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Treating Melanoma Skin Cancer

If you've been diagnosed with melanoma, your treatment team will discuss your treatment options with you. It's important to weigh the benefits of each treatment option against the possible risks and side effects.

How is melanoma skin cancer treated?

the art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials.

- [Clinical Trials](#)

Considering complementary and alternative methods

You may hear about alternative or complementary methods to relieve symptoms or treat your cancer that your doctors haven't mentioned. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods are treatments that are used **along with** your regular medical care. **Alternative** treatments are used **instead of** standard medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be harmful.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision.

- [Complementary and Integrative Medicine](#)

Help getting through cancer treatment

- [Wide excision](#)
- [Lymph node dissection](#)
- [Surgery for metastatic melanoma](#)
- [More information about Surgery](#)

Wide excision

When melanoma is diagnosed by [skin biopsy](#)¹, more surgery will probably be needed to help make sure the cancer has been removed (excised) completely. This fairly minor operation will cure most thin melanomas.

Local anesthesia is injected into the area to numb it before the excision. The site of the tumor is then cut out, along with a small amount of normal skin around the edges (called the **margins**). The wound is usually stitched back together afterward. This will leave a scar.

The removed sample is then viewed with a microscope to make sure that no cancer cells were left behind at the edges of the skin that was removed.

Wide excision differs from an [excisional biopsy](#)². The margins are wider because the diagnosis is already known. The recommended margins vary depending on the thickness of the tumor. Thicker tumors need larger margins (both at the edges and in the depth of the excision).

The margins can also vary based on where the melanoma is on the body and other factors. For example, if the melanoma is on the face, the margins may be smaller to avoid large scars or other problems. Smaller margins might increase the risk of the cancer coming back, so be sure to discuss the options with your doctor.

Mohs surgery

Mohs surgery (also known as Mohs micrographic surgery, or MMS) might be an option for some very early-stage melanomas that are in areas where a wide excision would be hard to do (such as the face or ears). This type of surgery is used for melanomas that are in areas where a wide excision

limb swelling, which may or may not go away. If it's severe enough, it can cause skin problems and an increased risk of infections in the limb. Elastic stockings or compression sleeves can help some people with this condition. For more information, see [Lymphedema](#)⁷.

Lymphedema, along with the pain from the surgery itself, is a main reason why lymph node dissection is not done unless the doctor feels it is really necessary. Sentinel lymph node biopsy, however, is unlikely to have this effect. It's important to discuss the risks of side effects with your doctor before having either of these procedures.

Surgery for metastatic melanoma

If melanoma has spread (metastasized) from the skin to other organs such as the lungs or brain, the cancer is very unlikely to be curable by surgery. Even when only 1 or 2 areas of spread are [found by imaging tests](#)⁸ such as CT, MRI, or PET scans, there are likely to be others that are too small to be found by these scans.

Surgery is sometimes done in these circumstances, but the goal is usually to try to control the cancer rather than to cure it. If 1 or even a few metastases are present and can be removed completely, this surgery may help some people live longer. Removing metastases in some places, such as the brain, might also help prevent or relieve symptoms and improve a person's quality of life.

- [staging/how-diagnosed.html](#)
2. www.cancer.org/cancer/types/melanoma-skin-cancer/detection-diagnosis-staging/how-diagnosed.html
 3. www.cancer.org/cancer/types/skin-cancer/skin-biopsy-treatment-procedures/mohs-surgery.html
 4. www.cancer.org/cancer/diagnosis-staging/lymph-nodes-and-cancer.html
 5. www.cancer.org/cancer/diagnosis-staging/tests/imaging-tests/imaging-radiology-tests-for-cancer.html
 6. www.cancer.org/cancer/types/melanoma-skin-cancer/detection-diagnosis-staging/how-diagnosed.html
www.cancer.org/cancer/managing-cancer/side-effects/swelling/lymphedema.html
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Immunotherapy for Melanoma Skin Cancer

Immunotherapy is the use of medicines to help a person's own immune system recognize and destroy cancer cells more effectively. Several types of immunotherapy can be used to treat melanoma.

