
Melanoma Skin Cancer Early Detection, Diagnosis, and Staging

Know the signs and symptoms of melanoma skin cancer. Find out how melanoma skin cancer is tested for, diagnosed, and staged.

Detection and Diagnosis

Catching cancer early often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that is not always the case.

- [Can Melanoma Skin Cancer Be Found Early?](#)
- [Signs and Symptoms of Melanoma Skin Cancer](#)
- [Tests for Melanoma Skin Cancer](#)

Stages and Outlook (Prognosis)

After a cancer diagnosis, staging provides important information about the extent of cancer in the body and anticipated response to treatment.

- [Melanoma Skin Cancer Stages](#)
- [Survival Rates for Melanoma Skin Cancer](#)

Questions to Ask About Melanoma Skin Cancer

Get some questions you can ask your health care team to help you better understand your melanoma diagnosis and treatment options.

- [Questions to Ask About Melanoma Skin Cancer](#)

Can Melanoma Skin Cancer Be Found Early?

Melanoma can often be found early, when it is most likely to be cured. Some people have a higher risk of getting melanoma than others, but it's important to know that *anyone* can get melanoma.

- [Skin self-exam](#)
- [Exam by a health care professional](#)

Skin self-exam

Although the American Cancer Society does not have guidelines for the early detection of skin cancer, **knowing your own skin** is important to finding skin cancer early. You should know the pattern of moles, blemishes, freckles, and other marks on your skin so that you'll notice any new growths or changes in existing moles or other spots.

Many doctors recommend checking your own skin, preferably once a month. **Skin self-exams** are best done in a well-lit room in front of a full-length mirror. Use a hand-held mirror to help look at areas that are hard to see, such as the backs of your thighs. Examine all parts of your body, including the palms of your hands and soles of your feet, as well as your scalp, ears, nails, and back (in men, the back is a common place for melanomas to start). A spouse, partner, or close friend or family member can also help you with these exams, especially for those hard-to-see areas, such as your scalp and back.

To learn more, see [How to Do a Skin Self-Exam](#)¹.

See [Signs and Symptoms of Melanoma Skin Cancer](#) to learn about what to look for when examining your skin. Any spots on the skin that are new or changing in size, shape, or color should be seen by a doctor promptly. Be sure to show your doctor any areas that concern you, and ask them to look at areas that may be hard for you to see.

[Skin Cancer Image Gallery](#)²

See examples of skin cancer, as well as other non-cancerous types of skin growths in this gallery.

[Flyer: Checking Your Skin for Signs of Cancer](#)³

Exam by a health care professional

Some doctors and other health care professionals do skin exams as part of routine health checkups.

If your primary doctor finds any unusual moles or other suspicious areas, they may refer you to a **dermatologist**, a doctor who specializes in skin problems. Dermatologists can also do regular skin exams. Many dermatologists use a technique called *dermoscopy* (also known as *dermatoscopy*, *epiluminescence microscopy [ELM]*, or *surface microscopy*) to look at spots on the skin more clearly. A photo of the spot may be taken as well. (See [Tests for Melanoma Skin Cancer](#) for more information.)

Regular skin exams are especially important for [people at higher risk of melanoma](#)⁴, such as people with dysplastic nevus syndrome, people with a strong family history of melanoma, and people who have had melanoma before. If you have many moles, your doctor might advise taking full-body photos so your moles can be tracked over time and new ones can be seen more readily. (This is sometimes called *total body photography* or *mole mapping*.) Talk to your doctor about how often you should have your skin examined.

Hyperlinks

1. www.cancer.org/cancer/risk-prevention/sun-and-uv/skin-exams.html
2. www.cancer.org/cancer/types/skin-cancer/skin-cancer-image-gallery.html
3. www.cancer.org/content/dam/cancer-org/cancer-control/en/booklets-flyers/checking-your-skin.pdf
4. www.cancer.org/cancer/types/melanoma-skin-cancer/causes-risks-prevention/risk-factors.html

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Signs and Symptoms of Melanoma Skin Cancer

Unusual moles, sores, lumps, blemishes, markings, or changes in the way an area of the skin looks or feels may be a sign of melanoma or another type of skin cancer, or a warning that it might occur.

