Melanoma Skin Cancer Early Detection, Diagnosis, and Staging

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
- Skin Cancer Image Gallery
- 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
- Questions to Ask Your Health Care Team About Skin Cancer (PDF)

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

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 moles or changes in existing moles.

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 areas, including your palms and soles, scalp, ears, nails, and your back (in men, the back is a common place for melanomas to start). Friends and family members 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[1,2].

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 your doctor to look at areas that may be hard for you to see.

Exam by a health care professional

Some doctors and other health care professionals do skin exams as part of routine health check-ups.

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 who are at higher risk of melanoma[3], 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/healthy/be-safe-in-sun/skin-exams.html
2. /content/dam/cancer-org/cancer-control/en/booklets-flyers/why-you-should-know-about-melanoma-handout.pdf
3. www.cancer.org/cancer/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

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 in 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 ¼ 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 the 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 and ask your doctor to look at areas that may be hard for you to see. 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.

To see examples of normal moles and melanomas, visit the Skin Cancer Image Gallery[1] on our website.

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), so it's important to show a doctor any new or changing spots in these areas as well.

Hyperlinks

1. www.cancer.org/cancer/skin-cancer/skin-cancer-image-gallery.html

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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.

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 melanoma is found, other tests may be done to find out if it has spread to other areas of the body.

Medical history and physical exam

Usually the first step your doctor 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.

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.

Along with a standard physical exam, many dermatologists use a technique called *dermoscopy* (also known as *dermatoscopy, epiluminescence microscopy [ELM], or surface microscopy*) to see spots on the skin more clearly. 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 used with this instrument. The doctor may take a digital photo of the spot.

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 one based on the size of the affected area, where it is on your body, and other factors. 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. 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.

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.

(For animated views of some of these procedures, see Skin Biopsy and Treatment Procedures[2].)

Shave (tangential) biopsy

For this type of biopsy, 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[3] is useful in diagnosing many types of skin diseases and in sampling moles when the risk of melanoma is very low. This type of biopsy is not generally used if a melanoma is strongly suspected unless 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[4], 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 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[5] (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 cut through the full thickness of skin. A wedge or sliver of skin is removed for examination, and the edges of the cut are usually stitched together.

"Optical" biopsies

Some newer types of biopsies, such as **reflectance confocal microscopy (RCM)**, can be done without needing to remove samples of skin. To learn more, see What's New in Melanoma Skin Cancer Research?[6]

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[7] (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

FNA biopsy is not used on suspicious moles. But it may be used, for example, 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.

FNA biopsies are not as invasive as some other types of biopsies, but they 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 biopsy 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 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 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[8]).

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)

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 features help determine the stage of the melanoma (see Melanoma Skin Cancer Stages), which in turn can affect treatment options and prognosis (outlook).

Testing for gene changes

For some people with melanoma, biopsy samples may be tested to see if the cells have

mutations (changes) in certain genes, such as the *BRAF* gene. About half of melanomas have *BRAF* mutations. Some drugs used to treat advanced melanomas are only likely to work if the cells have *BRAF* mutations (see Targeted Therapy for Melanoma Skin Cancer[9]), so this test is important in helping to determine treatment options. Tests for changes in other genes, such as *C-KIT*, might be done as well.

A newer lab test known as *DecisionDx-Melanoma* looks at certain gene expression patterns in melanoma cells to help show if early-stage melanomas are likely to spread. This might be used to help determine treatment options. To learn more, see What's New in Melanoma Skin Cancer Research?[10]

Imaging tests

Imaging tests[11] 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[12] uses sound waves 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

The CT scan[13] 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) scan

MRI scans[14] use radio waves and strong magnets instead of x-rays to create detailed images of parts of your body. MRI scans can be very helpful in looking at the brain and spinal cord.

Positron emission tomography (PET) scan

A PET scan[15] 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 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/melanoma-skin-cancer/causes-risks-prevention/risk-factors.html
2. www.cancer.org/cancer/skin-cancer/skin-biopsy-treatment-procedures.html
3. www.cancer.org/cancer/skin-cancer/skin-biopsy-treatment-procedures/shave-biopsy.html
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6. www.cancer.org/cancer/melanoma-skin-cancer/about/new-research.html
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15. www.cancer.org/treatment/understanding-your-diagnosis/tests/nuclear-medicine-scans-for-cancer.html

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Questions to Ask About Melanoma Skin Cancer

It's important to have honest, open discussions with your cancer care team. You should 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

- 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 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 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 questions. 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/melanoma-skin-cancer/treating.html
2. www.cancer.org/treatment/treatments-and-side-effects/choosing-your-treatment-team/seeking-a-second-opinion.html
3. www.cancer.org/cancer/melanoma-skin-cancer/after-treatment/follow-up.html
4. www.cancer.org/cancer/melanoma-skin-cancer/after-treatment/follow-up.html
5. www.cancer.org/treatment/treatments-and-side-effects/clinical-trials.html
6. www.cancer.org/treatment/treatments-and-side-effects/choosing-your-treatment-team/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.

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. 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?

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 extent of 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.

The spread to nearby lymph **nodes (N):** Has the cancer spread to nearby lymph nodes?

The spread (**metastasis**) to distant sites **(M):** Has the cancer spread to distant lymph nodes or distant 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. For more information, see Cancer Staging[2].

