How is Merkel cell skin cancer treated?

Based on the stage of the cancer and other factors, your treatment options might include:

- Surgery for Merkel Cell Carcinoma
- Radiation Therapy for Merkel Cell Carcinoma
- Chemotherapy for Merkel Cell Carcinoma
- Immunotherapy for Merkel Cell Carcinoma

Common treatment approaches

Sometimes more than one type of treatment is used. Your treatment options will depend on the stage (extent) of the cancer, as well as other factors such as your overall health and personal preferences.

- Treating Merkel Cell Carcinoma Based on the Extent of the Cancer

Who treats Merkel cell skin cancer?

Depending on your options, you may have different types of doctors on your treatment team. These doctors may include:

- A dermatologist: a doctor who treats diseases of the skin
- A surgical oncologist (or oncologic surgeon): a doctor who uses surgery to treat cancer
- A medical oncologist: a doctor who treats cancer with medicines such as chemotherapy and immunotherapy.
A radiation oncologist: a doctor who treats cancer with radiation therapy

Many other specialists may be involved in your care as well, including nurse practitioners, nurses, psychologists, social workers, rehabilitation specialists, and other health professionals.

Health Professionals Associated With Cancer Care

Making treatment decisions

It’s important to talk with your treatment team about all of your treatment options as well as their possible side effects. This will help you make the decision that best fits your needs. Some important things to think about include:

- Your age and overall health
- The stage (extent) of the cancer
- Where the tumor is
- The likelihood that treatment will cure the cancer (or help in some other way)
- Your feelings about the possible side effects from treatment

If there’s anything you don’t understand, ask to have it explained.

MCC is rare, so most doctors are unlikely to have seen or treated many cases. Even at major medical centers, where doctors are more likely to have experience with MCC, not all doctors agree on the best way to treat these cancers. If time allows, getting a second opinion from a team of experts may be a good idea. It can give you more information and help you feel good about the treatment plan that you choose.

Questions To Ask About Merkel Cell Carcinoma

Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-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. Still, they’re not right for everyone.
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 that your doctor hasn’t mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

Complementary methods refer to treatments that are used along with your regular medical care. Alternative treatments are used instead of a doctor’s 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 Alternative Medicine**

**Help getting through cancer treatment**

People with cancer need support and information, no matter what stage of illness they may be in. Knowing all of your options and finding the resources you need will help you make informed decisions about your care.

Whether you are thinking about treatment, getting treatment, or not being treated at all, you can still get supportive care to help with pain or other symptoms. Communicating with your cancer care team is important so you understand your diagnosis, what treatment is recommended, and ways to maintain or improve your quality of life.

Different types of programs and support services may be helpful, and can be an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained
specialists.

- **Palliative Care**
- **Find Support Programs and Services in Your Area**

### Choosing to stop treatment or choosing no treatment at all

For some people, when treatments have been tried and are no longer controlling the cancer, it could be time to weigh the benefits and risks of continuing to try new treatments. Whether or not you continue treatment, there are still things you can do to help maintain or improve your quality of life.

Some people, especially if the cancer is advanced, might not want to be treated at all. There are many reasons you might decide not to get cancer treatment, but it’s important to talk to your doctors and make that decision. Remember that even if you choose not to treat the cancer, you can still get supportive care to help with pain or other symptoms.

- **If Cancer Treatments Stop Working**

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don’t hesitate to ask him or her questions about your treatment options.

### Surgery for Merkel Cell Carcinoma

Surgery is the main treatment for most Merkel cell carcinomas (MCCs). Different types of surgery might be done, depending on each person’s situation.

#### Surgery to diagnose or help stage the cancer

Some sort of surgery is needed to diagnose MCC or find out if it has spread.
In many cases, a skin biopsy is done to remove a suspicious spot even before the doctor suspects it might be MCC (see Tests for Merkel cell carcinoma\textsuperscript{1}). This can be thought of as a type of surgery, but it’s not enough surgery to treat MCC. If MCC is diagnosed from the biopsy, a wide excision (described below) is used to remove more skin and other nearby tissues.