- [Normal moles](#)
- [Possible signs and symptoms of melanoma](#)

Normal moles

A normal mole is usually an evenly colored brown, tan, or black spot on the skin. It can be either flat or raised. It can be round or oval. Moles are generally less than 6 millimeters (about ¼ inch) across (about the width of a pencil eraser). Some moles can be present at birth, but most appear during childhood or young adulthood. New moles that appear later in life should be checked by a doctor.

Once a mole has developed, it will usually stay the same size, shape, and color for many years. Some moles may eventually fade away.

Most people have moles, and almost all moles are harmless. But it's important to recognize changes in a mole – such as its size, shape, color, or texture – that can suggest a melanoma may be developing.

Possible signs and symptoms of melanoma

The most important warning sign of melanoma is **a new spot on the skin or a spot that is changing in size, shape, or color.**

Another important sign is **a spot that looks different from all of the other spots on your skin** (known as the *ugly duckling sign*).

If you have one of these warning signs, have your skin checked by a doctor.

The **ABCDE** rule is another guide to the usual signs of melanoma. Be on the lookout and tell your doctor about spots that have any of the following features:

- **A is for Asymmetry:** One half of a mole or birthmark does not match the other.
- **B is for Border:** The edges are irregular, ragged, notched, or blurred.
- **C is for Color:** The color is not the same all over and may include different shades of brown or black, or sometimes with patches of pink, red, white, or blue.
- **D is for Diameter:** The spot is larger than 6 millimeters across (about $\frac{1}{4}$ inch – the size of a pencil eraser), although melanomas can sometimes be smaller than this.
- **E is for Evolving:** The mole is changing in size, shape, or color.

Some melanomas don't fit these rules. It's important to tell your doctor about any changes or new spots on your skin, or growths that look different from the rest of your moles.

Other warning signs are:

- A sore that doesn't heal
- Spread of pigment from the border of a spot into surrounding skin
- Redness or a new swelling beyond the border of the mole
- Change in sensation, such as itchiness, tenderness, or pain
- Change in the surface of a mole – scaliness, oozing, bleeding, or the appearance of a lump or bump

Be sure to show your doctor any areas that concern you. It's sometimes hard to tell the difference between melanoma and an ordinary mole, even for doctors, so it's important to show your doctor any mole that you are unsure of.

Remember, too, that a small portion of melanomas start in places other than the skin, such as under a fingernail or toenail, inside the mouth, or even in the colored part of the eye (iris). These might look different from melanomas on the skin. For example, a melanoma under a nail might appear as a dark line (streak) in the nail, while a melanoma in the eye might appear as a dark spot in the colored part of the eye. It's important to show a doctor anything that concerns you in these areas as well.

[Skin Cancer Image Gallery](#) ¹

See examples of skin cancer, as well as other non-cancerous types of skin growths in this gallery.

[Flyer: Checking Your Skin for Signs of Cancer](#) ²

Hyperlinks

1. www.cancer.org/cancer/types/skin-cancer/skin-cancer-image-gallery.html
2. www.cancer.org/content/dam/cancer-org/cancer-control/en/booklets-flyers/checking-your-skin.pdf

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Tests for Melanoma Skin Cancer

Most melanomas are brought to a doctor's attention because of [signs or symptoms](#) a person is having.

- [Medical history and physical exam](#)

- [Special techniques to look at the skin](#)
- [Skin biopsy](#)
- [Biopsies of melanoma that may have spread](#)
- [Lab tests of biopsy samples](#)
- [Imaging tests](#)
- [Blood tests](#)

If you have an abnormal area on your skin that might be cancer, your doctor will examine it and might do tests to find out if it is melanoma, another type of skin cancer, or some other skin condition.

If you are being seen by your primary doctor and melanoma is suspected, you may be referred to a **dermatologist**, a doctor who specializes in skin diseases, who will look at the area more closely.

If melanoma is found, other tests might then be done to learn more about it, such as if it has spread to other areas of the body.

Medical history and physical exam

The first step your doctor usually takes is to ask about your symptoms, such as when the mark on the skin first appeared, if it has changed in size or appearance, and if it has been painful, itchy, or bleeding. You may also be asked about your possible [risk factors for melanoma skin cancer](#)¹, such as your history of tanning and sunburns, and if you or anyone in your family has had melanoma or other skin cancers.

