About Lymphoma of the Skin

Overview and Types

If you have been diagnosed with lymphoma of the skin or are worried about it, you likely have a lot of questions. Learning some basics is a good place to start.

- **What Is Lymphoma of the Skin?**
- **Types of Lymphoma of the Skin**

Research and Statistics

See the latest estimates for new cases of lymphoma of the skin in the US and what research is currently being done.

- **Key Statistics for Lymphoma of the Skin**
- **What's New in Skin Lymphoma Research and Treatment?**

What Is Lymphoma of the Skin?

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer, and can spread to other areas of the body. To learn more about how cancers start and spread, see **What Is Cancer?**

Lymphoma is a cancer that starts in cells called *lymphocytes*, which are part of the body’s immune system. The main types of lymphomas are:

- **Hodgkin lymphoma** (also known as Hodgkin’s lymphoma, Hodgkin disease, or Hodgkin’s disease)
- **Non-Hodgkin lymphoma** (also known as non-Hodgkin’s lymphoma, NHL, or sometimes just lymphoma), which includes all other lymphomas, *including all skin*
**lymphomas**

Lymphocytes are in the lymph nodes (small, bean-sized collections of immune cells throughout the body) and other lymphoid tissues (such as the spleen, bone marrow, and some other organs, including the skin). Lymphomas can start in any of these places.

When a non-Hodgkin lymphoma starts only in the skin (not in other organs or tissues) it is called a *skin lymphoma* (or *cutaneous lymphoma*). A lymphoma that starts in lymph nodes or another part of the body and then spreads to the skin is not a skin lymphoma (because it didn’t start there).

Hodgkin disease and other types of non-Hodgkin lymphoma are discussed in separate American Cancer Society documents. **The rest of this document focuses only on lymphoma of the skin.**

### The lymph system and lymphoid tissue

To understand what lymphoma is, it helps to know about the body’s lymph system.

The lymph system (also known as the lymphatic system) is made up of lymphoid tissue (see below), lymph vessels, and a clear fluid called lymph. Lymphoid tissue is found throughout the body and contains several types of immune system cells that work together to help the body fight infections.

**Lymphocytes**

Most of the cells in lymphoid tissue are lymphocytes, a type of white blood cell. The main types of lymphocytes are:

- **B lymphocytes (B cells):** B cells normally help protect the body against germs (bacteria or viruses) by making proteins called *antibodies*. The antibodies attach to the germs, marking them for destruction by other parts of the immune system.

- **T lymphocytes (T cells):** There are several types of T cells, each with a special job. Some T cells help protect the body against viruses, fungi, and some bacteria. For example, they recognize virus-infected cells and destroy them. T cells can also release substances called *cytokines* that attract other types of white blood cells, which then digest the infected cells. Some types of T cells help boost or slow the activity of other immune system cells.

Both types of lymphocytes can develop into lymphoma cells. In the skin, T-cell lymphomas are more common than B-cell lymphomas.
Doctors can tell B-cells and T-cells apart using lab tests that detect certain proteins on their surfaces and certain features of their DNA. These lab tests also can recognize several stages of B-cell and T-cell development. This can help doctors figure out which type of lymphoma a person has, which can help determine their treatment options.

**Lymphoid tissue**

Most lymphocytes are in lymph nodes. Lymph nodes are connected to each other by narrow tubes similar to blood vessels called lymphatics (or lymph vessels). Lymph vessels carry a colorless, watery fluid (lymph) that contains lymphocytes.

Along with the lymph nodes, lymphocytes can be found in the blood and in lymphoid tissues in many other places in the body, including the:

- Spleen
- Bone marrow (the soft, inner parts of certain bones)
- Thymus
- Adenoids and tonsils
- Digestive tract
- Skin
- Other organs

Lymphomas can start in any part of the body that contains lymphoid tissue.

Some other types of cancer – lung or colon cancers, for example – can spread to lymph tissue such as the lymph nodes. But cancers that start in these places and then spread to the lymph tissue are not lymphomas.

- References

See all references for Lymphoma of the Skin

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**Types of Lymphoma of the Skin**
Classifying lymphoma of the skin can be confusing (even for many doctors) because there are many types and they are not very common.

The main system used to classify skin lymphoma is from the World Health Organization (WHO) and the European Organization for Research and Treatment of Cancer (EORTC) and is called the WHO-EORTC classification. It is based on:

- How the lymphoma looks under the microscope
- Whether there are certain proteins on the lymphoma cells (based on lab tests)

**T-cell skin lymphomas**

Most skin lymphomas are T-cell lymphomas.

**Mycosis fungoides:** About half of all skin lymphomas are mycosis fungoides (MF). MF can occur at any age, but most patients are in their 50s and 60s. Men are almost twice as likely as women to develop this lymphoma.

The first sign of this disease is one or more patchy, scaly, red lesions (abnormal areas) on the skin. MF lesions can be very itchy. Often these lesions are the only symptom of MF. But in some people the disease can progress to more solid, raised tumors on the skin (called *plaques*). Because MF can be confused with other skin problems, it can be hard to diagnose at first. Several biopsies of the lesions might be needed before the diagnosis is confirmed.

Over time, MF can spread across the skin or invade lymph nodes and organs like the liver. In many patients this disease grows slowly, but it can be faster growing in older patients. Some people with MF go on to develop Sezary syndrome.

**Sezary syndrome:** This disease is often thought of as an advanced form of mycosis fungoides, but these are actually 2 different diseases. In Sezary syndrome (SS), most or all of the skin is involved, instead of just patches of skin. The disease causes a very itchy, red rash that can look like a sunburn. This is called *generalized erythroderma*. The skin is often thickened. Lymphoma cells, called *Sezary cells*, can be found in the bloodstream (as well as in the lymph nodes).

Whereas MF is usually slow growing, SS tends to grow and spread faster, and is harder to treat. Patients with SS also often have further weakened immune systems, which increases their risk of serious infections.

**Primary cutaneous anaplastic large cell lymphoma (ALCL):** This lymphoma usually
starts as one or a few tumors on the skin. The tumors can vary in size, with some smaller than an inch across and others several inches across. Some of these may break open (ulcerate) in the middle.

Most people with this disease are in their 50s and 60s, but it can also occur in children. It is found at least twice as often in men as in women. In most cases it does not spread beyond the skin, and the prognosis (outlook) is very good.

**Lymphomatoid papulosis:** This is a benign, slow-growing disease that often comes and goes on its own, even without treatment. It often begins as several large pimple-like lesions that may break open in the middle. Under the microscope, lymphomatoid papulosis has features that look like primary cutaneous ALCL.

This disorder is seen in younger people (average age around 45) more often than other T-cell skin lymphomas. Men get this disease more often than women.

This disease often goes away without treatment, but it can take anywhere from a few months to many years to go away completely. Lymphomatoid papulosis doesn’t spread to internal organs and is not fatal. Rarely, some people with this skin disorder develop another, more serious type of lymphoma.

**Subcutaneous panniculitis-like T-cell lymphoma:** This rare lymphoma invades the deepest layers of the skin, where it causes nodules (lumps) to form. Most often these are on the legs, but they can occur anywhere on the body. This lymphoma affects all ages and both sexes equally. It usually grows slowly and tends to have a good prognosis.

**Primary cutaneous peripheral T-cell lymphoma, unspecified:** This is a group of rare skin lymphomas that don’t fit into any special category. Most of these lymphomas tend to grow and spread quickly. There are several types.

- **Primary cutaneous aggressive epidermotropic CD8+ cytotoxic T-cell lymphoma** develops as widespread patches, nodules and tumors that often break open in the middle. This type of lymphoma can sometimes look like mycosis fungoides, but a biopsy can tell them apart.
- **Primary cutaneous gamma/delta T-cell lymphoma** develops as thickened plaques (raised lesions) or actual tumors, mainly on skin of the arms and legs, but sometimes in the intestines or lining of the nose.
- **Primary cutaneous CD4+ small/medium sized pleomorphic T-cell lymphoma** often starts as a single area of thickening of the skin or a tumor, but later there may be multiple tumors. This type of lymphoma tends to grow more slowly and to have a
better outlook than the others in this group.

- Skin lymphomas that don’t fall into any of these 3 categories are called simply primary cutaneous peripheral T-cell lymphoma, unspecified. People can have either single or multiple nodules.