Even in people who have MCC with no obvious spread to nearby lymph nodes\textsuperscript{2} (or distant organs), about 1 out of 3 have cancer cells in their lymph nodes when the nodes are looked at with a microscope. Because of this, a sentinel lymph node biopsy (described in Tests for Merkel Cell Carcinoma\textsuperscript{3}) is a very important part of determining the stage of the cancer. The results of the SLNB are also helpful when making treatment plans and discussing outcomes.

It’s important that the SLNB be done before a wide excision is used to remove more skin and other tissues from the main tumor site. This helps ensure the lymph drainage is intact so the results of the SLNB are accurate.

If the SLNB is negative (the sentinel nodes do not contain cancer cells), no more lymph node surgery is needed because it’s very unlikely the cancer would have spread beyond this point. (But radiation therapy might still be given to the nearby lymph nodes just in case.)

If cancer cells are found in the sentinel node(s), the other nearby lymph nodes are often taken out and checked, too. This is called a lymph node dissection (see below). Radiation might be given to the area after the lymph node dissection. (Sometimes radiation might be used instead of doing a lymph node dissection.)

**Surgery to treat the cancer**

**Wide excision**

When a diagnosis of MCC is made by skin biopsy, the tumor site will most likely need to be surgically cut out (excised) to help make sure the cancer has been removed completely. This surgery might cure MCC if it hasn’t spread beyond the skin.

Drugs to numb the area (local anesthesia) are put into the skin with a small needle (injected) to numb it before the excision. The surgeon then cuts out the tumor, along with some of the normal skin at the edges (including under the tumor). The normal, healthy skin around the edges of the cancer is called the margin. The skin is stitched back together afterward. This will leave a scar.
The removed tissue sample is then sent to a lab, where it's tested and checked with a microscope to make sure that no cancer cells are at the edges of the skin that was removed.

Wide excision differs from an excisional biopsy used to diagnose MCC. The margins are wider (usually at least 1/2 inch). This is because the diagnosis is already known, and the doctor is trying to be sure all of the cancer cells are removed.

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

In rare cases, where the cancer is on a finger or toe and has grown deep into the skin, the treatment might mean of all or part of that digit needs to be removed (amputated).

**Mohs micrographic surgery**

Mohs surgery is sometimes used when the goal is to save as much healthy skin as possible, such as with cancers around the eye. It's done by a doctor with special training.

Using the Mohs technique, the doctor removes the tumor and a margin of normal-looking skin and then checks it under a microscope. If cancer cells are seen at the edges of the removed tissue (the sample), another layer of skin is removed and examined. This is repeated until the skin samples do not have cancer cells in them. This process is slow, often taking several hours, but it allows the doctor to save the normal skin near the tumor.

**Lymph node dissection**

MCC often spreads to nearby lymph nodes. If cancer is found in the nearby lymph nodes (on a sentinel lymph node biopsy or any other type of biopsy), a lymph node dissection is usually done.

In this operation, the surgeon removes all of the lymph nodes near the primary tumor. For instance, if the MCC is found on an arm, the surgeon would remove the underarm (axillary) lymph nodes on that side of the body. These nodes are where cancer cells would be most likely to travel first.

This type of surgery is done in an operating room where drugs are used to put you into
a deep sleep (general anesthesia). As with any major operation, complications can include reactions to anesthesia, bleeding, blood clots, and infections. Most people will have soreness or pain for some time after surgery. This can be helped with medicines, if needed.

A full lymph node dissection can cause some long-term side effects. One of the most troublesome is called lymphedema. Lymph nodes in the groin or under the arm normally help drain fluid from the limbs. If they are removed, fluid could build up. This can cause limb swelling, which may or may not go away. If severe enough, it can cause skin problems and an increased risk of infections in the limb. (Sentinel lymph node biopsy is less likely to cause this problem.) For more on this, see our section on Lymphedema.

**Skin grafting and reconstructive surgery**

After removing large skin cancers, it may not be possible to stretch the nearby skin enough to stitch the edges of the wound together. In these cases, healthy skin may be taken from another part of the body and grafted over the wound to help it heal and look better after surgery. Other reconstructive surgical procedures can also be helpful in some cases.

**Hyperlinks**


**References**


Cestaro G, Quarto G, DE Monti M, et al. New and emerging treatments for metastatic


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**Radiation Therapy for Merkel Cell Carcinoma**

Radiation therapy uses high-energy rays (like x-rays) or particles (such as electrons) to kill cancer cells. The radiation is focused from outside the body onto the tumor.