[Immune checkpoint inhibitors](#)

response against melanoma cells.

They can be used to treat melanomas:

- That can't be removed by surgery
- That have spread to other parts of the body
- After surgery (as **adjuvant** treatment) for certain [stage II, III, or IV¹](#) melanomas that have been removed completely, to try to lower the risk of the cancer coming back

These drugs are given as an intravenous (IV) infusion, typically every 2 to 6 weeks, depending on the drug and why it's being given.

PD-L1 inhibitor

Atezolizumab (Tecentriq) is a drug that targets PD-L1, a protein related to PD-1 that is found on some tumor cells and immune cells. Blocking this protein can help boost the immune response against melanoma cells.

This drug can be used along with the targeted drugs [cobimetinib and vemurafenib](#) in people with melanoma that has the

This drug is given as an intravenous (IV) infusion, usually once every 3 weeks for 4 treatments (although it may be given for longer when used as an adjuvant treatment).

LAG-3 inhibitor

Relatlimab targets LAG-3, another checkpoint protein on certain immune cells that normally helps keep the immune system in check.

This drug is given along with the PD-1 inhibitor nivolumab (in a combination known as **Opdualag**). It can be used to treat melanomas that can't be removed by surgery or that have spread to other parts of the body.

This drug is given as an intravenous (IV) infusion, typically once every 4 weeks.

Possible side effects of immune checkpoint inhibitors

Some of the more common side effects of these drugs can include fatigue, cough, nausea, skin rash, poor appetite, constipation, joint pain, and diarrhea.

Other, more serious side effects occur less often.

Infusion reactions: Some people might have an infusion reaction while getting these drugs. This is like an allergic reaction, and can include fever, chills, flushing of the face, rash, itchy skin, feeling dizzy, wheezing, and trouble breathing. It's important to tell your doctor or nurse right away if you have any of these symptoms while getting these drugs.

Autoimmune reactions: These drugs remove one of the safeguards on the body's immune system. Sometimes the immune system responds by attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, or other organs.

It's very important to report any new side effects to someone on your health care team as soon as possible. If serious side effects do occur, treatment may need to be stopped and you might be given high doses of corticosteroids to suppress your immune system.

Interleukin-2 (IL-2)

Interleukins are proteins that certain cells in the body make to boost the immune system in a general way. Lab-made versions of **interleukin-2 (IL-2)**, such as **aldesleukin**, are sometimes used to treat melanoma.

For advanced melanomas: IL-2 in high doses can sometimes shrink advanced melanomas when used alone. It is not used as much as in the past, because the immune checkpoint inhibitors are more likely to help people and tend to have fewer side effects. But IL-2 might be an option if these drugs are no longer working.

When treating advanced melanoma, IL-2 is given as intravenous (IV) infusions, at least at first. Some patients or caregivers may be able to learn how to give injections under the skin at home.

Side effects of IL-2 can include flu-like symptoms, such as fever, chills, aches, severe tiredness, drowsiness, and low blood cell counts. In high doses, IL-2 can cause fluid to build up in the body so that the person swells up and can feel quite sick. Because of this and other possible serious side effects, high-dose IL-2 is given only in the hospital, in centers that have experience with this type of treatment.

For some earlier-stage melanomas: Melanomas that have reached the nearby lymph nodes are more likely to come back in another part of the body, even if all of the cancer is thought to have been removed. IL-2 can sometimes be injected into the tumors (known as **intralesional therapy**) to help lower this risk. Side effects tend to be milder when IL-2 is injected directly into the tumor.

When deciding whether to use IL-2, it's important to consider the potential benefits and side effects of this treatment. Because of the risk of serious side effects, high-dose IL-2 is not usually a good option for people who have other serious health problems.

