

# Skin Cancer

## Melanoma

### Definitions

**Epidermis:** The outer layer of skin.

**Malignant:** Cancerous and capable of spreading.

**Melanin:** A pigment that gives skin its natural color.

**Pathologist:** A physician who examines tissues and fluids to diagnose disease in order to assist in making treatment decisions.

**Lymphatic:** Relating to lymph glands.

### What is melanoma?

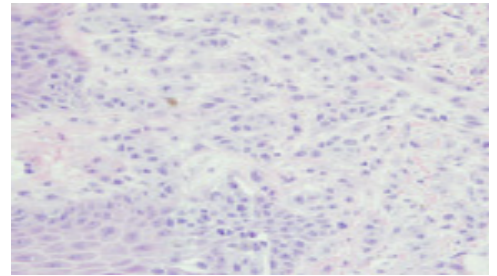
Melanoma is a type of cancer occurring in cells that color the skin called melanocytes. Located in the lower part of the epidermis, these cells produce melanin. When the skin is exposed to the sun, melanocytes produce more pigment, causing the skin to darken, or tan. The most aggressive form of skin cancer, melanoma can occur anywhere on the body. If detected and treated early, it is curable in most instances. Once it advances, however, it can be difficult to treat. Melanoma cases have increased over the past 10 years more rapidly than that of any other cancer, with more than 68,000 cases reported each year.

The best defense against melanoma is to stay out of the sun, use potent topical sunblocks, and have a physician or dermatologist regularly check pigmented areas of your skin for changes.

### Who is most likely to have melanoma?

In men, melanoma is often found on the upper trunk (between the shoulders and hips), head, or neck. In women, this cancer often develops on the arms and legs. More common in adults, melanoma often develops in children and teens.

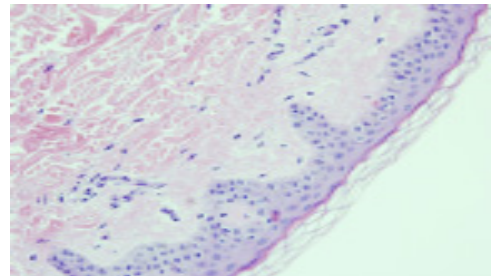
Risk factors include unusual moles, sun exposure, ultraviolet light exposure (tanning booths), and a personal or family history of melanoma. Caucasians—especially those with blue eyes, red or blonde hair, or freckles—have an increased likelihood of having melanoma.



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### What characterizes melanoma?

A possible sign of melanoma is a change in a mole or pigmented area. The change could be in size, shape, height, or color. In some cases, there may be an irregular edge or border, itching, oozing, or bleeding. Asymmetry (two sides of a mole looking or shaped differently) or new moles growing near an existing mole are other signs of possible melanoma.



Normal skin cells.

### How does the pathologist diagnose melanoma?

Your primary care physician or specialist conducts a thorough skin examination, looking for abnormalities in moles, birthmarks, or other pigmented areas. If a suspicious lesion or area is found, the physician will take a **biopsy specimen** for the pathologist to examine under a microscope. In some cases, a physician may use a diagnostic tool called **dermoscopy** to examine a lesion before taking a biopsy sample. This tool magnifies the lesion to 10 times its size. To highlight the pigmented skin's features, a special type of oil is spread on the area before viewing.

### What else does a pathologist look for?

If the pathologist finds malignant cells in the biopsy, your primary care physician may order other tests to find out whether or not the cancer has spread. These tests include a **local excision** or **wide local excision** to see if cancer has spread into the normal area surrounding the melanoma and **lymph node mapping** or **biopsy** to find and remove cancer from the lymph nodes. A **chest x-ray** or a **CT (computed tomography)**, **MRI (magnetic resonance imaging)**, or **PET (positron emission tomography)** scan gives physicians views inside the body. The pathologist may also examine blood and urine samples. *(continued on next page)*

## What kinds of questions should I ask my doctors?

Ask any question you want. There are no questions you should be reluctant to ask. Here are a few to consider:

- Please describe the type of cancer I have and what treatment options are available.
- What stage is the cancer in?
- What are the chances for full remission?
- What treatment options do you recommend? Why do you believe these are the best treatments?
- What are the pros and cons of these treatment options?
- What are the side effects?
- Should I receive a second opinion?
- Is your medical team experienced in treating the type of cancer I have?
- Can you provide me with information about the physicians and others on the medical team?

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These tests help the pathologist assess the location, spread, and **stage** of the melanoma. Stage 1 melanomas are relatively small tumors confined to the location of the original tumor. In stage 4, cancer has spread throughout the body. Stages 2 and 3 describe conditions in between these two extremes. About 70 percent of melanomas are detected at an early stage.

## How do doctors determine what treatment will be necessary?

The pathologist consults with your primary care physician after reviewing the test results and determining the stage of the cancer. Together, using their combined experience and knowledge, they determine treatment options appropriate for your condition.

## What kinds of treatments are available for melanoma?

Melanoma can be treated through one or more of the following: surgery, chemotherapy, radiation therapy, as well as new investigative treatments such as biologic therapy or chemoimmunotherapy. It's important to learn as much as you can about the nature of your cancer and your treatment options and to make the decision that's right for you.

The purpose of **surgery** is to remove the tumor. If the cancer cannot be removed through local excision or wide local excision, the surgeon may conduct a **lymphadectomy** (removal and examination of lymph nodes for cancer). **Skin grafting** (taking skin from another part of the body) may be performed to replace the skin that is removed.

**Chemotherapy** uses drugs to stop the growth of cancer cells. Systemic chemotherapy kills or stops cells from dividing throughout the body. Regional chemotherapy is directed at a specific part of the body, focusing the treatment there and sparing normal cells from damage. To treat melanoma in an arm or leg, chemotherapy drugs may be given as a **hyperthermic isolated limb perfusion**. This technique sends anti-cancer drugs directly to the arm or leg where the cancer is located.

**Radiation therapy** uses high-energy, pinpointed x-rays to kill cancer cells. This type of treatment is directed at specific areas. It can be used to treat small tumors, minimizing the damage to normal cells or tissue surrounding the tumor, or can be used to destroy cancer cells that remain after surgery.

Biologic therapy uses the natural defenses of the immune system to fight cancer. Chemoimmunotherapy uses anti-cancer drugs along with biologic therapy to boost the immune system.

**Clinical trials** of new treatments, such as biologic therapy and chemoimmunotherapy, may be found at [www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials). These treatments are highly experimental in nature but may be a potential option for advanced cancers.

**For more information**, go to: [www.cancer.gov](http://www.cancer.gov) (National Cancer Institute), [www.skincancer.org](http://www.skincancer.org) (Skin Cancer Foundation) or [www.familydoctor.org](http://www.familydoctor.org) (American Academy of Family Physicians). Type the keyword **melanoma** into the search box.

Healing begins with the pathologist's diagnosis. Pathologists are core members of your patient care team.