**Other rare T-cell lymphomas:** Some other rare types of T-cell lymphomas are more likely to start in other parts of the body, but they can sometimes be confined to the skin.

- **Adult T-cell leukemia/lymphoma** is linked to infection with the HTLV-1 virus (although most people infected with this virus do not get lymphoma). It is much more common in Japan and the Caribbean islands than other parts of the world. This lymphoma often grows quickly, but in some cases it advances slowly, or even shrinks on its own for a time.

- **Extranodal NK/T-cell lymphoma, nasal type** can start in either T-cells or in other lymphocytes known as natural killer (NK) cells. This rare type of lymphoma typically starts in the nose or sinuses, but sometimes it can start in the skin. This lymphoma has been linked to infection with the Epstein-Barr virus (EBV), and is more common in Asia and Central and South America. It tends to grow quickly.

**B-cell skin lymphomas**

**Primary cutaneous marginal-zone B-cell lymphoma:** This is a very slow-growing lymphoma that is usually curable. In Europe (but not in the United States), it is sometimes linked to an infection with *Borrelia*, the germ that causes Lyme disease.

This lymphoma can occur at any age. It causes skin lesions that are red to purplish large pimples, plaques (raised or lowered, flat lesions), or nodules (bumps) on sun-exposed areas of skin, like the arms. There may be only a single lesion, but there can sometimes be a few.

**Primary cutaneous follicle-center lymphoma:** This is the most common B-cell lymphoma of the skin. It tends to grow slowly. The early lesions are groups of red pimples, nodules, or plaques that form on the scalp, forehead or trunk. They are seldom found on the legs. Sometimes the pimples change into nodules.

This type is typically found in middle-aged adults. It is very sensitive to radiation therapy, and most patients have an excellent outlook.

**Primary cutaneous diffuse large B-cell lymphoma, leg type:** This is a fast growing lymphoma that begins as large nodules, mainly on the lower legs. It occurs most often in older people, and is more common in women than men. In some patients, this
lymphoma spreads to lymph nodes and internal organs, causing serious problems.

These lymphomas often require more intensive treatment. The outlook is better if there is only one lesion at the time of diagnosis.

**Primary cutaneous diffuse large B-cell lymphoma, other (non-leg):** This rare skin lymphoma is similar to large B-cell lymphomas that appear on the legs, except it develops on other sites in the body. It can also develop inside blood vessels under the skin. It tends to require intensive treatment, and the outlook is better if it is limited to only the skin.

- References
  See all references for Lymphoma of the Skin

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**Key Statistics for Lymphoma of the Skin**

The American Cancer Society’s most recent estimates for all types of non-Hodgkin lymphoma (NHL) in the United States for 2018 are:

- 74,680 new cases of NHL (41,730 in men; 32,950 in women)
- 19,910 deaths from NHL (11,510 in men; 8,400 in women)

Lymphomas of the skin are uncommon. The rate of skin lymphomas has been rising over the past few decades, although it seems to have leveled off in recent years. The reasons for this are not known.

- References
  See all references for Lymphoma of the Skin


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What’s New in Skin Lymphoma Research and Treatment?

Research into the causes, prevention, and treatment of lymphoma of the skin is being done in many medical centers throughout the world.

Genetics

As noted in Do We Know What Causes Lymphoma of the Skin? scientists are making progress in learning how changes in DNA can cause normal lymphocytes to develop into lymphoma cells. Understanding the gene changes that occur in lymphoma cells provides insight into why these cells grow too quickly, live too long, and don’t develop into normal mature cells. It might also lead to new drugs that specifically target these processes.

Our understanding of these DNA changes has already led to highly sensitive lab tests for detecting this disease. These tests can identify lymphoma cells based on their gene changes. For example, polymerase chain reaction (PCR) is a very sensitive test that can help tell if a lymphoma has been destroyed by treatment and whether a relapse is likely. These types of tests could help doctors pick out those patients who need early and more intensive treatment.

Skin-directed treatments

Several newer types of skin-directed treatments are now being studied for the treatment of early stage skin lymphomas.

Photodynamic therapy (PDT)

For this treatment, a light-activated drug called aminolevulinic acid (ALA) is applied to the skin lesions. A special type of laser light is then focused on the lesions. This light changes the drug that has collected inside the lymphoma cells, which kills them.
The advantage of PDT is that it can kill cancer cells with very little harm to normal cells. But because the chemical must be activated by light, it can only kill cancer cells near the surface of the skin. This limits its use to early stage skin lymphomas that have not grown deeply into the skin. Even then, PDT might only be used if other types of skin-directed therapies are not effective. You can find out more about PDT in Photodynamic Therapy.

**Topical sirolimus and tacrolimus**

These drugs affect immune system cells such as lymphocytes, the cells that develop into lymphoma cells. Applying them to skin lymphomas seems to work as well as using topical corticosteroids, but more research is needed to help determine their safety and effectiveness.

**Chemotherapy**

Many clinical trials are studying newer chemotherapy drugs. One example is pralatrexate (Folotyn), a drug that is already used to treat some T-cell lymphomas and has shown early promise in treating some skin lymphomas. Another drug that has shown some promise in early clinical trials is forodesine. Research on these and other new drugs continues.

Other studies are looking at ways to use drugs already known to be effective by combining them in new ways or using different doses or different sequences of these drugs.

**Targeted drugs**

Newer drugs known as targeted therapies have shown clear benefit in certain kinds of skin lymphoma. The drugs vorinostat (Zolinza) and romidepsin (Istodax) are forms of targeted therapy that can help treat some skin lymphomas. Doctors are now studying how to use these drugs most effectively.

Other targeted drugs are also being studied. One example is crizotinib (Xalkori), which has been shown help some patients with non-skin forms of anaplastic large cell lymphoma (ALCL). Others being studied for skin lymphomas include everolimus (Afinitor), lenalidomide (Revlimid), bortezomib (Velcade), and carfilzomib (Kyprolis).

**Monoclonal antibodies**
Lymphoma cells have certain chemicals on their surface. Special man-made antibodies that recognize these substances can be targeted to destroy the lymphoma cells while causing little damage to normal body tissues.

Several such drugs, including rituximab (Rituxan) and alemtuzumab (Campath), are already used to treat some skin lymphomas and are discussed in Whole Body (Systemic) Treatments for Skin Lymphomas.

New monoclonal antibodies are also being developed. One example is mogamulizumab (KW-0761), an antibody that has shown promise in early clinical trials.

Another is brentuximab vedotin (Adcetris), an antibody that is linked with a chemotherapy drug. The antibody attaches to a substance on the surface of some lymphoma cells, bringing the chemo drug directly to these cells. This drug is already used to treat some other types of lymphomas and is now being studied for certain skin lymphomas.

**Stem cell transplant**

High-dose chemotherapy followed by a stem cell transplant is sometimes used to treat lymphomas that no longer respond to other treatments. Researchers continue to improve stem cell transplant methods, including new ways to harvest these cells before transplantation.

A lot of research is focusing on reducing graft-versus-host disease in allogeneic transplants (using stem cells from a donor). This work involves altering the transplanted T-cells so that they won’t react with the patient’s normal cells but will still kill the lymphoma cells.

**Lymphoma vaccines**

Doctors know it is possible for people with cancer to develop immune responses to their cancer. In rare instances, people’s immune systems have rejected their cancers, and they have been cured. Scientists are now studying ways to boost this immune reaction using vaccines.

Unlike vaccines used to prevent infections, the purpose of these vaccines is to create an immune reaction against the lymphoma cells in patients who have very early disease or whose disease is in remission but could come back or relapse. This is a major area of research in lymphoma treatment, but it is still being tested in clinical trials. You may
want to consider enrolling in one of these studies.

- References
See all references for Lymphoma of the Skin

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Lymphoma of the Skin Causes, Risk Factors, and Prevention

Risk Factors

A risk factor is anything that affects your chance of getting a disease such as cancer. Learn more about the risk factors for lymphoma of the skin.

- What Are the Risk Factors for Lymphoma of the Skin?
- Do We Know What Causes Lymphoma of the Skin?

Prevention

There is no way to prevent all skin lymphomas. But there are things you can do that might lower your risk. Learn more.

- Can Lymphoma of the Skin Be Prevented?

What Are the Risk Factors for Lymphoma of the Skin?