Tumor-infiltrating lymphocyte (TIL) therapy

TILs are immune system cells called T cells that have entered (infiltrated) a tumor to attack the cancer cells. Treatments that use these cells can help shrink some melanomas. This type of treatment is also known as **tumor-derived autologous T cell immunotherapy**.

Lifileucel (Amtagvi) is a type of TIL therapy that can be used to treat people with advanced melanomas, after other treatments have been tried.

For this treatment, a melanoma tumor is removed with surgery and is sent to a lab, where the TILs are separated out and then multiplied over a few weeks. They are then sent back to be given to the person as an infusion into a vein (IV). Once in the body, the TILs seek out and attack the melanoma cells.

People getting this treatment are first given chemotherapy for about a week to help the

body accept the TILs. After getting the TILs, the person is also given IL-2 (see above), which helps these immune cells attack the cancer.

This treatment can cause serious or even life-threatening side effects, so it needs to be given in a hospital. Serious side effects can include:

Imiquimod cream

Imiquimod (Zyclara) is a topical drug that is put on the skin as a cream. It stimulates a local immune response against skin cancer cells.

For very early (stage 0) melanomas in sensitive areas on the face, some doctors may use imiquimod if surgery isn't able to remove all of the tumor.

Imiquimod might also be an option to treat some melanomas that have spread along the skin, especially if surgery can't be done for some reason.

The cream is usually applied 2 to 5 times a week for around 3 months. Some people have serious skin reactions to this drug, and some might develop flu-like symptoms during treatment.

Newer treatments

Some other types of immunotherapy have shown promise in treating melanoma in early studies. Other studies are now looking at combining different types of immunotherapy to see if it might help them work better. To learn more, see [What's New in Melanoma Skin Cancer Research?](#)³

More information about immunotherapy

To learn more about how drugs that work on the immune system are used to treat cancer, see [Cancer Immunotherapy](#)⁴.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)⁵.

Hyperlinks

1. www.cancer.org/cancer/types/melanoma-skin-cancer/detection-diagnosis-staging/melanoma-skin-cancer-stages.html
2. www.cancer.org/cancer/managing-cancer/side-effects/infusion-immune-reactions.html
3. www.cancer.org/cancer/types/melanoma-skin-cancer/about/new-research.html

4. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html
5. www.cancer.org/cancer/managing-cancer/side-effects.html

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Sosman JA. Interleukin-2 and experimental immunotherapy approaches for advanced melanoma. UpToDate. 2023. Accessed at <https://www.uptodate.com/contents/interleukin-2-and-experimental-immunotherapy-approaches-for-advanced-melanoma> on September 26, 2023.

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Targeted Therapy Drugs for Melanoma Skin Cancer

Targeted drugs target parts of melanoma cells that make them different from normal cells. Targeted drugs work differently from standard chemotherapy drugs, which

These drugs are taken as pills or capsules, typically once or twice a day.

Common **side effects** can include skin thickening, rash, itching, sensitivity to the sun, headache, fever, joint pain, fatigue, hair loss, and nausea. Less common but serious side effects can include heart rhythm problems, liver problems, kidney failure, severe allergic reactions, severe skin or eye problems, bleeding, and increased blood sugar levels.

Some people treated with these drugs develop new [squamous cell skin cancers](#)⁴. These

- On the palms of the hands, soles of the feet, or under the nails (known as **acral melanomas**)
- Inside the mouth, throat, genital, or anal area (known as **mucosal melanomas**)
- In areas that get chronic sun exposure

Some targeted drugs, such as **imatinib (Gleevec)** and **nilotinib (Tasigna)**, can affect cells with changes in *C-KIT*. If you have an advanced melanoma that started in one of these places, your doctor may test your melanoma cells for changes in the *C-KIT* gene, which might mean that one of these drugs will be helpful.

Drugs that target cells with other gene changes

Some melanomas might have changes in other genes that can be targeted with certain drugs. For example, tests might be done on the melanoma cells to look for changes in genes such as *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 a change in one of these genes is found.