**When might radiation therapy be used?**

Not all doctors agree on exactly when radiation therapy should be used for Merkel cell carcinoma (MCC), but it works very well for MCC. It might be used in these situations:

- To treat the area of the main (primary) skin tumor after surgery to try to kill any cancer cells that might have been left behind. (You may hear this called adjuvant radiation.) This is especially important if there’s a high chance that the cancer will
come back (such as if the main tumor was large, or if the doctor isn't sure it was all taken out).

- To treat the main tumor if surgery isn't an option, such as if a person isn't healthy enough for surgery or the tumor is in a place where all of it can't be removed.
- To treat the lymph nodes near the main tumor. If a sentinel lymph node biopsy\(^1\) (or other type of biopsy) found cancer in the lymph nodes, if the results of the biopsy were not clear, or if a biopsy wasn't done, radiation therapy is often given to the lymph nodes in the area. This might be done after a lymph node dissection, or it might even be done instead of a lymph node dissection.
- To help treat MCC that has come back (recurred) after surgery, either in the skin or lymph nodes.
- To help treat MCC that has spread to distant parts of the body, often along with other treatments. In this case, the radiation is used to help shrink or slow the growth of the cancer and/or to help ease symptoms caused by its spread, but it’s not expected to cure the cancer.

How is radiation therapy given?

When used to treat MCC, radiation is usually given 5 days a week for many weeks. The length of treatment might be shorter if the radiation is being used to relieve symptoms caused by cancer spread.

Before treatments start, your radiation team will take careful measurements to decide the proper dose of radiation and know exactly where to aim the radiation beams. This planning session is called simulation.

Getting radiation treatment is a lot like getting an x-ray, but the radiation is stronger and aimed precisely at the cancer. The treatments don't hurt. Each one lasts only a few minutes, though the set-up time – getting you into place for treatment – takes longer.

Possible side effects of radiation therapy

Common side effects depend on where the radiation is aimed and can include:

- Sunburn-like skin problems
- Changes in skin color\(^2\)
- Hair loss\(^3\) where the radiation enters the body
• **Fatigue**
  • **Nausea** (if the radiation is aimed at the abdomen)

These often get worse as treatment goes on and slowly go away after treatment ends.

Radiation therapy can also raise the risk of getting another type of cancer in the treated area. If this happens, it’s usually many years after treatment.

To learn a lot more about this treatment and its side effects, see the Radiation Therapy section of our website.

**Hyperlinks**


**References**


Chemotherapy for Merkel Cell Carcinoma

Chemotherapy (chemo) uses anti-cancer drugs that are most commonly given into a vein (IV) or given by mouth. These drugs travel through the bloodstream to all parts of the body. This makes chemo useful for treating cancers that have spread to other organs.

Chemo is most likely to be helpful for MCC that has spread to other organs. So far it’s not clear if it can be helpful for cancers that are still just in the skin or that have only spread to nearby lymph nodes. Still, some doctors might still recommend it for these cancers.

Which chemo drugs are used to treat MCC?

Merkel cell carcinoma (MCC) is rare, so it’s been hard to study the use of chemotherapy for MCC in clinical trials. Because of this, doctors often use chemo drugs that have been helpful in treating other types of fast-growing neuroendocrine tumors. The most commonly used drugs for MCCs that have spread include:

- Cisplatin
Carboplatin  
Etoposide  
Topotecan

Most often, either cisplatin or carboplatin is used, often along with etoposide. Topotecan tends to have fewer serious side effects, so it might be a better option for some people who are older or have serious health problems.

Another combination of drugs that may be used is called CAV, which stands for cyclophosphamide, doxorubicin, and vincristine.

These drugs are given intravenously (IV or into a vein), usually once every few weeks. They can often shrink MCC tumors for a time (or at least slow their growth and spread) and help relieve some symptoms. But these cancers tend to start growing again, even while you’re getting chemo.