A risk factor is anything that increases your chance of getting a disease like cancer. While most people with lymphoma of the skin may have some factors that make them more likely to get this disease (such as their age or gender), in most people there is no clear cause of the lymphoma. Having one or more risk factors doesn’t mean that you will develop this cancer.

Age
Age is an important risk factor for this disease, with most cases occurring in people in their 50s and 60s. But some types of skin lymphoma can appear in younger people, even in children.

**Gender and race**

Most (but not all) types of skin lymphoma are more common in men than in women. Most also tend to be more common in African-Americans than in whites. The reasons for this are not known.

**Weakened immune system**

Skin lymphomas may be more common in people with acquired immunodeficiency syndrome (AIDS), who have a weakened immune system. They may also be more common in people who have had an organ transplant such as a heart, kidney or liver transplant. These people must take drugs that suppress their immune system, which may raise the risk of skin lymphoma (or lymphomas in other parts of the body).

**Infections**

Infection with the human immunodeficiency virus (HIV), the virus that causes AIDS, may increase a person’s risk of skin lymphoma.

Infection with the HTLV-1 virus has been linked with the rare adult T-cell leukemia/lymphoma, although most people infected with this virus do not develop lymphoma. This infection is most often seen in parts of Japan and the Caribbean.

Infection with Epstein-Barr virus (EBV) has been linked with some types of lymphoma, including extranodal NK/T-cell lymphoma, nasal type. But EBV infection is common, and most people infected with EBV do not go on to develop lymphoma.

In parts of Europe (but not in the United States), infection with *Borrelia*, the bacteria that causes Lyme disease, has also been linked with skin lymphomas. This link has only been reported in a small number of cases—most people with skin lymphoma have not had Lyme disease, and most people with Lyme disease do not develop lymphoma of the skin.

Some studies have suggested that infections with other viruses might also be linked with skin lymphomas, but more research is needed on this.
Do We Know What Causes Lymphoma of the Skin?

Some risk factors can make a person more likely to get lymphoma of the skin, but it’s not always clear exactly how these factors might increase risk.

Scientists have learned how certain changes in the DNA inside normal lymphocytes might cause them to become lymphoma cells. DNA is the chemical in each of our cells that makes up our genes – the instructions for how our cells function. We usually look like our parents because they are the source of our DNA. But DNA affects more than just how we look.

Some genes control when our cells grow, divide into new cells, and die at the right time. Certain genes that help cells grow, divide, or live longer are called oncogenes. Others that slow down cell division or cause cells to die at the right time are called tumor suppressor genes. Cancers can be caused by DNA changes that turn on oncogenes or turn off tumor suppressor genes.

Some people inherit DNA mutations (changes) from a parent that increase their risk of developing some types of cancer. But lymphoma of the skin is not one of the cancer types often caused by inherited mutations.

DNA changes related to lymphoma of the skin are usually acquired after birth, rather than being inherited. Some of these acquired changes may have outside causes (such as infections), but often they occur for no apparent reason. They seem to happen more often as we age, which may help explain why skin lymphomas usually occur in older people.

Scientists are learning about the exact gene changes that cause skin lymphomas. But
even though they have found some of these gene changes, they still do not know why these changes occur.

The immune system seems to play an important role in some lymphomas. People with immune deficiencies (due to inherited conditions, drug treatment, organ transplants, or HIV infection) seem to have a greater chance of developing skin lymphoma than people without an immune deficiency, but it's not clear why.

- References

See all references for Lymphoma of the Skin

Can Lymphoma of the Skin Be Prevented?

Most lymphomas of the skin have no known cause, so there is no sure way to prevent them from developing.

Having a weakened immune system may raise your risk of skin lymphoma, so making sure your immune system stays healthy might be one way to limit your risk. An example of this would be to avoid known risk factors for infection with HIV (the virus that causes AIDS), such as intravenous drug use or unprotected sex with someone whose HIV status is unknown. You can read more about HIV infection in HIV, AIDS, and Cancer.

- References

See all references for Lymphoma of the Skin

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Lymphoma of the Skin 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 Lymphoma of the Skin Be Found Early?
- Signs and Symptoms of Skin Lymphoma
- How Is Lymphoma of the Skin Diagnosed?

Stages of Skin Lymphoma

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

- How Is Lymphoma of the Skin Staged?

Questions to Ask About Skin Lymphoma

Here are some questions you can ask your cancer care team to help you better understand your diagnosis and treatment options.

- What Should I Ask My Doctor About Lymphoma of the Skin?

Can Lymphoma of the Skin Be Found Early?

This type of lymphoma first appears in the skin, so it is usually found earlier in the
course of the disease than many other types of cancer. Unfortunately, it is sometimes hard even for experienced doctors to diagnose skin lymphomas right away because they often look like other skin problems such as infections or eczema.

The best approach is to see a doctor if you notice symptoms that might be from a skin lymphoma (or another type of skin cancer). This includes any new lesion (abnormal area) on the skin, especially if it is raised, if it doesn’t go away, or if it is growing.

- References

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Signs and Symptoms of Skin Lymphoma

Lymphomas of the skin can be seen and felt. They can appear as:

- Papules (small, pimple-like lesions)
- Patches (flat lesions)
- Plaques (thick, raised or lowered lesions)
- Nodules or tumors (larger lumps or bumps under the skin)

The lesions are often itchy, scaly, and red to purple in color. The lymphoma might show up as more than one type of lesion and on different parts of the skin (often in areas not exposed to the sun). Some skin lymphomas appear as a rash over some or most of the body (known as erythroderma). Sometimes larger lesions can break open (ulcerate).

Along with skin problems, in rare cases lymphoma of the skin can cause general symptoms, such as:

- Unexplained weight loss
- Fever
- Profuse sweating (enough to soak clothing), particularly at night
• Severe itchiness
Most of these symptoms are more likely to be caused by other, less serious conditions. Still, if you have any of them it is important to have them checked by a doctor so that the cause can be found and treated, if needed.

• References
See all references for Lymphoma of the Skin

How Is Lymphoma of the Skin Diagnosed?

Because this type of lymphoma affects the skin, it is often noticed fairly quickly. But the actual diagnosis of skin lymphoma might be delayed because the symptoms often resemble other, more common skin problems. The diagnosis of skin lymphoma can only be confirmed with tests such as biopsies (described below).

Medical history and physical exam

Usually your doctor first takes your medical history. The doctor probably will ask when the changes in your skin first appeared, if they have changed in size or appearance, and if they are itchy or painful. You may be asked if you have any other symptoms, like fever or weight loss. Because skin lymphomas can be hard to tell apart from allergies and other causes of rashes, you might also be asked if you have recently been exposed to something that could be causing your skin problems, such as if you are taking a new medicine or are using a new laundry detergent or any new creams or lotions.

During the physical exam, your doctor will note the size, shape, color, and texture of any area(s) of skin in question. The rest of your body will be checked for other areas of skin involvement.

The doctor might also feel the lymph nodes (small, bean-sized collections of immune
cells) under the skin in the neck, underarm, or groin, as lymphomas can sometimes cause lymph nodes to become enlarged.

If you are being seen by your primary doctor and skin lymphoma or another type of skin cancer is suspected, you may be referred to a dermatologist (a doctor who treats skin diseases), who will look at the skin more closely.

**Biopsy**

A biopsy is a procedure in which a doctor removes a sample of body tissue for viewing under a microscope or other lab tests. A biopsy is needed to diagnose lymphoma of the skin.

**Skin biopsies**

There are several types of skin biopsies, and the doctor’s choice is based on each person’s situation. Usually a skin biopsy is done by a dermatologist.

**Punch biopsy:** For a punch biopsy, the doctor uses a tool that looks like a tiny round cookie cutter (usually a little more than 1/8 inch across). Once the skin is numbed with a local anesthetic, the doctor rotates the punch biopsy tool on the surface of the skin until it cuts through all the layers of the skin. Often the biopsy site is closed with a stitch.

**Incisional and excisional skin biopsies:** For these types of biopsies, a surgical knife is used to cut through the full thickness of skin. An incisional biopsy removes only part of the tumor, while an excisional biopsy removes the entire tumor. The piece of skin is removed for testing, and the edges of the cut are sewn together. These biopsies are usually done using a local anesthetic (numbing medicine).

Regardless of the type of skin biopsy, once the samples are removed, they are sent to a doctor called a pathologist, who will look at them under a microscope and might do other tests on them (see below).