Drugs that target other gene changes are also being studied in clinical trials.

More information about targeted therapy

To learn more about how targeted drugs are used to treat cancer, see [Targeted Cancer Therapy](#)⁵.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)⁶.

5. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html
6. www.cancer.org/cancer/managing-cancer/side-effects.html

References

Mitchell TC, Karakousis G, Schuchter L. Chapter 66: Melanoma. In: Niederhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 6th

Chemotherapy for Melanoma Skin Cancer

Chemotherapy (chemo) uses drugs that kill cancer cells. The drugs are usually given through an IV into a vein or taken by mouth as a pill. They travel through the bloodstream to all parts of the body and attack cancer cells that have already spread beyond the skin.

- [When might chemo be used?](#)
- [Which chemo drugs are used to treat melanoma?](#)
- [How is chemo given?](#)
- [Possible side effects of chemotherapy](#)
- [More information about chemotherapy](#)

When might chemo be used?

Chemo might be used to treat advanced melanoma after other treatments have been tried. It's not often used as the first treatment because newer forms of [immunotherapy](#) and [targeted drugs](#) are typically more effective. Chemo can shrink tumors in some people, although it's not clear if it can help people live longer.

Which chemo drugs are used to treat melanoma?

Several chemo drugs can be used to treat melanoma, including:

- Dacarbazine (DTIC)
- Temozolomide
- Nab-paclitaxel
- Paclitaxel
- Cisplatin
- Carboplatin

Some of these drugs are given alone, while others are more often combined (such as carboplatin and paclitaxel). It's not clear if using combinations of drugs is more helpful than using a single drug, but it can add to the side effects.

Doctors give chemo in cycles, with each period of treatment followed by a rest period to give the body time to recover. Each chemo cycle typically lasts for a few weeks.

How is chemo given?

For melanoma that has spread to other parts of the body, chemo is usually given as an

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea or constipation
- Increased risk of infection (from having too few white blood cells)
- Easy bruising or bleeding (from having too few blood platelets)
- Fatigue (from having too few red blood cells)

These side effects usually go away once treatment is finished. There are often ways to lessen side effects. For example, drugs can help prevent or reduce nausea and vomiting. Be sure to ask your doctor or nurse about drugs to help reduce side effects.

Some chemo drugs can have other side effects. For example, some drugs can damage nerves, which can lead to symptoms (mainly in the hands and feet), such as pain, burning or tingling sensations, sensitivity to cold or heat, or weakness. This condition is called **peripheral neuropathy**. It usually goes away once treatment is stopped, but for some people it can last a long time.

Be sure to talk with your cancer care team about what to expect in terms of side effects. While you are getting chemo, report any side effects to your medical team so that they can be treated promptly. In some cases, the doses of chemo may need to be reduced or treatment may need to be delayed or stopped to prevent side effects from getting worse.

More information about chemotherapy

For more general information about how chemotherapy is used to treat cancer, see [Chemotherapy](#)¹.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)².

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
2. www.cancer.org/cancer/managing-cancer/side-effects.html

Radiation Therapy for Melanoma Skin Cancer

- [How is radiation therapy given?](#)
- [Possible side effects of radiation therapy](#)
- [More information about radiation therapy](#)

When might radiation therapy be used?

Radiation therapy is not needed for most people with melanoma on the skin, although it might be useful in certain situations:

- Radiation might be an option to treat some early-stage melanomas, if [surgery](#) can't be done for some reason.
- Radiation might be used after surgery (as an **adjuvant** treatment) in some situations if there's a high risk that the melanoma might come back. For example, it's often used after surgery for an uncommon type of melanoma known as **desmoplastic melanoma**, which has a higher risk of recurring after surgery alone.
- Sometimes, adjuvant radiation is given after surgery in the area where lymph nodes were removed, especially if many of the nodes contained cancer cells. This is to try to lower the chance that the cancer will come back.
- Radiation might be used to treat melanoma that has come back after surgery, either in the skin or lymph nodes, or to help treat distant spread of the disease.
- Radiation therapy can be used to relieve symptoms caused by the spread of melanoma to other parts of the body, especially to the brain or bones. Treatment with the goal of relieving symptoms is called [palliative therapy](#)¹. Palliative radiation therapy is not expected to cure the cancer, but it might help shrink it or slow its growth for a time to help control some of the symptoms.