During the physical exam, your doctor will note the size, shape, color, and texture of the area(s) in question, and whether it is bleeding, oozing, or crusting. The rest of your body may be checked for moles and other spots that could be related to skin cancer (or other skin conditions).

The doctor may also feel the lymph nodes (small bean-sized collections of immune cells) under the skin in the neck, underarm, or groin near the abnormal area. When melanoma spreads, it often goes to nearby lymph nodes first, making them larger.

Special techniques to look at the skin

Dermatologists sometimes use special tools when trying to determine if an abnormal area might be a melanoma, and therefore if a skin biopsy (see below) is needed.

Dermoscopy

Dermatologists often use dermoscopy, also known as *dermatoscopy*, *epiluminescence microscopy [ELM]*, or *surface microscopy*, to get a closer look at abnormal spots on the skin. In this technique, the doctor uses a dermatoscope, which is a special magnifying lens and light source held near the skin. Sometimes a thin layer of alcohol or oil is put on the skin before using this instrument.

Dermoscopy allows doctors to look at a suspicious area more closely, even giving them the ability to see some structures below the surface of the skin that can't be seen with the naked eye.

Digital images of the area can also be taken during dermoscopy. These can be used to see if an area changes over time. In some systems, the images can be analyzed by a computer, which can help the doctor determine if the area might be a melanoma.

Reflectance confocal microscopy (RCM)

RCM is another technique that lets the doctor look at an abnormal area of skin to a certain depth without having to cut into the skin. In this technique, a low-powered laser is aimed at the suspicious area. The light from the laser enters the upper layers of the skin and reflects off the structures there. A special microscope detects the light as it bounces back, which is used to create a detailed, three-dimensional image of the area. This can help the doctor determine if the area needs to be biopsied.

RCM may be especially useful for people with many unusual moles, as it can cut down on the number of skin biopsies these people might need. RCM might also be helpful in determining the edges of a melanoma, which could help during surgery.

Other methods that don't require cutting into the skin

Other approaches to help doctors get a better idea if an abnormal area is a melanoma are also being developed. For example:

- Some handheld **spectroscopic devices** detect reflections of different wavelengths of light or other forms of energy to help determine if an area is likely to be a melanoma.
- In another approach, known as **adhesive patch testing**, a sticky patch is placed over the area. When it's removed, some skin cells from the area come with it, which can then be tested for certain gene changes that are often linked with melanoma.

To learn more, see [What's New in Melanoma Skin Cancer Research?](#)²

Skin biopsy

If the doctor thinks a spot might be a melanoma, the suspicious area will be removed and sent to a lab to be looked at under a microscope. This is called a *skin biopsy*.

There are many ways to do a skin biopsy. The doctor will choose which one is best based on the size of the affected area, where it is on your body, and other factors. No matter which type of biopsy is done, it should remove as much of the suspected area as possible so that an accurate diagnosis can be made.

Any biopsy is likely to leave at least a small scar. Different methods can result in different types of scars, so ask your doctor about scarring before the biopsy.

Skin biopsies are done using a local anesthetic (numbing medicine), which is injected into the area with a very small needle. You will likely feel a small prick and a little stinging as the medicine is injected, but you should not feel any pain during the biopsy.

[Skin Biopsy and Treatment Procedures](#)³

Explore 3D interactive animations of common biopsy and treatment procedures for skin cancer.

[Flyer: Tests and Procedures to Find and Treat Skin Cancer](#)⁴

Deep shave (tangential) biopsy

For this type of biopsy, also known as **saucerization**, the doctor shaves off the top layers of the skin with a small surgical blade. Bleeding from the biopsy site is stopped by applying an ointment, a chemical that stops bleeding, or a small electrical current to cauterize the wound.

A [shave biopsy](#)⁵ is useful in diagnosing many types of skin diseases and in sampling moles when the risk of melanoma is very low. If this type of biopsy is used for a suspected melanoma, it's important that the biopsy blade will go deep enough to get below the suspicious area. Otherwise, if it is a melanoma, the biopsy sample may not be thick enough to measure how deeply the cancer has invaded the skin.