Many of the more common forms of skin cancer (and other skin diseases) can be diagnosed just by looking at the biopsy samples under a microscope. But diagnosing and classifying lymphomas of the skin often requires one or more special lab tests (see below).

Diagnosing some forms of skin lymphoma can be very challenging. Sometimes, especially if the diagnosis is unclear, the skin samples may need to be sent to a
dermatopathologist, a dermatologist or a pathologist with additional training in diagnosing skin samples. Even with this expertise, in some cases several biopsies may be needed over a period of time before the diagnosis is confirmed.

**Lymph node biopsies**

Skin lymphomas often spread to lymph nodes, so your doctor may recommend a lymph node biopsy to help confirm the diagnosis or to help determine how widespread the lymphoma is. This is more likely to be done if the doctor detects enlarged lymph nodes, either during a physical exam or with imaging tests (see below).

**Excisional or incisional lymph node biopsy:** This is the most common type of lymph node biopsy. In this procedure, a surgeon cuts through the skin to remove either the entire lymph node (excisional biopsy) or a small part of a large tumor (incisional biopsy). If the node is just under the skin, this is often a simple operation that can be done with local anesthesia. But if the node is inside the chest or abdomen, the patient will be asleep or deeply sedated during the biopsy.

Removing a lymph node almost always provides enough tissue to diagnose the exact type of lymphoma. This type of biopsy is preferred by most doctors, if it can be done without too much discomfort to the patient.

**Fine needle aspiration (FNA) biopsy:** In an FNA biopsy, the doctor uses a very thin, hollow needle attached to a syringe to withdraw (aspirate) a small amount of tissue from a tumor. If an enlarged node is just under the skin, the doctor can aim the needle while feeling it. If the enlarged node is deep inside the body, the doctor can guide the needle while viewing it with ultrasound or a CT scan (see “Imaging tests” below).

An FNA does not require surgery, but in some cases it doesn’t remove enough tissue to make a definite diagnosis of lymphoma. But advances in lab tests (discussed later in this section) and the growing experience of many doctors with FNA have improved the accuracy of this procedure. Some doctors will use FNA in patients already diagnosed with lymphoma of the skin to confirm that an enlarged lymph node also contains lymphoma.

**Other types of biopsies**

These procedures may sometimes be done to confirm a diagnosis of lymphoma, but they are more often done to help stage (determine the extent of) a lymphoma that has already been diagnosed. Not everyone with lymphoma of the skin needs these tests.
**Bone marrow aspiration and biopsy:** These procedures are sometimes done after lymphoma has been diagnosed to help figure out if it has reached the bone marrow. The two tests are often done at the same time. The samples are usually taken from the back of the pelvic (hip) bone, but in some cases they may be taken from other bones.

In bone marrow _aspiration_, you lie on a table (either on your side or on your belly). The doctor cleans the skin over the hip and then numbs the area and the surface of the bone by injecting a local anesthetic. This may cause a brief stinging or burning sensation. A thin, hollow needle is then inserted into the bone and a syringe is used to suck out a small amount of liquid bone marrow. Even with the anesthetic, most patients still have some brief pain when the marrow is removed.

A bone marrow _biopsy_ is usually done just after the aspiration. A small piece of bone and marrow is removed with a slightly larger needle that is pushed down into the bone. This may also cause some brief pain. Once the biopsy is done, pressure will be applied to the site to help stop any bleeding.

**Lumbar puncture (spinal tap):** This test looks for lymphoma cells in the cerebrospinal fluid (CSF), which is the liquid that bathes the brain and spinal cord. Most people with skin lymphoma will not need this test. But doctors may order it if a person has symptoms that suggest the lymphoma might have reached the brain.

For this test, you may be asked to lie on your side or sit up. The doctor first numbs an area in the lower part of the back over the spine. A small, hollow needle is then placed between the bones of the spine to withdraw some of the fluid.

**Lab tests of biopsy or blood samples**

Lab tests are done on the biopsy samples (and in some cases, blood samples) to help diagnose lymphoma and determine what type it is. Pathologists can sometimes tell which kind of lymphoma a patient has by just looking at the cells under a microscope, but usually these other types of tests are needed to confirm the diagnosis.

**Immunohistochemistry**

In this test, a part of the biopsy sample is treated with special antibodies (man-made versions of immune system proteins) that attach to cells only if specific molecules are on their surface or inside the cells. These antibodies cause color changes, which can be seen under a microscope. This test can be used to help diagnose lymphoma and tell what type it is.
Flow cytometry

Like immunohistochemistry, this test looks for certain substances on the surface of cells that help identify what types of cells they are. But this test can look at many more cells than immunohistochemistry.

For this test, a sample of cells is treated with special antibodies that stick to the cells only if certain substances are present on their surfaces. The cells are then passed in front of a laser beam. If the cells now have antibodies attached to them, the laser will cause them to give off light, which can be measured and analyzed by a computer. Groups of cells can be separated and counted by these methods.

This is the most commonly used test for immunophenotyping – classifying lymphoma cells based on the substances (antigens) on their surfaces. Different types of lymphocytes have different antigens on their surface. These antigens also change as each cell matures.

Flow cytometry can help tell whether a biopsy sample contains lymphoma, some other cancer, or a non-cancerous disease. It has also become very useful in helping doctors determine the exact type of lymphoma so that they can select the best treatment.

Cytogenetics

Doctors use this technique to evaluate the chromosomes (long strands of DNA) in lymphoma cells. The cells are looked at under a microscope to see if the chromosomes have any changes such as translocations (where part of one chromosome has broken off and is now attached to another chromosome), as happens in certain types of lymphoma. Some lymphoma cells may have too many chromosomes, too few chromosomes, or other chromosome abnormalities. These changes can help identify the type of lymphoma.

Cytogenetic testing usually takes about 2 to 3 weeks because the lymphoma cells must grow in lab dishes for a couple of weeks before their chromosomes can be viewed under the microscope.

Molecular genetic tests

These tests look more closely at lymphoma cell DNA. They can detect most changes that are visible under a microscope in cytogenetic tests, as well as others that can’t be seen. These changes can help doctors decide whether a rash or lesion is due to a benign condition or a skin lymphoma. These tests can also tell the difference between
B-cell and T-cell lymphomas.

**Fluorescent in situ hybridization (FISH):** FISH uses special fluorescent dyes that only attach to specific genes or parts of chromosomes. FISH can find most chromosome changes (such as translocations) that can be seen under a microscope in standard cytogenetic tests, as well as some changes too small to be seen with usual cytogenetic testing.

FISH can be used to look for specific gene or chromosome changes. It can be used on regular blood or bone marrow samples. It is very accurate and can usually provide results within a couple of days, which is why this test is now used in many medical centers.

**Polymerase chain reaction (PCR):** PCR is a very sensitive DNA test that can also find some gene and chromosome changes too small to be seen under a microscope, even if very few lymphoma cells are present in a sample.

**Blood tests**

**Blood tests** measure the amounts of certain types of cells and chemicals in the blood. They are not used to diagnose lymphoma, but they can sometimes help determine how advanced the lymphoma is. They may also be used during certain types of treatment (such as chemotherapy) to monitor how well the bone marrow and other organs are functioning.

**Complete blood count (CBC):** This test measures the levels of different cells in the blood, such as the red blood cells, the white blood cells, and the platelets. The CBC is often done with a differential (or “diff”) which counts the numbers of different types of white blood cells. People with Sezary syndrome will have Sezary cells in the blood, which can be found on the differential.

If a person’s blood counts are low, it might mean that the lymphoma is growing in the bone marrow and slowing normal blood cell production.

**Blood chemistry tests:** These tests look at how well the kidneys and liver are working.

If lymphoma has been diagnosed, another blood test called *lactate dehydrogenase (LDH)* may be done. LDH levels are often abnormally high in patients with widespread lymphoma.
Imaging tests

Imaging tests use x-rays, sound waves, magnetic fields, or radioactive particles to make pictures of the inside of the body. In someone with known or suspected lymphoma, these tests might be done for a number of reasons, including:

- To help find suspicious areas that might be cancer
- To learn how far the lymphoma has spread
- To find out if treatment is working
- To look for possible signs of the lymphoma coming back after treatment

Imaging tests aren’t always needed for patients with skin lymphomas who have only a few skin lesions, but they are often done in patients with a lot of skin involvement or if lymphoma cells are found in the lymph nodes or blood.

If you’d like to learn more about any of the imaging tests discussed here, see Imaging (Radiology) Tests.

Chest x-ray

An x-ray of the chest may be done to look for enlarged lymph nodes in this area.

Computed tomography (CT) scan

The CT scan 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 scan can help tell if any lymph nodes or organs in your body are enlarged.

Before the test, you may be asked to drink a liquid called oral contrast. This helps outline certain organs. You may also get an IV line through which a different kind of contrast dye (IV contrast) is injected. The injection can cause some flushing (a warm feeling, especially in the face). Some people are allergic to the dye and get hives or, rarely, have more serious reactions like trouble breathing and low blood pressure. Be sure to tell the doctor if you have any allergies (especially iodine or shellfish) or have ever had a reaction to any contrast material used for x-rays.

A CT scanner has been described as a large donut, with a narrow table that slides in and out of the middle opening. You need to lie still on the table while the scan is being done. CT scans take longer than regular x-rays, and some people might feel a bit confined by the ring while the pictures are being taken.
**CT-guided needle biopsy:** CT scans can also be used to guide a biopsy needle into a suspicious area. For this procedure, a person lies on the CT scanning table while the doctor advances a biopsy needle through the skin and toward the area. CT scans are repeated until the needle is in the right place. A biopsy sample is then removed and sent to the lab to be looked at under a microscope.

**Magnetic resonance imaging (MRI) scan**

Like CT scans, MRI scans provide detailed images of soft tissues in the body. But MRI scans use radio waves and strong magnets instead of x-rays. MRI scans are very helpful in looking at the brain and spinal cord, but they are not often used to evaluate skin lymphomas unless a CT scan can’t be done for some reason.

A contrast material called *gadolinium* is often injected into a vein before the scan to better see details. This contrast material usually does not cause allergic reactions.

MRI scans take longer than CT scans – often up to an hour. You may have to lie inside a narrow tube, which is confining and can be distressing to some people. Newer, more open MRI machines might be another option. The MRI machine makes loud buzzing and clicking noises that some people might find disturbing. Some places provide headphones or earplugs to help block this out.

**Ultrasound**

Ultrasound uses sound waves and their echoes to make pictures of internal organs or masses. For this test, a small, microphone-like instrument called a *transducer* is placed on the skin (which is first lubricated with a gel). It gives off sound waves and picks up the echoes as they bounce off the organs. A computer then converts the echoes into a black and white image on a screen.

Ultrasound can be used to look at lymph nodes near the surface of the body or to look inside your abdomen for enlarged lymph nodes or organs such as the liver and spleen. (It can’t be used to look at organs or lymph nodes in the chest because the ribs block the sound waves.) It is sometimes used to help guide a biopsy needle into an enlarged lymph node.

This is an easy test to have, and it uses no radiation. You simply lie on a table, and a technician moves the transducer over the part of your body being looked at.

**Positron emission tomography (PET) scan**
For a PET scan, a radioactive substance (usually a type of sugar related to glucose, known as FDG) is injected into the blood. The amount of radioactivity used is very low and will pass out of the body within a day or so. Because cancer cells in the body grow quickly, they absorb large amounts of the sugar. You then lie on a table in the PET scanner for about 30 minutes while a special camera creates a picture of areas of radioactivity in the body. The picture is not detailed like a CT or MRI scan, but it can look for possible areas of lymphoma in all areas of the body at once.

PET scans can help tell if an enlarged lymph node contains lymphoma or is benign. It can also help spot small areas that might be lymphoma, even if the area looks normal on a CT scan.

PET scans can also be used to tell if an advanced skin lymphoma is responding to treatment. Some doctors will repeat the PET scan after a few courses of chemotherapy. If the chemo is working, the abnormal areas will no longer take up the radioactive sugar.

Doctors often use a machine that does 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.

• References
See all references for Lymphoma of the Skin

How Is Lymphoma of the Skin Staged?

After someone is diagnosed with skin lymphoma, 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. Doctors also use a cancer's stage when talking about survival statistics. Knowing the stage of a skin lymphoma may help in deciding the best treatment, but staging is not as important for skin lymphomas as it is for other types of cancer.
The staging systems for skin lymphomas were developed by the International Society for Cutaneous Lymphomas (ISCL) and the European Organization for Research and Treatment of Cancer (EORTC). There are 2 different staging systems – one for mycosis fungoides and Sezary syndrome and another for the other skin lymphomas. These systems are complex and can be hard to understand. If you have questions about the stage of your lymphoma, ask your cancer care team to explain it to you in a way you understand. This can help you make choices about your treatment.

Once skin lymphoma is diagnosed, tests are done to determine the stage (extent of spread) of the disease. The tests used to gather information for staging include:

- Physical exam
- Biopsies
- Imaging tests, such as CT scans
- Blood tests

These tests are described in How Is Lymphoma of the Skin Diagnosed?

### Staging for mycosis fungoides and Sezary syndrome

Mycosis fungoides (MF) and Sezary syndrome (SS) are staged based on 4 factors:

- **T** describes how much of the skin is affected by the lymphoma (tumor).
- **N** describes the extent of the lymphoma in the lymph nodes.
- **M** is for the spread (metastasis) of the lymphoma to other organs.
- **B** is for lymphoma cells in the blood.

#### T categories

**T1**: Skin lesions can be small patches (flat lesions), papules (small bumps), and/or plaques (raised or lowered, flat lesions), but the lesions cover less than 10% of the skin surface.

**T2**: The patches, papules, and/or plaques cover 10% or more of the skin surface.

**T3**: At least one of the skin lesions is a tumor that is at least 1 centimeter (cm) across (a cm is a little less than 1/2 inch).

**T4**: The skin lesions have spread, grown larger, and grown together to cover at least 80% of the skin surface.
N categories

N0: Lymph nodes are not enlarged and a lymph node biopsy is not needed.

N1: Lymph nodes are enlarged, but the patterns of cells look normal or close to normal under the microscope.

N2: Lymph nodes are enlarged, and the patterns of cells look more abnormal under the microscope.

N3: Lymph nodes are enlarged, and the patterns of cells look very abnormal under the microscope.

NX: Lymph nodes are enlarged but haven’t been removed (biopsied) to be looked at under the microscope.

M categories

M0: The lymphoma cells have not spread outside the skin or lymph nodes.

M1: Lymphoma cells have spread to other organs or tissues, such as the liver or spleen.

B categories

B0: Less than 5% of lymphocytes in the blood are Sezary (lymphoma) cells.

B1: Low numbers of Sezary cells in the blood (more than in B0 but less than in B2).

B2: High number of Sezary cells in the blood.

Stage grouping

Once the values for T, N, M, and B are known, they are combined to determine the overall stage of the lymphoma. This process is called stage grouping.

Mycosis fungoides (MF) and Sezary syndrome (SS) stages range from I (1) through IV (4). 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.

**Stage IA:** T1, N0, M0, B0 or B1

There are skin lesions but no tumors. Skin lesions cover less than 10% of the skin surface (T1), the lymph nodes are not enlarged (N0), lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is not high (B0 or B1).

**Stage IB:** T2, N0, M0, B0 or B1

There are skin lesions but no tumors. Skin lesions cover at least 10% of the skin surface (T2), the lymph nodes are not enlarged (N0), lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is not high (B0 or B1).

**Stage IIA:** T1 or T2, N1 or N2, M0, B0 or B1

There are skin lesions but no tumors. Skin lesions can cover up to 80% of the skin surface (T1 or T2). Lymph nodes are enlarged but the patterns of cells do not look very abnormal under the microscope (N1 or N2). Lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is not high (B0 or B1).

**Stage IIB:** T3, N0 to N2, M0, B0 or B1

At least one of the skin lesions is a tumor that is 1 cm across or larger (T3). The lymph nodes are either normal (N0) or are enlarged but the patterns of cells do not look very abnormal under the microscope (N1 or N2). Lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is not high (B0 or B1).

**Stage IIIA:** T4, N0 to N2, M0, B0

Skin lesions cover at least 80% of the skin surface (T4). The lymph nodes are either normal (N0) or are enlarged but the patterns of cells do not look very abnormal under the microscope (N1 or N2). Lymphoma cells have not spread to other organs or tissues (M0), and there are few (or no) Sezary cells in the blood (B0).