How is radiation therapy given?

The type of radiation most often used to treat melanoma, known as **external beam radiation therapy**, focuses radiation from a source outside of the body on the cancer.

Before treatments start, your radiation team will take careful measurements to find the correct angles for aiming the radiation beams and the proper dose of radiation. This planning session is called **simulation**.

The treatment schedule can vary based on the goal of treatment and where the melanoma is.

The treatment itself is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless. Each treatment lasts only a few minutes, although the setup time – getting you into place for treatment – usually takes longer.

Stereotactic radiosurgery (SRS)

SRS is a type of radiation therapy that can sometimes be used for tumors that have spread to the brain. (Despite the name, there is no actual surgery.) High doses of radiation are aimed precisely at the tumor(s) in one or more treatment sessions. There are 2 main ways to give SRS:

- In one version, a machine called a Gamma Knife focuses about 200 thin beams of radiation on the tumor from different angles over a few minutes to hours. The head is kept in the same position by placing it in a rigid frame.
- In another version, a linear accelerator (a machine that creates radiation) that is controlled by a computer moves around the head to deliver thin beams of radiation to the tumor from many different angles over a few minutes. The head is kept in place with a head frame or a plastic face mask.

These treatments can be repeated if needed.

Stereotactic body radiation therapy (SBRT)

This approach is similar to SRS (using a linear accelerator), but it can be used to treat tumors in other parts of the body, such as the lungs or spine.

Possible side effects of radiation therapy

Side effects of radiation are usually limited to the area getting radiation. Common side effects can include:

- Sunburn-like skin problems
- Changes in skin color
- Hair loss where the radiation enters the body
- Fatigue
- Nausea (if radiation is aimed at the abdomen)

Often these side effects go away after treatment.

Radiation therapy to the brain can sometimes cause memory loss, headaches, trouble thinking, or reduced sexual desire. Usually, these symptoms are minor compared with those caused by a tumor in the brain, but they might still affect a person's quality of life.

More information about radiation therapy

To learn more about how radiation is used to treat cancer, see [Radiation Therapy](#)².

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)³.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/palliative-care.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html
3. www.cancer.org/cancer/managing-cancer/side-effects.html

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Treatment of Melanoma Skin Cancer, by Stage

The type of treatment(s) your doctor recommends will depend mainly on the [stage](#)¹ and location of the melanoma. But other factors can be important as well, such as the risk of the cancer returning after treatment, if the cancer cells have certain gene changes, and your overall health.

- [Treating stage 0 melanoma](#)
- [Treating stage I melanoma](#)
- [Treating stage II melanoma](#)
- [Treating stage III melanoma](#)
- [Treating stage IV melanoma](#)
- [Treating recurrent melanoma](#)

Treating stage 0 melanoma

Stage 0 melanoma (melanoma in situ) has not grown deeper than the top layer of the skin (the epidermis). It is usually treated by [surgery](#) (wide excision) to remove the melanoma and a small margin of normal skin around it. The removed sample is then sent to a lab to be looked at with a microscope. If cancer cells are seen at the edges of the sample, a second, wider excision of the area may be done.

Some doctors may consider the use of imiquimod cream (Zyclara) or [radiation therapy](#) after surgery if not all the cancer cells can be removed for some reason, although not all doctors agree with this.

For melanomas in sensitive areas on the face, some doctors may use [Mohs surgery](#) or even imiquimod cream if surgery might be disfiguring, although not all doctors agree with these uses.