Punch biopsy

For a [punch biopsy](#)⁶, the doctor uses a tool that looks like a tiny, round cookie cutter to remove a deeper sample of skin. The doctor rotates the punch biopsy tool on the skin

until it cuts through all the layers of the skin. The sample is then removed, and the edges of the biopsy site are often stitched together.

Excisional and incisional biopsies

To examine a tumor that might have grown into deeper layers of the skin, the doctor may use an [excisional](#)⁷ (or less often, an incisional) biopsy.

- An **excisional biopsy** removes the entire tumor (along with a small margin of normal skin around it). This is usually the preferred method of biopsy for suspected melanomas if it can be done, although this isn't always possible.
- An **incisional biopsy** removes only a portion of the tumor.

For these types of biopsies, a surgical knife is used to make an elliptical or circular cut through the full thickness of skin. The skin is then removed for examination, and the edges of the cut are usually stitched together.

Biopsies of melanoma that may have spread

Biopsies of areas other than the skin may be needed in some cases. For example, if melanoma has already been diagnosed on the skin, nearby lymph nodes may be biopsied to see if the cancer has spread to them.

Rarely, biopsies may be needed to figure out what type of cancer someone has. For example, some melanomas can spread so quickly that they reach the lymph nodes, lungs, brain, or other areas while the original skin melanoma is still very small. Sometimes these tumors are found with imaging tests (such as CT scans) or other exams even before the melanoma on the skin is discovered. In other cases, they may be found long after a skin melanoma has been removed, so it's not clear if it's the same cancer.

In still other cases, melanoma may be found somewhere in the body without ever finding a spot on the skin. This may be because some skin lesions go away on their own (without any treatment) after some of their cells have spread to other parts of the body. Melanoma can also start in internal organs, but this is very rare, and if melanoma has spread widely throughout the body, it may not be possible to tell exactly where it started.

When melanoma has spread to other organs, it can sometimes be confused with a cancer starting in that organ. For example, melanoma that has spread to the lung might

be confused with a [primary lung cancer](#)⁸ (cancer that starts in the lung).

Special lab tests can be done on the biopsy samples that can tell whether it is a melanoma or some other kind of cancer. This is important because different types of cancer are treated differently.

Biopsies of suspicious areas inside the body often are more involved than those used to sample the skin.

Fine needle aspiration (FNA) biopsy

Fine needle aspiration (FNA) isn't used to biopsy suspicious moles. But it may be used to biopsy large lymph nodes near a melanoma to find out if the melanoma has spread to them.

For this type of biopsy, the doctor uses a syringe with a thin, hollow needle to remove very small pieces of a lymph node or tumor. The needle is smaller than the needle used for a blood test. A local anesthetic is sometimes used to numb the area first. This test rarely causes much discomfort and does not leave a scar.

If the lymph node is just under the skin, the doctor can often feel it well enough to guide the needle into it. For a suspicious lymph node deeper in the body or a tumor in an organ such as the lung or liver, an imaging test such as ultrasound or a CT scan is often used to help guide the needle into place.

An FNA is not as invasive as some other types of biopsies, but it may not always collect enough of a sample to tell if a suspicious area is melanoma. In these cases, a more invasive type of biopsy may be needed.

Surgical (excisional) lymph node biopsy

This procedure can be used to remove an enlarged lymph node through a small incision (cut) in the skin. A local anesthetic (numbing medicine) is generally used if the lymph node is just under the skin, but the person may need to be sedated or even asleep (using general anesthesia) if the lymph node is deeper in the body.

This type of biopsy is often done if a lymph node's size suggests the melanoma has spread there but an FNA of the node wasn't done or didn't find any melanoma cells.

Sentinel lymph node biopsy

If melanoma has been diagnosed and has any concerning features (such as being at least a certain thickness), a sentinel lymph node biopsy (SLNB) is often done to see if the cancer has spread to nearby lymph nodes, which in turn might affect treatment options. This test can be used to find the lymph nodes that are likely to be the first place the melanoma would go if it has spread. These lymph nodes are called *sentinel nodes* (they stand sentinel, or watch, over the tumor, so to speak).