**Stage IIIB:** T4, N0 to N2, M0, B1
Skin lesions cover at least 80% of the skin surface (T4). The lymph nodes are either normal (N0) or are enlarged but the patterns of cells do not look very abnormal under the microscope (N1 or N2). Lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is low (B1).

**Stage IVA**<sub>1</sub>: any T, N0 to N2, M0, B2

Skin lesions can cover any amount of the skin surface (any T). The lymph nodes are either normal (N0) or are enlarged but the patterns of cells do not look very abnormal under the microscope (N1 or N2). Lymphoma cells have not spread to other organs or tissues (M0), and the number of Sezary cells in the blood is high (B2).

**Stage IVA**<sub>2</sub>: any T, N3, M0, any B

Skin lesions can cover any amount of the skin surface (any T). Some lymph nodes are enlarged and the patterns of cells look very abnormal under the microscope (N3). Lymphoma cells have not spread to other organs or tissues (M0). Sezary cells may or may not be in the blood (any B).

**Stage IVB**: any T, any N, M1, any B

Skin lesions can cover any amount of the skin surface (any T). The lymph nodes may be normal or abnormal (any N), and Sezary cells may or may not be in the blood (any B). Lymphoma cells have spread to other organs or tissues, such as the liver or spleen (M1).

**Staging for other skin lymphomas**

The staging system for types of skin lymphoma other than mycosis fungoides and Sezary syndrome is still fairly new, and doctors are still trying to determine how useful it is. The system is based on 3 factors:

- **T** describes how much of the skin is affected by the lymphoma (tumor).
- **N** describes the extent of the lymphoma in the lymph nodes.
- **M** is for the spread (metastasis) of the lymphoma to other organs.

For these lymphomas, only the T category is used at the time of diagnosis. If sites besides the skin (such as lymph nodes) are involved at the time of diagnosis, these lymphomas are no longer considered skin lymphomas and are staged like regular non-Hodgkin lymphoma. The N and M categories are only used if the lymphoma progresses (continues to grow) during treatment or comes back after treatment.
**T categories**

**T1:** There is only a single skin lesion.

**T1a:** The skin lesion is less than 5 cm (about 2 inches) across.

**T1b:** The skin lesion is larger than 5 cm across.

**T2:** There are 2 or more lesions on the skin. These may be in a single body region or in 2 body regions that are next to each other.

**T2a:** All of the skin lesions could be placed within a circle that is 15 cm (about 6 inches) across.

**T2b:** The circle needed to surround all of the skin lesions is larger than 15 cm across, but smaller than 30 cm (about 1 foot) across.

**T2c:** The circle needed to surround all of the skin lesions is larger than 30 cm across.

**T3:** There are skin lesions in body regions that aren’t next to each other, or in at least 3 different body regions.

**T3a:** There are many lesions involving 2 body regions that aren’t next to each other.

**T3b:** There are many lesions involving 3 or more body regions.

**N categories**

**N0:** No lymph node is enlarged or contains lymphoma cells.

**N1:** There are lymphoma cells in the lymph nodes that drain an area where skin contained lymphoma.

**N2:** One of the following is true:

- At least 2 sets of lymph nodes from different areas contain lymphoma cells
- There are lymphoma cells in lymph nodes that do not drain areas where the skin contained lymphoma.

**N3:** Lymph nodes deep inside the chest or abdomen contain lymphoma cells.
M categories

M0: No signs of lymphoma outside of the skin or lymph nodes.

M1: Lymphoma has spread to other organs or tissues.

This system does not assign an overall stage to the lymphoma, as the system for mycosis fungoides/Sezary syndrome does. Because this system is still fairly new, it’s not yet clear how well it can help predict a person’s prognosis (outlook).

- References

See all references for Lymphoma of the Skin

What Should I Ask My Doctor About Lymphoma of the Skin?

It’s important to have honest, open discussions with your cancer care team. They want to answer all of your questions, no matter how minor they might seem. For instance, consider asking these questions:

- What kind of skin lymphoma do I have?
- Has my biopsy been reviewed by a pathologist who is an expert on skin lymphoma?
- How sure are you of my diagnosis?
- What is the stage (extent) of the lymphoma, and what does that mean in my case?
- Do I need any other tests before we can decide on treatment?
- Do I need to see any other doctors?
- How much experience do you have treating this type of lymphoma?
- Should I get a second opinion before starting treatment? Can you suggest someone?
- What are my treatment choices? Do we need to treat the lymphoma right away?
- What do you recommend and why?
• What is the goal of the 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 are the risks or side effects of the treatments you suggest?
• How will treatment affect my daily activities?
• What is my outlook for survival?
• What are the chances of the lymphoma coming back with these treatment plans?
• What would we do if the treatment doesn’t work or if the lymphoma recurs?
• What type of follow-up will I need after treatment?

Along with these sample questions, be sure to write down some of your own. For instance, you might want more information about recovery times so that you can plan your work or activity schedule. Or you might ask if you qualify for any clinical trials.

Keep in mind that doctors are not the only ones who can give you information. Other health care professionals, such as nurses and social workers, might be able to answer some of your questions. You can find out more about speaking with your health care team in Talking With Your Doctor.

• References

See all references for Lymphoma of the Skin

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1-800-227-2345 or www.cancer.org
Treating Lymphoma of the Skin

General treatment information

In recent years, much progress has been made in treating skin lymphoma, and several newer types of treatment have come into use.

Once a skin lymphoma is found and staged, your health care team will discuss your treatment options with you. The treatment options for a person with skin lymphoma depend on the kind of lymphoma and its stage, as well as other factors such as your overall health. Of course, no two patients are exactly alike, and treatment options are tailored to each patient’s situation.

Several types of treatment can be used for skin lymphoma. These can generally be divided into:

- **Treatments directed only at the skin**
- **Treatments that can affect the whole body (systemic treatments)**

Sometimes these treatments are used together. See “Treatment for specific types of skin lymphoma” for information on common treatment plans.

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

- A dermatologist: a doctor who treats diseases of the skin
- A hematologist: a doctor who treats disorders of the blood, including lymphomas
- A medical oncologist: a doctor who treats cancer with medicines
- A radiation oncologist: a doctor who treats cancer with radiation therapy

Many other specialists might be part of your treatment team as well, including nurse practitioners, physician assistants, nurses, nutritionists, social workers, and other health professionals. See Health Professionals Associated With Cancer Care for more on this.
It is important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. It’s also very important to ask questions if there is anything you’re not sure about. You can find some good questions to ask in What Should I Ask My Doctor About Lymphoma of the Skin?

If time allows, it is often a good idea to get a second opinion. A second opinion can provide more information and help you feel confident about the treatment plan you choose.

**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 are 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. See Clinical Trials to learn more.

**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 dangerous.

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. See the Complementary and Alternative Medicine section to learn more.

**Help getting through cancer treatment**
Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are 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 specialist.

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.

Skin-Directed Treatments for Skin Lymphomas

The first treatment for many skin lymphomas is directed at the skin lesions themselves, while trying to avoid harmful side effects on the rest of the body. There are many ways to treat skin lesions.

Surgery

Surgery is not usually the only treatment for skin lymphoma, but it can be helpful in some situations. Surgery may be used to biopsy a skin lesion, lymph node, or other tissue to diagnose and classify a lymphoma. It might also be used to treat some types of skin lymphomas when there is only one or a few skin lesions that can be removed completely. Even then, other types of treatment may be used as well.

Radiation therapy

Radiation therapy uses high-energy rays to kill cancer cells. The treatment is much like getting an x-ray, but the radiation is stronger. The procedure itself is painless.

The type of radiation used most often for skin lymphomas is called electron beam radiation. It uses a beam of electrons that only penetrate as far as the skin, so there are
few side effects to other organs and tissues. The main side effect of electron beam therapy is a skin reaction similar to sun burn. For mycosis fungoides and Sezary syndrome, electron beam therapy is sometimes given to the entire body. This is called total skin electron beam therapy (or TSEBT). This can sometimes cause loss of all hair on the body, as well as loss of fingernails and toenails.

Some thicker lymphomas that are not widespread (especially single lesions) are treated with high energy radiation (like x-rays or gamma rays) instead of electrons. This kind of radiation can penetrate deeper into the body. Because it can damage internal organs, the treatment is planned carefully so that most of the radiation goes only to the skin.

To learn more about radiation therapy, see the Radiation Therapy section of our website.