Treating stage I melanoma

Stage I melanomas have grown into deeper layers of the skin, but they haven't grown

[Radiation therapy](#) to the area might be another option, especially if the melanoma has features that make it more likely to come back.

If the SLNB finds that the sentinel node contains cancer cells (which changes the cancer stage to stage III – see below), then a lymph node dissection (where all the lymph nodes in that area are surgically removed) might be recommended. Another option might be to watch the lymph nodes closely with an imaging test such as [ultrasound](#)⁶ of the nodes every few months.

Whether or not the lymph nodes are removed, adjuvant (additional) treatment with [immunotherapy](#) or [targeted therapy drugs](#) (if the melanoma has a *BRAF* gene mutation) might be recommended to try to lower the chance the melanoma will come back. Other drugs or perhaps vaccines might also be options as well as part of a clinical trial.

Your doctor will discuss the best options with you depending on the details of your situation.

Treating stage III melanoma

These cancers have spread to nearby areas in the skin or lymph vessels, or they have reached the nearby lymph nodes.

[Surgical treatment](#) for stage III melanoma usually requires wide excision of the primary tumor as in earlier stages, along with a lymph node dissection (where all the nearby lymph nodes are surgically removed).

After surgery, (additional) adjuvant treatment with [immunotherapy](#) or with [targeted therapy drugs](#) (for cancers with *BRAF* gene changes) may help lower the risk of the melanoma coming back. Other drugs or perhaps vaccines may also be recommended as part of a [clinical trial](#)^{6,32} [Tm /F1 12 Tf 0 0 0 rg /GS1179 gs \(lf3 0 0 0 r2they have\)T](#)

or *C-KIT* gene change), [immunotherapy](#), or chemotherapy.

Some stage III melanomas might be hard to cure with current treatments, so taking part in a [clinical trial](#)⁸ of newer treatments might be a good option.

Treating stage IV melanoma

Stage IV melanomas have already spread (metastasized) to other parts of the body, such as distant lymph nodes, areas of skin, or other organs.

Skin tumors or enlarged lymph nodes causing symptoms can often be removed by [surgery](#) or treated with [radiation therapy](#).

If there are only a few metastases, surgery to remove them might sometimes be an option, depending on where they are and how likely they are to cause symptoms. Metastases that can't be removed may be treated with radiation or with injections of the [T-VEC vaccine \(Imlygic\)](#) directly into the tumors. In either case, this is often followed by adjuvant treatment with medicines such as [immunotherapy](#) or [targeted therapy](#) drugs.

The **treatment of widespread melanomas** has changed in recent years as newer forms of immunotherapy and targeted drugs have been shown to be more effective than chemotherapy.

[Immunotherapy](#) drugs called **checkpoint inhibitors** are often the first treatment. These drugs can shrink tumors for long periods of time in some people. Options might include:

- Pembrolizumab (Keytruda) or nivolumab (Opdivo) alone
- Nivolumab combined with relatlimab (Opdualag)
- Nivolumab or pembrolizumab, plus ipilimumab (Yervoy)

Combinations of checkpoint inhibitors seem to be more effective, although they're also more likely to result in serious side effects, especially if they contain ipilimumab.

People who get any of these drugs need to be watched closely for serious side effects.

In about half of all melanomas, the cancer cells have ***BRAF* gene changes**. These melanomas often respond to treatment with [targeted therapy](#) drugs – typically a combination of a *BRAF* inhibitor and a *MEK* inhibitor. However, the immune checkpoint inhibitors mentioned above are often tried first, as this seems to be more likely to help for longer periods of time. Another option might be a combination of targeted drugs plus the immune checkpoint inhibitor atezolizumab (Tecentriq).

While immunotherapy is often used before targeted therapy, there might be situations where it makes sense to use targeted therapy first. For example, the targeted drugs are more likely to shrink tumors quickly, so they might be preferred in cases where this is important. In either case, if one type of treatment isn't working, the other can be tried.