**Possible side effects of chemotherapy for MCC**

Chemo drugs can cause side effects. These depend on the type and dose of the drugs given and how long they are used. Common side effects can include:

- **Hair loss**¹  
- **Mouth sores**²  
- **Loss of appetite**³  
- **Nausea and vomiting**⁴  
- **Diarrhea or constipation**⁵  
- **Increased risk of infection**⁶ (from having too few white blood cells)  
- **Easy bruising or bleeding**⁷ (from having too few blood platelets)  
- **Fatigue**⁸ (from having too few red blood cells)

These side effects usually go away over time once treatment is finished. Some drugs can have other effects that are not listed here, so be sure to talk with your cancer care team about what to expect.

There are often ways to lessen these side effects. For example, drugs can help prevent or reduce nausea and vomiting. Tell your cancer care team about any side effects or changes you notice while getting chemo so they can be treated right away, before they get worse.
To learn more, see Chemotherapy⁹.

Hyperlinks

2. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/mouth-problems/mouth-sores.html
5. www.cancer.org/treatment/treatments-and-side-effects/physical-side-effects/stool-or-urine-changes.html

References

See all references for Merkel Cell Skin Cancer (www.cancer.org/cancer/merkel-cell-skin-cancer/references.html)


Immunotherapy for Merkel Cell Carcinoma

Immunotherapy is the use of medicines that help a person’s own immune system find and destroy cancer cells. This is a promising new form of treatment for Merkel cell carcinoma (MCC), especially if it has spread to other parts of the body.

Immune checkpoint inhibitors

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses “checkpoints.” These are proteins on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to keep the immune system from attacking them.

For example, PD-1 is a checkpoint protein on immune cells called T cells. It normally acts as an “on/off switch” that can help keep the T cells from attacking other cells in the body. It switches “off” when it attaches to PD-L1, a protein on some normal (and cancer) cells. This tells the T cell to leave the other cell alone. Some cancer cells have large amounts of PD-L1, which helps keep the immune system from attacking them.

Drugs that block either PD-1 or PD-L1 can stop this binding and boost the immune response against cancer cells. Examples of such drugs include:

- Avelumab (Bavencio®), which targets PD-L1
- Pembrolizumab (Keytruda®) and nivolumab (Opdivo®), which block PD-1

These drugs are given as an intravenous (IV) infusion into a vein. They’re usually given every 2 or 3 weeks. They’ve been shown to shrink or slow the growth of some advanced MCC tumors, sometimes even after other treatments have not worked.

Other immune checkpoint inhibitors are being studied for use against MCC as well.
Possible side effects of immunotherapy for MCC

Side effects of these types of drugs can include:

- Fatigue
- Cough
- Nausea
- Rash or itchy skin
- Joint pain
- Loss of appetite
- Diarrhea
- Constipation

Other, more serious side effects occur less often:

**Infusion reactions:** Some people might have an infusion reaction while getting one of these drugs. This is like an allergic reaction. It can include fever, chills, flushing of the face, rash, itchy skin, wheezing, and trouble breathing. You might be given medicines before each infusion to help lower the risk of this happening.

**Autoimmune reactions:** These drugs work by basically removing the brakes on the body’s immune system. Sometimes the immune system starts 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 changes or new side effects to your health care team right away. If serious side effects do occur, treatment may need to be stopped.

References


Treating Merkel Cell Carcinoma Based on the Extent of the Cancer

Merkel cell carcinoma (MCC) is rare, so it has been hard for doctors to study how best to treat this cancer. Some doctors might suggest treatments other than those listed here.

Treatment depends mainly on how far the cancer has spread, so having the right tests done to determine the extent of the cancer (such as a sentinel lymph node biopsy or imaging tests like CT, MRI, or PET/CT scans) is very important.

Other factors, such as the location of the tumor, your age, and your overall health, might also affect your treatment options.

MCC with no obvious spread to the lymph nodes (or elsewhere)

These cancers are thought to be confined to the skin based on physical exams and imaging tests. Once MCC has been diagnosed, a sentinel lymph biopsy (SLNB) is
usually done first to see if small amounts of cancer have reached the nodes.

After the SLNB, surgery (usually wide local excision) is done on the skin to try to remove all of the cancer. If the cancer is in a place where it would be hard to remove it with a wide margin (edge) of normal skin, Mohs micrographic surgery might be used. Radiation therapy might be another option instead of surgery for some people.

Within a few weeks after surgery, radiation might be given to the site where the tumor was removed. This is more likely if the doctor thinks there’s a higher risk of the cancer coming back (such as if the main tumor was large, or if the doctor isn’t sure if it was all removed).

If a SLNB was done and did not find any cancer in the lymph nodes, some doctors might suggest watching you closely with no further treatment, especially if the main tumor was small and did not have any concerning features. But because MCC often spreads to the lymph nodes, many doctors prefer to give radiation therapy to the nodes to be safe. Radiation to the nodes is also likely to be recommended if SLNB was not done, or if it was done but the results were not clear. (If radiation therapy is being given to the main tumor, the radiation to the lymph nodes is typically given at the same time.)

**MCC that has spread to nearby lymph nodes**

These cancers have spread to the nearby lymph nodes, and it has been confirmed either with a SLNB or with another type of biopsy.

The main tumor on the skin is treated with surgery (usually wide local excision) to try to remove all of the cancer. If the cancer is in a place where removing it with a wide margin of normal skin would be difficult, Mohs micrographic surgery might be used.

Within a few weeks after surgery, radiation therapy is often given to the site where the tumor was removed, especially if the doctor thinks there is a higher risk of the cancer coming back (such as if the main tumor was large, or if the doctor is not sure if it was all removed).

Lymph nodes with cancer cells need to be treated as well. Options might include lymph node dissection to remove them, radiation therapy, or lymph node dissection followed by radiation therapy. (If radiation therapy is being given to the main tumor, the radiation to the lymph nodes is typically given at the same time.) Some doctors might also recommend chemotherapy to try to lower the chances of the cancer coming back, but it’s not clear how helpful this is.
MCC that has spread to other parts of the body

If MCC has spread to other parts of the body, treatment can often help control the cancer and ease symptoms, but these cancers are very hard to get rid of completely. Not all doctors agree on the best way to treat these cancers, so if time permits it’s often a good idea to get a second opinion from a team of experts.

Treatment options might include surgery, radiation therapy, chemotherapy, immunotherapy, or some combination of these. The benefits of each treatment need to be weighed against the side effects they might cause. Be sure you understand the goal of each treatment and its possible downsides before starting treatment.

MCC often shrinks in response to chemotherapy at first, but almost always starts growing again at some point. Chemotherapy can also have side effects that need to be taken into account.

Treatment with one of the newer immunotherapy drugs, such as avelumab (Bavencio) or pembrolizumab (Keytruda) might be another option. These types of drugs can shrink some MCC tumors and tend to have fewer side effects than standard chemo, although sometimes the side effects from these drugs can be serious.

Because these cancers can be very hard to treat with current therapies, patients may want to think about taking part in a clinical trial. Studies are now looking at new drugs and combinations of different types of treatments. (See What’s New in Merkel Cell Carcinoma Research?)

MCC that comes back (recurs) after initial treatment

If MCC comes back after treatment, further treatment depends on where it comes back and what types of treatment were used before.

If the cancer comes back on the skin where it first started, surgery (with wider margins) can often be done to try to remove it. This might be followed by radiation therapy to the area if it hasn’t been given before. If the nearby lymph nodes haven’t been treated, they might be removed and/or treated with radiation. Some doctors might consider giving chemotherapy as well, but it’s not clear how helpful this might be.

If the cancer comes back in the nearby lymph nodes and they have not been treated before, they might be removed and/or treated with radiation. Some doctors might consider giving chemotherapy too, but, again, it’s not clear how helpful this is.
Cancers that come back in distant parts of the body can be hard to treat. Surgery and/or radiation therapy might be used, but the goal is usually to ease symptoms rather than try to cure the cancer. Chemotherapy can often shrink or slow the growth of the cancer for a time and can help relieve symptoms. But chemotherapy can also cause side effects that need to be taken into account. Treatment with one of the newer immunotherapy drugs, such as avelumab (Bavencio) or pembrolizumab (Keytruda) might be another option. These drugs have been shown to be helpful against some advanced MCCs.

The benefits of each treatment need to be weighed against the side effects they might cause. Be sure you understand the goal of each treatment and its possible downsides before starting treatment.

Because these cancers can be hard to treat, patients might want to think about taking part in a clinical trial. Studies are now looking at new drugs and combinations of different types of treatments (see What’s New in Merkel Cell Carcinoma Research).

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Hyperlinks


References
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