To find the sentinel lymph node (or nodes), a doctor injects a small amount of a radioactive substance into the area of the melanoma. After giving the substance time to travel to the lymph node areas near the tumor, a special camera is used to see if it collects in one or more sentinel lymph nodes. Once the radioactive area has been marked, the patient is taken for surgery, and usually a blue dye is injected in the same place the radioactive substance was injected. A small incision is then made in the marked area, and the lymph nodes are then checked to find which one(s) became radioactive and/or turned blue. These sentinel nodes are removed and looked at under a microscope.

If there are no melanoma cells in the sentinel nodes, no more lymph node surgery is needed because it is very unlikely the melanoma would have spread beyond this point. If melanoma cells are found in the sentinel node, the remaining lymph nodes in this area are typically removed and looked at as well. This is known as a *lymph node dissection*. (See [Surgery for Melanoma Skin Cancer](#)⁹.)

If a lymph node near a melanoma is abnormally large, a sentinel node biopsy probably won't be needed. The enlarged node is simply biopsied.

Lab tests of biopsy samples

Samples from any biopsies will be sent to a lab, where a doctor called a **pathologist** will look at them under a microscope for melanoma cells. Often, skin samples are sent to a **dermatopathologist**, a doctor who has special training in looking at skin samples.

If the doctor can't tell for sure if melanoma cells are in the sample just by looking at it, special lab tests will be done on the cells to try to confirm the diagnosis. These might include:

- Immunohistochemistry (IHC)
- Fluorescence in situ hybridization (FISH)
- Comparative genomic hybridization (CGH)
- Gene expression profiling (GEP)
- Next-generation sequencing (NGS)

If melanoma is found in the samples, the pathologist will look at certain important features such as the tumor thickness and mitotic rate (the portion of cells that are actively dividing).

These tests and features can help determine the stage of the melanoma (see [Melanoma Skin Cancer Stages](#)), and they may also help determine how likely it is to spread. These can affect a person's treatment options and prognosis (outlook).

Molecular testing for certain gene changes

For some people with melanoma, biopsy samples (or blood samples) may be tested to see if the cancer cells have mutations (changes) in certain genes. This type of testing, sometimes referred to as [biomarker testing](#)¹⁰, might affect a person's treatment options, especially if the melanoma has spread.

For example, about half of melanomas have mutations in the *BRAF* gene. Some drugs used to treat advanced melanomas are only likely to work if the cells have *BRAF* gene mutations (see [Targeted Therapy for Melanoma Skin Cancer](#)¹¹), so this test is important in helping to determine treatment options.

Tests to look for changes in other genes that could affect treatment options might be done as well. These might include tests for changes in genes such as *C-KIT*, *NRAS*, *ALK*, *ROS1*, and the *NTRK* genes. These gene changes aren't common in melanomas, but some targeted drugs might be a treatment option if one of these changes is found.

Imaging tests

[Imaging tests](#)¹² use x-rays, magnetic fields, or radioactive substances to create pictures of the inside of the body. They are used mainly to look for the possible spread of melanoma to lymph nodes or other organs. **These tests are not needed for most people with very early-stage melanoma, which is very unlikely to have spread.**

Imaging tests can also be done to help determine how well treatment is working or to look for possible signs of cancer coming back (recurring) after treatment.

Chest x-ray

This test might be done to help determine if melanoma has spread to the lungs, although a CT scan of the chest (see below) is often done instead.

Ultrasound

[Ultrasound](#)¹³ uses sound waves and their echoes to create images of the inside of your body on a computer screen. This test might be used to look at the lymph nodes near the tumor, especially if it's not clear if they're enlarged based on a physical exam.

Ultrasound is typically fairly quick and easy to do, and it doesn't expose you to radiation.

Ultrasound-guided needle biopsy: Ultrasound can also be used to help guide a biopsy needle into a suspicious lymph node.

Computed tomography (CT) scan

A [CT scan](#)¹⁴ uses x-rays to make detailed, cross-sectional images of your body. Unlike a regular x-ray, CT scans can show the detail in soft tissues (such as internal organs).

This test can show if any lymph nodes are enlarged or if organs such as the lungs or liver have suspicious spots, which might be from the spread of melanoma.

CT-guided needle biopsy: CT scans can also be used to help guide a biopsy needle into a suspicious area within the body.

Magnetic resonance imaging (MRI)

[MRIs](#)¹⁵ use radio waves and strong magnets instead of x-rays to create detailed images of parts of your body. MRIs can be very helpful in looking at the brain and spinal cord.

Positron emission tomography (PET) scan

A [PET scan](#)¹⁶ can help show if the cancer has spread to lymph nodes or other parts of the body. It is most useful in people with more advanced stages of melanoma.

For this test, you are injected with a slightly radioactive form of sugar, which collects mainly in cancer cells. A special camera is then used to create a picture of areas of radioactivity in the body.

PET/CT scan: Many centers have special machines that do both a PET and CT scan at the same time (PET/CT scan). This lets the doctor compare areas of higher radioactivity on the PET scan with the more detailed appearance of that area on the CT scan.

Blood tests

Blood tests aren't used to diagnose melanoma, but some tests may be done before or during treatment, especially for more advanced melanomas.

Doctors often test a person's blood for levels of a substance called **lactate dehydrogenase (LDH)** before treatment. If the melanoma has spread to distant parts of the body, a high LDH level is a sign that the cancer may be harder to treat. This can affect the stage of the cancer. (See [Melanoma Skin Cancer Stages](#).)

Other tests of **blood cell counts** and **blood chemistry levels** may be done in a person who has advanced melanoma to see how well the bone marrow (where new blood cells are made), liver, and kidneys are working before and during treatment.

Hyperlinks

1. www.cancer.org/cancer/types/melanoma-skin-cancer/causes-risks-prevention/risk-factors.html
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Questions to Ask About Melanoma Skin Cancer

If you have melanoma skin cancer, it's important to have honest, open discussions with your cancer care team. Feel free to ask any question, no matter how small it might seem. Here are some questions you might want to ask.

- [When you're told you have melanoma](#)
- [When deciding on a treatment plan](#)
- [During treatment](#)
- [After treatment](#)

When you're told you have melanoma

- How far has the melanoma spread within or beneath the skin? How thick is the melanoma?
- Has the melanoma spread to other parts of my body?
- Will I need any other [tests](#) before we can decide on treatment?
- Will I need to see any other types of doctors?
- If I'm concerned about the costs and insurance coverage for my diagnosis and treatment, who can help me?

When deciding on a treatment plan

- How much experience do you have treating this type of cancer?
- What are my [treatment options](#)¹? What are the possible risks and benefits of each?
- Which treatment do you recommend? Why?
- What is the goal of the treatment?
- Should I get a [second opinion](#)²? If so, how do I do that? Can you recommend a doctor or cancer center?
- How quickly do we need to decide on treatment?
- What should I do to be ready for treatment?
- How long will treatment last? What will it be like? Where will it be done?
- What risks or side effects should I expect? How long are they likely to last?
- Will I have a scar after treatment? How big will it be?

- Will treatment affect my daily activities?
- What are the chances of my cancer growing or recurring (coming back) with the treatment options we have discussed? What will we do if this happens?

During treatment

Once treatment begins, you'll need to know what to expect and what to look for. Not all of these questions may apply to you, but getting answers to the ones that do apply may be helpful.

- How will we know if the treatment is working?
- Is there anything I can do to help manage side effects?
- What symptoms or side effects should I tell you about right away?
- How can I reach you or someone on your team on nights, holidays, or weekends?
- Are there any limits on what I can do?
- Do you know of any local or online support groups where I can talk to others who have been through this?
- Can you suggest a mental health professional I can see if I start to feel overwhelmed, depressed, or distressed?

After treatment

- What signs and symptoms should I watch for?
- What are the chances of my cancer coming back? Is there [anything I can do to help lower my risk](#)³?
- What are my chances of developing another skin cancer?
- Should I take special precautions to avoid the sun? What steps can I take to protect myself?
- What type of [follow-up](#)⁴ will I need after treatment?
- How will we know if the cancer has come back? What would my options be if that happens?
- Are my family members at risk for skin cancer? What should I tell them to do?

Along with these sample questions, be sure to write down your own. For instance, you might want more information about recovery times so you can plan your work or activity schedule. Or you might want to ask about [clinical trials](#)⁵ for which you may qualify.