A small portion of melanomas have changes in the *C-KIT* gene. These melanomas might be helped by targeted drugs such as imatinib (Gleevec) and nilotinib (Tasigna), although these drugs often stop working eventually.

Rarely, melanomas might have changes in other genes such as *NRAS*, *ROS1*, *ALK*, or the *NTRK* genes, which can be treated with targeted drugs.

Immunotherapy using other medicines might be an option if immune checkpoint inhibitors or other treatments aren't working. Options might include:

- Interleukin-2 (IL-2) (also known as aldesleukin)
- Lifileucel (Amtagvi), a type of tumor-infiltrating lymphocyte (TIL) therapy

These treatments can cause serious side effects in some people, so they are usually given in the hospital.

Chemotherapy (chemo) can help some people with stage IV melanoma, but other treatments are usually tried first. Dacarbazine (DTIC) and temozolomide (Temodar) are the chemo drugs used most often, either by themselves or combined with other drugs. Even when chemo shrinks these cancers, the cancer usually starts growing again over time.

It's important to carefully consider the possible benefits and side effects of any recommended treatment before starting it.

Local recurrence

Melanoma might come back in the skin near the site of the original tumor, sometimes even in the scar from the surgery. In general, these local (skin) recurrences are treated with [surgery](#) similar to what would be recommended for a primary melanoma. This might include a [sentinel lymph node biopsy](#)¹¹ (SLNB). Depending on the results of the SLNB, other treatments might be recommended as well.

In-transit recurrence

If melanoma recurs in nearby lymph vessels in or just under the skin (known as **in-transit recurrence**), it should be removed with surgery, if possible. Other options might include injections of the [T-VEC vaccine \(Imlygic\)](#), [interleukin-2 \(IL-2\)](#), or [Bacille Calmette-Guerin \(BCG\) vaccine](#) directly into the melanoma; [radiation therapy](#); or applying [imiquimod cream](#). For melanomas on an arm or leg, another option might be isolated limb perfusion or isolated limb infusion (infusing just the limb with [chemotherapy](#)). Other treatments might include [targeted therapy](#) (for melanomas with a *BRAF* or *C-KIT* gene change), [immunotherapy](#), or chemotherapy.

Recurrence in nearby lymph nodes

If the nearby lymph nodes weren't removed during the initial treatment, the melanoma might come back in these lymph nodes. Lymph node recurrence is typically treated by [lymph node dissection](#) if it can be done, sometimes followed by adjuvant (additional) treatments such as [radiation therapy](#) and/or [immunotherapy](#) or [targeted therapy](#) (for cancers with *BRAF* gene changes). If surgery is not an option, radiation therapy or systemic treatment (immunotherapy, targeted therapy, or chemo) can be used.

Recurrence in other parts of the body

Melanoma might also come back in distant parts of the body. Almost any organ can be affected. Most often, the melanoma comes back in the lungs, bones, liver, or brain. Treatment for these recurrences is generally the same as for stage IV melanoma (see above). Melanomas that recur on an arm or leg may be treated with isolated limb perfusion/infusion [chemotherapy](#).

Melanoma that comes back in the brain can be hard to treat. Single tumors can sometimes be removed by [surgery](#). [Radiation therapy](#) to the brain (stereotactic radiosurgery or whole-brain radiation therapy) may help as well. Systemic treatments ([immunotherapy](#), [targeted therapy](#), or chemo) might also be options.

As with other stages of melanoma, people with recurrent melanoma may want to think about taking part in a [clinical trial](#)¹² of newer treatments.

Hyperlinks

https://www.nccn.org/professionals/physician_gls/pdf/cutaneous_melanoma.pdf on September 26, 2023.

Ribas A, Read P, Slingluff CL. Chapter 92: Cutaneous Melanoma. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 11th ed. Philadelphia, Pa: Lippincott Williams &ancer: