can spread to other parts of the body through tissue, the lymph system, and the bloodstream.

Melanoma is staged as follows:

#### **Stage 0**

You have abnormal melanocytes, but only on the outermost layer of skin (epidermis). This is also called melanoma in situ.

#### **Stage 1**

- 1A: You have a cancerous tumor, but it's less than 1 millimeter (mm) thick. It has no ulceration.
- 1B: The tumor is less than 1 mm thick, but it has ulceration. Or, it's between 1–2 mm thick with no ulceration.

#### **Stage 2**

- 2A: The tumor is between 1–2 mm thick with ulceration. Or, it's between 2–4 mm thick without ulceration.
- 2B: The tumor is between 2–4 mm and is ulcerated. Or it's thicker than 4 mm without ulceration.
- 2C: The tumor is over 4 mm thick and is ulcerated.

#### **Stage 3**

You have a tumor of any size that may or may not be ulcerated. At least one of these is also true:

- cancer has been found in at least one lymph node
- lymph nodes are joined together
- cancer has been found in a lymph vessel between the tumor and the closest lymph nodes
- cancer cells have been found more than 2 centimeters (cm) from the primary tumor
- other tiny tumors have been discovered on or under your skin within 2 cm of the primary tumor

#### **Stage 4**

Cancer has spread to distant sites. This can include soft tissue, bone, and organs.

### **What's the treatment?**

Treatment depends on the stage of melanoma.

#### **Stage 0**

Stage 0 melanoma only involves the top layer of skin. It's possible to completely remove the suspicious tissue during a biopsy. If not, your surgeon can remove it, along with a border of normal skin.

You may not need further treatment.

#### **Stage 1 and 2**

Very thin melanomas can be completely removed during biopsy. If not, they can be surgically removed later. This involves removing the cancer along with a margin of healthy skin and a layer of tissue underneath the skin.

Early-stage melanoma doesn't necessarily require additional treatment.

#### **Stage 3 and 4**

Stage 3 melanoma has spread away from the primary tumor or into nearby lymph nodes. Wide-excision surgery is used to remove the tumor and affected lymph nodes.

In stage 4 melanoma, cancer has spread to distant sites. The skin tumors and some enlarged lymph nodes can be surgically removed. You can also have surgery to remove tumors on internal organs. But your surgical options depend on the number, size, and location of tumors.

Stages 3 and 4 generally require some additional treatments, which may involve:

- Immunotherapy drugs. These may include interferon or interleukin-2 or checkpoint inhibitors, such as ipilimumab (Yervoy), nivolumab (Opdivo), and pembrolizumab (Keytruda).
- Targeted therapy for those cancers related to mutations in the BRAF gene. These may include cobimetinib (Cotellic), dabrafenib (Tafinlar), trametinib (Mekinist), and vemurafenib (Zelboraf).
- Targeted therapy for melanoma related to mutations in the C-KIT gene. These may include imatinib (Gleevec) and nilotinib (Tasigna).
- Vaccines. These may include Bacille Calmette-Guerin (BCG) and T-VEC (Imlygic).
- Radiation therapy. This can be used to shrink tumors and to kill cancer cells that may have been missed during surgery. Radiation can also help relieve symptoms of cancer that has metastasized.
- Isolated limb perfusion. This involves infusing only the affected arm or leg with a heated solution of chemotherapy.
- Systemic chemotherapy. This may include dacarbazine (DTIC) and temozolomide (Temodar), which may be used to kill cancer cells throughout your body.

Immunotherapy and targeted therapies haven't been shown to cure melanoma, but they can increase life expectancy. Chemotherapy for melanoma can shrink tumors, but they can recur within a few months.

Each type of therapy comes with its own set of side effects, some of which can be serious. It's important to discuss these with your doctor so you can make an informed choice.

Clinical trials can help you get innovative therapies not yet approved for general use. If you're interested in a clinical trial, talk to your doctor.

### **What causes melanoma?**

Normally, healthy new skin cells nudge older skin cells toward the surface, where they die.

DNA damage within the melanocytes can cause new skin cells to grow out of control. As the skin cells build up, they form a tumor.

It's not entirely clear why DNA in skin cells gets damaged. It may be a combination of genetic and environmental factors.

The leading cause may be exposure to ultraviolet (UV) radiation. UV radiation can come from such sources as natural sunlight, tanning beds, and tanning lamps.

### **How is it diagnosed?**

#### ***Physical examination***

First, you'll need a thorough examination of your skin. Most of us have between 10 and 40 moles as adults.

A normal mole usually has a uniform color and a clear border. They can be round or oval, and are generally less than a quarter of an inch in diameter.

A good skin examination will involve looking in less obvious places, such as:

- between the buttocks
- genitals
- palms and under your fingernails
- scalp
- soles of your feet, between your toes, and under your toenails

### ***Blood chemistry studies***

Your doctor can check your blood for lactate dehydrogenase (LDH). Levels of this enzyme can be higher than normal when you have melanoma.

LDH levels may not be checked for early stage disease.

### ***Skin biopsy***

A skin biopsy is the only way to confirm melanoma. For a biopsy, a sample of the skin is removed. If at all possible, the entire suspected area should be removed. Then, the tissue is sent to a lab for examination under a microscope.

The pathology report will be sent to your doctor who will explain the results.

If there's a diagnosis of melanoma, it's important to determine the stage. This will provide information on your overall outlook and help guide treatment.

The first part of staging is to find out how thick the tumor is. This can be done by measuring the melanoma under a microscope.

### ***Lymph node biopsy***

If you have a diagnosis, your doctor may need to find out if cancer cells have spread, though they won't do this for melanoma in situ. The first step is to perform a sentinel node biopsy.

For the surgery, a dye will be injected into the area where the tumor was. This dye will naturally flow to the nearest lymph nodes. The surgeon will remove the lymph nodes to test them for cancer.

If no cancer is found in the sentinel nodes, the cancer probably hasn't spread outside the area that was originally tested. If cancer is found, the next set of nodes may be tested.

### ***Imaging tests***

Imaging tests are used to see if cancer has spread beyond the skin to other parts of the body.

- CT scan. Before the scan, you'll have a dye injected into a vein. A series of X-rays will be taken at different angles. The dye will help highlight organs and tissues.
- MRI. For this test, a substance called gadolinium is injected into a vein. The scanner uses magnet and radio waves to take pictures, and the gadolinium causes cancer cells to brighten.
- PET scan. This test requires a small amount of radioactive glucose to be injected into a vein. Then, the scanner will rotate around your body. Cancer cells use more glucose, so they're highlighted on the screen.

### ***Melanoma survival rates***

It's natural to want to research survival rates, but it's important to understand that they're generalizations. Your circumstances are unique to you, so speak to your doctor about your own prognosis.

Based on data from 2010 to 2016, the 5-year relative survival rates for melanoma of the skin in the United States are 92.7 percent overall, and:

- 99% for localized melanoma
- 66.3% for regional spread
- 27.3% for distant metastasis

About 83 percent of the time, melanoma is diagnosed at the local stage.

### ***Prevention tips***

While you can't completely eliminate risk, here are a few ways to help prevent melanoma and other skin cancers from developing:

- Avoid exposing your skin to the midday sun whenever possible. Remember, the sun still affects your skin on cloudy days and in winter.

- Use sunscreen. Use a broad-spectrum sunscreen with an SPF of at least 30. Reapply every 2 hours or more often if you perspire a lot or go in the water. Do this regardless of the season.
- Cover up. When spending time outdoors, keep your arms and legs covered. Wear a broad-brimmed hat to protect your head, ears, and face.
- Wear sunglasses that protect from UVA and UVB rays.
- Don't use tanning beds or tanning lamps.

### **What's the outlook?**

When it comes to your own outlook, survival rates are only rough estimates. Your doctor can offer you a more individualized assessment.

Some factors that can affect your outlook are:

- Age. Older people tend to have shorter survival times.
- General health. You may not do as well with treatment if you have a weakened immune system or other underlying health problems.

As you can see from the relative survival rates above, many people survive melanoma. Later-stage melanoma is harder to treat, but it's possible to survive many years after diagnosis.

Every year in the United States, 22 out of every 100,000 people receive a diagnosis of melanoma. The sooner it's diagnosed and treated, the better your outlook.

Your chances of early diagnosis may be greater if you:

- Check your body regularly for new growths. Note size, shape, and color changes to existing moles, freckles, and birthmarks. Don't forget to check the bottoms of your feet, between your toes, and nail beds. Use a mirror to check hard-to-see areas such as genitals and between your buttocks. Take photos to make it easier to spot changes. And report any suspicious findings to your doctor right away.
- See your primary care physician every year for a complete physical. If your doctor doesn't check your skin, request it. Or, ask for a referral to a dermatologist.

Medically reviewed by Sara Perkins, MD — Written by Ann Pietrangelo and Daniel Potter on May 8, 2020  
<https://www.healthline.com/health/skin-cancer/melanoma#outlook>