The staging system in the table below uses the **pathologic stage** (also called the**surgical stage**). This is determined by examining tissue removed during an operation. Sometimes, if surgery is not possible right away (or at all), the cancer will be given a **clinical stage** instead. This is based on the results of physical exams, biopsies, and imaging tests (as described in Tests for Melanoma Skin Cancer). The clinical stage

will be used to help plan treatment. Sometimes, though, the cancer has spread farther than the clinical stage estimates, so it may not predict a person's outlook as accurately as a pathologic stage. If your cancer has been clinically staged, it is best to talk to your doctor about your specific stage.

The table below is a simplified version of the most recent TNM system, effective as of 2018.

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 Stage	Melanoma Stage Description
0	The cancer is confined to the epidermis, the outermost skin layer (Tis). It has not 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 tumor is no more than 2mm (2/25 of an inch) thick and might or might not be ulcerated (T1 or T2a). The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0)
II	The 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. The cancer has not spread to nearby lymph nodes (N0) or to distant parts of the body (M0).
IIIA	The tumor is no more than 2 mm thick and might or might not be ulcerated (T1 or T2a). The cancer has spread to 1 to 3 nearby lymph nodes, but it is so small that it is only seen under the microscope (N1a or N2a). It has not spread to distant parts of the body (M0).
IIIB	There is no sign of the primary tumor (T0) **AND:** • The cancer has spread to only one nearby lymph node (N1b) **OR** • It has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor (without reaching the nearby lymph nodes) (N1c) It has not spread to distant parts of the body (M0).
	OR
	The tumor is no more than 4 mm thick and might or might not be ulcerated (T1, T2, or T3a) **AND:**

	• The cancer has spread to only one nearby lymph node (N1a or N1b) **OR** • It has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor (without reaching the nearby lymph nodes) (N1c) **OR** • It has spread to 2 or 3 nearby lymph nodes (N2a or N2b) It has not spread to distant parts of the body (M0).
IIIC	There is no sign of the primary tumor (T0) **AND:** • The cancer has spread to 2 or more nearby lymph nodes, at least one of which could be seen or felt (N2b or N3b) **OR** • It has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor, and it has reached the nearby lymph nodes (N2c or N3c) **OR** • It has spread to nearby lymph nodes that are clumped together (N3b or N3c) It has not spread to distant parts of the body (M0).
	OR
	The tumor is no more than 4 mm thick, and might or might not be ulcerated (T1, T2, or T3a) **AND:** • The cancer has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor, and it has reached nearby lymph nodes (N2c or N3c) **OR** • The cancer has spread to 4 or more nearby lymph nodes (N3a or N3b), or it has spread to nearby lymph nodes that are clumped together (N3b or N3c) It has not spread to distant parts of the body (M0).
	OR
	The tumor is more than 2 mm but no more than 4 mm thick and is ulcerated (T3b) **OR** it is thicker than 4 mm but is not ulcerated (T4a). The cancer has spread to one or more 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 or higher). It has not spread to distant parts of the body.
	OR
	The tumor is thicker than 4 mm and is ulcerated (T4b) **AND:** • The cancer has spread to 1 to 3 nearby lymph nodes, which are not clumped together (N1a/b or

	N2a/b) **OR** • It has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor, and it might (N2c) or might not (N1c) have reached 1 nearby lymph node) It has not spread to distant parts of the body (M0).
IIID	The tumor is thicker than 4 mm and is ulcerated (T4b) **AND:** • The cancer has spread to 4 or more nearby lymph nodes (N3a or N3b) **OR** • It has spread to nearby lymph nodes that are clumped together (N3b) • It has spread to very small areas of nearby skin (satellite tumors) or to skin lymphatic channels around the tumor, **AND** it has spread to at least 2 nearby lymph nodes, or to lymph nodes that are clumped together (N3c) **OR** It has not spread to distant parts of the body (M0).
IV	The tumor can be any thickness and might or might not be ulcerated (any T). The cancer might or might not have spread to nearby lymph nodes (any N). It has spread to distant lymph nodes or to organs such as the lungs, liver or brain (M1).

Hyperlinks

1. www.cancer.org/cancer/melanoma-skin-cancer/treating.html
2. www.cancer.org/treatment/understanding-your-diagnosis/staging.html

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

National Comprehensive Cancer Network (NCCN). Practice Guidelines in Oncology: Cutaneous Melanoma. Version 2.2019. Accessed at https://www.nccn.org/professionals/physician_gls/pdf/cutaneous_melanoma.pdfon June 11, 2019.

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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.

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. Your doctor knows your situation, so ask them 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 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 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. The SEER database, however, does not group cancers by AJCC TNM stages (stage 1, stage 2, stage 3, 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 on other parts of the body.

5-year relative survival rates for melanoma skin cancer

These numbers are based on people diagnosed with melanoma between 2011 and 2017

SEER stage	5-year relative survival rate
Localized	99%
Regional	68%
Distant	30%
All SEER stages combined	93%

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.** Survival rates are grouped 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 have improved over time, and these numbers are based on people who were diagnosed and treated at least five years earlier.

*SEER = Surveillance, Epidemiology, and End Results

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American Cancer Society. *Cancer Facts & Figures 2022*. Atlanta, Ga: American Cancer Society; 2022.

Howlader N, Noone AM, Krapcho M, et al (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute, Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER website, April 2019.

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