Keep in mind that doctors aren't the only ones who can give you information. Other health care professionals, such as nurses and social workers, can answer some of your questions. To find out more about speaking with your health care team, see [The Doctor-Patient Relationship](#)⁶.

Hyperlinks

1. www.cancer.org/cancer/types/melanoma-skin-cancer/treating.html
2. www.cancer.org/cancer/managing-cancer/finding-care/seeking-a-second-opinion.html
3. www.cancer.org/cancer/types/melanoma-skin-cancer/after-treatment/follow-up.html
4. www.cancer.org/cancer/types/melanoma-skin-cancer/after-treatment/follow-up.html
5. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
6. www.cancer.org/cancer/managing-cancer/finding-care/the-doctor-patient-relationship.html

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Melanoma Skin Cancer Stages

After someone is diagnosed with melanoma, doctors will try to figure out if it has spread, and if so, how far. This process is called **staging**. The **stage** of a cancer describes how much cancer is in the body. It helps determine how serious the cancer is and [how best to treat it](#)¹. Doctors also use a cancer's stage when talking about survival statistics.

Although each person's cancer experience is unique, cancers with similar stages tend to have a similar outlook and are often treated in much the same way.

- [How is the stage determined?](#)
- [Stages of melanoma](#)

How is the stage determined?

The staging system most often used for melanoma is the American Joint Committee on Cancer (AJCC) **TNM** system, which is based on 3 key pieces of information:

The main (primary) **tumor (T)**: How deep has the cancer grown into the skin? Is the cancer ulcerated?

- **Tumor thickness**: The thickness of the melanoma is called the *Breslow measurement*. In general, melanomas less than 1 millimeter (mm) thick (about 1/25 of an inch) have a very small chance of spreading. As the melanoma becomes thicker, it has a greater chance of spreading.
- **Ulceration**: Ulceration is a breakdown of the skin over the melanoma. Melanomas that are ulcerated tend to have a worse outlook.

Spread to nearby lymph **nodes (N)**: Has the cancer reached nearby lymph nodes?

Spread (**metastasis**) to distant parts of the body (**M**): Has the cancer spread to distant lymph nodes, skin, or other organs? (Melanoma can spread almost anywhere in the body, but the most common sites of spread are the lungs, liver, brain, bones, and the skin or lymph nodes in other parts of the body.)

Numbers or letters after T, N, and M provide more details about each of these factors. Higher numbers mean the cancer is more advanced.

Once a person's T, N, and M categories have been determined, this information is combined in a process called *stage grouping* to assign an overall stage.

The earliest stage melanomas are stage 0 (melanoma in situ), and then range from stages I (1) through IV (4). Some stages are split further, using capital letters (A, B, etc.). As a rule, the lower the number, the less the cancer has spread. A higher number, such as stage IV, means cancer has spread more. And within a stage, an earlier letter means a lower stage.

There are 2 main types of staging for melanoma.

- The **clinical stage** is based on the results of physical exams, biopsies, and any imaging tests that have been done (as described in [Tests for Melanoma Skin Cancer](#)).

- After the skin biopsy to confirm the diagnosis, if surgery is done (to remove more of the area around the skin tumor, as well as to check nearby lymph nodes for cancer), the **pathological stage** (also called the **surgical stage**) can be determined.

The clinical stage can be used to help determine if more tests need to be done, to help plan treatment, and to give an idea of a person's outlook. Sometimes, though, the cancer might have spread farther than the clinical stage estimates, so it may not predict a person's outlook as accurately as a pathological stage.

To learn more about how cancer is staged, see [Cancer Staging²](#).

Stages of melanoma

The table below is a simplified version of the **clinical stages** in the most recent TNM system, effective as of 2018. If your cancer has been pathologically staged, it is best to talk to your doctor about your specific stage.

Melanoma staging can be very complex, so if you have any questions about the stage of your cancer or what it means, ask your doctor to explain it to you in a way you understand.

AJCC Clinical Stage	Stage Description
0	The cancer is confined to the epidermis, the outermost skin layer (Tis). There are no signs the cancer has spread to nearby lymph nodes (N0) or to distant parts of the body (M0). This stage is also known as melanoma in situ .
I	The main tumor is no more than 2 mm (about 2/25 of an inch) thick and might or might not be ulcerated (T1 or T2a). There are no signs the cancer has spread to nearby lymph nodes (N0) or to distant parts of the body (M0). (Stage I is further divided into stages IA and IB, based on tumor thickness and if it's ulcerated.)
	The main tumor is more than 1 mm thick (T2b or T3) and may be thicker than 4 mm (T4). It might or might not be ulcerated. There are no signs the

II	<p>cancer has spread to nearby lymph nodes (N0) or to distant parts of the body (M0).</p> <p>(Stage II is further divided into stages IIA, IIB, and IIC, based on tumor thickness and if it's ulcerated.)</p>
III	<p>The main tumor can be any thickness, and it might or might not be ulcerated (any T). The cancer has spread to nearby lymph nodes and/or it has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor (N1, N2, or N3). There are no signs the cancer has spread to distant parts of the body (M0).</p>
IV	<p>The main tumor can be any thickness, and it might or might not be ulcerated (any T). The cancer might or might not have spread to nearby lymph nodes (any N). The cancer has spread to distant parts of the body, such as:</p> <ul style="list-style-type: none"> • Areas of skin or lymph nodes in other parts of the body (M1a) • The lung(s) (M1b) • Any other organs outside the central nervous system (M1c) • The central nervous system, including the brain, spinal cord, and the coverings of the brain and spinal cord (M1d)

Hyperlinks

1. www.cancer.org/cancer/types/melanoma-skin-cancer/treating.html
2. www.cancer.org/cancer/diagnosis-staging/staging.html

References

American Joint Committee on Cancer. Melanoma of the Skin. In: *AJCC Cancer Staging Manual*. 8th ed. New York, NY: Springer; 2017: 563-585.

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Survival Rates for Melanoma Skin Cancer

Survival rates can give you an idea of what percentage of people with the same type and stage of cancer are still alive a certain amount of time (usually 5 years) after they were diagnosed. They can't tell you how long you will live, but they may help give you a better understanding of how likely it is that your treatment will be successful.

- [What is a 5-year relative survival rate?](#)
- [Where do these numbers come from?](#)
- [5-year relative survival rates for melanoma skin cancer](#)
- [Understanding the numbers](#)

Keep in mind that survival rates are estimates and are often based on previous outcomes of large numbers of people who had a specific cancer, but they can't predict what will happen in any particular person's case. These statistics can be confusing and may lead you to have more questions. Ask your doctor how these numbers might apply to you.

What is a 5-year relative survival rate?

A **relative survival rate** compares people with the same type and stage of cancer to people in the overall population. For example, if the **5-year relative survival rate** for a specific stage of melanoma of the skin is 90%, it means that people who have that cancer are, on average, about 90% as likely as similar people who don't have that cancer to live for at least 5 years after being diagnosed.

Where do these numbers come from?

The American Cancer Society relies on information from the Surveillance, Epidemiology, and End Results (SEER) database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for melanoma skin cancer in the United States, based on how far the cancer has spread. However, the SEER database does not group cancers by [AJCC TNM stages](#) (stage I, stage II, stage III, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** There is no sign that the cancer has spread beyond the skin where it started.
- **Regional:** The cancer has spread beyond the skin where it started to nearby structures or lymph nodes.
- **Distant:** The cancer has spread to distant parts of the body, such as the lungs, liver, or skin, or lymph nodes in other parts of the body.

5-year relative survival rates for melanoma skin cancer

These numbers are based on people diagnosed with melanoma between 2014 and 2020.

SEER stage	5-year relative survival rate
Localized	>99%
Regional	75%
Distant	35%
All SEER stages combined	94%

Understanding the numbers

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don't take everything into account.** These survival rates are based on how far the cancer has spread, but your age, overall health, how well the

cancer responds to treatment, and other factors can also affect your outlook. For example, younger people tend to have a better outlook than older people, regardless of the stage. And people who have weakened immune systems, such as those who have had organ transplants or who are infected with HIV, are at greater risk of dying from their melanoma.

- **People now being diagnosed with melanoma may have a better outlook than these numbers show.** Treatments for melanoma have improved over time, and these numbers are based on people who were diagnosed and treated at least 5 years earlier.

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