**Phototherapy (UV light therapy)**

Ultraviolet (UV) light is the part of sunlight that causes sunburn and skin cancer. Phototherapy uses UV light to kill cancer cells in the skin. This is a useful treatment for some people with skin lymphomas that aren’t very thick.

Two kinds of UV light – ultraviolet A (UVA) and ultraviolet B (UVB) – can be used to treat skin lymphoma. Both UVA and UVB treatments are given with special fluorescent lamps like those used in tanning salons. But unlike those used in tanning salons, the light boxes used for treatment are calibrated so your doctor knows exactly which wavelength and dose of light you are getting to minimize the risk of burns. Treatments are given about 3 times a week.

When UVA is used, it is combined with drugs called psoralens. This combination is referred to as PUVA. Psoralens are given as a pill about 2 hours before the treatment. The drug travels through the blood to reach cells throughout the body (including cells of skin lymphoma). When these cells are then exposed to UVA light, the drug is activated, killing them. Psoralens can cause some nausea. They can also make the skin and eyes very sensitive to sunlight (increasing the risk of severe skin burns and cataracts), so it is important to protect yourself from sunlight as much as possible in the days after treatment.

UVB is given without any extra medicines, and is generally used for thinner skin lesions.

Just like the UV light in sunlight, these treatments can cause sunburn and may raise the risk of skin cancer later in life, so doctors try to avoid giving too much UV light.
Topical medicines

Treatment that applies drugs directly to the skin is called *topical therapy*. It can be very helpful in treating many early skin lymphomas. When a drug is placed on the skin, its effects are concentrated on that spot, with much smaller amounts reaching the rest of the body. This can help limit side effects, especially for strong medicines such as some chemotherapy drugs.

**Topical corticosteroids:** These are drugs related to cortisol, a hormone made naturally in the body that can affect immune cells such as lymphocytes. Corticosteroid pills and injections into the blood have long been an important part of treating lymphomas.

These drugs can also be applied directly to the skin in the form of ointments, gels, and creams, or injected directly into skin lesions. This can be very helpful in treating skin lesions. When applied to the skin, less of the drug is absorbed, resulting in fewer side effects. Long-term use of topical corticosteroids may cause the skin in that area to become thinner.

**Topical chemotherapy drugs:** Chemotherapy (chemo) drugs are strong medicines often given by mouth or injected into a vein to treat more advanced cancers (including advanced skin lymphomas – see Whole-body (Systemic) Treatments for Skin Lymphomas).

Some chemo drugs can be used to treat earlier forms of skin lymphoma by putting them directly on the skin (usually in a cream or ointment). The drugs most often used to treat skin lymphoma include mechlorethamine (nitrogen mustard) and carmustine (BCNU). Possible side effects include redness, swelling, or irritation where the drug is applied, as well as an increased risk of other types of skin cancer in the area.

**Topical retinoids:** Retinoids are drugs related to vitamin A. They can affect certain genes in lymphoma cells that cause them to grow or mature.

Some retinoids, such as bexarotene (Targretin), come in a gel that can be applied directly to skin lesions. Possible side effects include redness, itching, irritation, and sensitivity to sunlight in the area where the drug is applied. These drugs can cause birth defects, so they should not be used by women who are or could become pregnant.

**Topical immune therapy:** Imiquimod (Zyclara) is a cream that causes an immune system reaction when applied to skin lesions, which may help destroy them. This drug is used mainly to treat some other types of skin cancers, but some doctors may also use it to treat early forms of skin lymphoma. It can cause redness, itching, and irritation at the site where it is applied.
Whole-Body (Systemic) Treatments for Skin Lymphomas

Systemic treatments can affect the whole body. They are most useful for more advanced or quickly growing skin lymphomas. In some cases, a systemic treatment is combined with a skin-directed treatment or with another systemic treatment.

Photopheresis (photoimmune therapy)

This treatment is also called extracorporeal photopheresis, or ECP. It is sometimes used for T-cell skin lymphomas, especially Sezary syndrome. It is thought to work by killing some lymphoma cells directly and by boosting the body’s immune response against other lymphoma cells.

The procedure is similar to donating blood, but instead of going into a collecting bag, the blood goes into a special machine that separates out the lymphocytes (including lymphoma cells). They are then treated with a psoralen (a light-sensitizing drug) and UVA light before they are mixed back in with the rest of the blood and infused back into the patient. Each procedure usually takes a few hours. Treatments are typically given for 2 days in a row, and then repeated every 4 weeks or so.

Side effects are usually minor. The most significant side effect is sensitivity to sunlight for about a day after each treatment, which might result in sunburn or other problems. It is very important to protect yourself from sunlight as much as possible during this time.

Systemic chemotherapy

Chemotherapy (chemo) uses strong drugs to treat cancer. When the drugs are injected
into a vein or a muscle or taken by mouth, they enter the bloodstream and reach all areas of the body.

Systemic chemo is not often used for early skin lymphoma, but it may be used if the disease in the skin is more advanced and no longer getting better with other treatments. It can also be helpful if the lymphoma has spread to lymph nodes, blood, or distant organs and tissues.

Many chemo drugs are useful in treating patients with skin lymphoma, including:

- Gemcitabine
- Liposomal doxorubicin (Doxil)
- Methotrexate
- Chlorambucil
- Cyclophosphamide
- Pentostatin
- Etoposide
- Temozolomide
- Pralatrexate

Often a single drug is tried first, but sometimes patients are treated with drug combinations like those used for lymphoma not involving the skin. For example, a chemo regimen called CHOP (cyclophosphamide, doxorubicin, vincristine, and prednisone) may be used, often along with the monoclonal antibody rituximab (Rituxan), which is described below.

Chemo treatments are given on different schedules, but usually they are repeated several times in cycles given 3 or 4 weeks apart. Most chemo treatments are given on an outpatient basis (in the doctor’s office, clinic, or hospital outpatient department), but some require a hospital stay.

Patients often get chemo for 2 or 3 cycles and then have tests (such as PET or CT scans) to see if it is working. If the first chemo regimen doesn’t seem to be working, different drugs may be tried.

More information about chemo for non-Hodgkin lymphoma can be found in Non-Hodgkin Lymphoma.

**Possible side effects**

Chemo drugs attack cells that are dividing quickly, which is why they work against
cancer cells. But other cells, such as those in the bone marrow (where new blood cells are made), the lining of the mouth and intestines, and the hair follicles, also divide quickly. These cells are also likely to be affected by chemo, which can lead to side effects. Side effects depend on the drugs used, their dose, and the length of treatment. Some common side effects include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea
- Increased chance of infection (from a shortage of white blood cells)
- Bleeding or bruising after minor cuts or injuries (from a shortage of platelets)
- Fatigue or shortness of breath (from low red blood cell counts)

These side effects are usually temporary and go away after treatment is finished. If serious side effects occur, the chemo may have to be delayed or the doses reduced. There are often ways to lessen side effects. For example, drugs can be given to help prevent and reduce nausea and vomiting.

A major concern with chemo is its effect on the patient’s immune system, which is often already damaged by the lymphoma itself. This sometimes limits how intense the chemo treatment can be. Drugs known as *growth factors* (G-CSF or GM-CSF, for example) are sometimes given after chemo to help the body make new white blood cells to reduce the chance of a serious infection. Antibiotics may also be given at the earliest sign of an infection, such as a fever.

If your white blood cell counts are very low during treatment, you can help reduce your risk of infection by limiting your exposure to germs. During this time, your doctor may advise you to:

- Wash your hands often.
- Avoid fresh, uncooked fruits and vegetables and other foods that might carry germs.
- Avoid fresh flowers and plants because they may carry mold.
- Make sure other people wash their hands before they come in contact with you.
- Avoid large crowds and people who are sick.

If your platelet counts are very low, you may be given drugs or platelet transfusions to help protect against bleeding. Fatigue caused by anemia (very low red blood cell counts) can be treated with drugs or with red blood cell transfusions.
Although most side effects go away after chemo is stopped, some can be long-lasting or might not occur until months or years after treatment has ended. For example, drugs like doxorubicin can damage the heart. Other drugs can sometimes damage the kidneys, nerves, or other organs. In rare cases, people develop leukemia several years later. Before you start chemo, ask your doctor or nurse what drugs will be used and what the side effects might be.

To learn more about chemo, see the Chemotherapy section of our website.

**Targeted and biologic therapies**

In recent years, many newer drugs have been developed to treat skin lymphomas. Some of these drugs target specific parts of lymphoma cells. Others work by boosting the body’s immune system to attack lymphoma cells.

These drugs work differently from standard chemo drugs, which generally affect all fast-growing cells. They sometimes work when chemo drugs don’t. They also tend to have different (and often milder) side effects than standard chemo drugs.

**Vorinostat (Zolinza):** This is a cancer-fighting drug known as a **histone deacetylase (HDAC) inhibitor.** It is given as a pill, once a day. It is used to treat T-cell skin lymphomas, usually after other treatments have been tried. Side effects tend to be mild, but can include nausea, diarrhea, lowered blood cell counts, and effects on the rhythm of the heart.

**Romidepsin (Istodax):** Romidepsin is another HDAC inhibitor. It is also used to treat T-cell skin lymphomas, usually after at other treatments have been tried. This drug is given as an infusion into a vein (IV), usually once a week. Side effects are similar to those of vorinostat.

**Denileukin diftitox (Ontak):** This drug combines part of an interleukin-2 (IL-2) molecule with diphtheria toxin. The drug attaches to the IL-2 receptor on certain lymphocytes and lymphoma cells, where the diphtheria toxin can kill these cells. The drug is given as an IV infusion daily for 5 days in a row. It is used mainly in patients whose skin lymphoma has gotten worse (or come back) after another treatment.

Common side effects during the first day of treatment can include low blood pressure, shortness of breath, back pain, and rash. Patients getting this drug may also feel like they have the flu within the first few days of treatment. This improves with treatment and time. Vision problems that might not go away even after treatment is stopped are a rare side effect of this drug.
**Rituximab (Rituxan):** This drug is a monoclonal antibody – a man-made version of an immune system protein that has a very specific target. This antibody attaches to CD20, a substance on the surface of most B lymphocytes, which causes the cells to die.

Rituximab can be used alone or with other drugs to treat B-cell skin lymphomas. Treatments are usually given as IV infusions weekly or at longer intervals.

Common side effects are often mild but can include chills, fever, nausea, rashes, fatigue, and headaches, especially during the first infusion. Side effects are less likely with later doses. Rituximab can also increase a person’s risk of infections. It can cause prior hepatitis B infections to become active again, sometimes leading to severe liver problems or even death. Your doctor will probably test you for hepatitis before giving you this drug.

**Alemtuzumab (Campath):** This monoclonal antibody targets the CD52 protein found on some types of lymphocytes and lymphoma cells. When the antibody binds to this protein, it triggers the immune system to destroy the cell. This drug is given by injection either under the skin (subcutaneous) or into a vein (IV), usually several times a week.

Alemtuzumab works well against some types of skin lymphoma, but it can have serious side effects, especially when given IV. Some people have allergic reactions during the first few infusions, which can sometimes be serious. Doctors usually give a low dose at first and gradually increase it to try to prevent this.

In some people, alemtuzumab can severely weaken the immune system. This can lead to serious or even life-threatening infections with germs that aren't usually a problem for healthy people.

Because of these risks, alemtuzumab is not often used as a first treatment. It may be an option for people with skin lymphoma that has come back after other treatments.

**Brentuximab vedotin (Adcetris):** This is an anti-CD30 antibody attached to a chemotherapy drug. Some skin lymphoma cells have the CD30 protein. The antibody acts like a homing signal, bringing the chemo drug to lymphoma cells, where it enters the cells and kills them.

Brentuximab can be used to treat some types of skin lymphoma, especially after other treatments have been tried. This drug is infused into a vein (IV), typically every 3 weeks.

Common side effects can include nerve damage (neuropathy), low blood counts, fatigue, fever, nausea and vomiting, infections, diarrhea, and cough.
**Interferons**: The interferons are hormone-like proteins normally made by white blood cells to help the immune system fight infections. Certain types of interferon can be made in the lab and given as medicine. Interferons can cause some types of skin lymphomas to shrink or stop growing. Usually they are injected under the skin several times a week.

People getting this treatment often have flu-like side effects, such as fatigue (which can be severe), fever, chills, headaches, muscle and joint aches, and mood changes. The side effects tend to be worse when higher doses are used.

**Systemic retinoids**

Retinoids are drugs related to vitamin A. Retinoids such as all-trans retinoic acid (ATRA), acitretin, isotretinoin (Accutane), and bexarotene (Targretin) can be used to treat some skin lymphomas, especially mycosis fungoides and Sezary syndrome. Bexarotene can be used as a **topical treatment** when only a few small skin lesions are present, but retinoids are often taken in pill form for skin lymphomas that are more widespread.

Side effects of systemic retinoids can include headache, nausea, fever, increased blood levels of triglycerides (fats), thyroid problems, and eye problems. Some retinoids can cause more serious side effects, like fluid buildup in the body. These drugs should never be given to a woman who is pregnant or who might become pregnant, as they can cause serious birth defects.

**High-dose chemotherapy with stem cell transplant (SCT)**

Stem cell transplants are sometimes used to treat lymphoma when standard treatments are no longer working. Doctors aren’t yet sure exactly how well this type of treatment works for patients with skin lymphoma, but studies are now being done to find out, and it may become more common in the future.

Stem cell transplants let doctors give higher doses of chemotherapy (and sometimes radiation) than could normally be given. High-dose chemo destroys the bone marrow, where new blood cells are made. This could lead to life-threatening infections, bleeding, and other problems due to low blood cell counts.

Doctors try to get around this problem by giving the patient an infusion of blood-forming stem cells after treatment. Stem cells are very early forms of cells that can create new blood cells. They travel to the bone marrow and start making new blood cells.
The blood-forming stem cells used for a transplant come either from the blood (for a peripheral blood stem cell transplant, or PBSCT) or from the bone marrow (for a bone marrow transplant, or BMT). Peripheral blood stem cells are collected in a procedure similar to a blood donation, while bone marrow donation is usually done in an operating room with the donor under general anesthesia (in a deep sleep). Bone marrow transplants were more common in the past, but they have largely been replaced by PBSCTs.

**Allogeneic stem cell transplant**

In an allogeneic stem cell transplant, the blood-forming stem cells come from another person (instead of using the patient’s own stem cells). The ideal donor is a relative (often a brother or sister) whose tissue type (HLA type) matches the patient’s. This lowers the chance of having serious problems with the transplant.

This is often the preferred type of transplant if it can be done, but it is often hard to find a matched donor. Another drawback is that side effects of this treatment might be too severe for most older patients.

**Non-myeloablative (mini) transplant:** In this type of allogeneic transplant, lower doses of chemo and radiation are used than in a standard SCT. This may be an option for some patients who couldn’t tolerate a regular allogeneic transplant because of its side effects.

The lower dose treatment doses do not completely destroy the cells in the bone marrow. When the donor stem cells are given, they establish a new immune system, which sees the lymphoma cells as foreign and attacks them.

**Autologous stem cell transplant**

In this type of transplant, a patient’s own stem cells are removed from his or her bone marrow or blood. They are collected over several days in the weeks before treatment. The cells are frozen and stored while the person gets treatment (high-dose chemo and/or radiation) and are then are reinfused into the patient’s blood.

Autologous transplants are not used much for skin lymphomas.

**Practical points**

A stem cell transplant is a complex treatment that can cause life-threatening side effects. If doctors think a patient might benefit from a transplant, the best place to have it done is at a cancer center where the staff has experience with the procedure and with
managing the recovery period. Ask the doctor about the number of times he or she has done this procedure, the number done at their facility, and their results with cases such as yours.

SCT often requires a long hospital stay and can be very expensive (often costing well over $100,000). Some insurance companies may view SCT as an experimental treatment and may not pay for it. Even if the transplant is covered by your insurance, your co-pays or other costs could easily amount to many thousands of dollars. Find out what your insurer will cover before the transplant so you will have an idea of what you might have to pay.

Possible side effects

Side effects from a stem cell transplant are generally divided into early (short-term) and late (long-term) effects.

**Early or short-term effects:** The early complications and side effects are basically those caused by high-dose chemo, and can be severe. They can include:

- Low blood cell counts (with fatigue and increased risks of infection and bleeding)
- Nausea and vomiting
- Mouth sores
- Loss of appetite
- Diarrhea
- Hair loss

One of the most common and serious short-term effects is the increased risk of serious infections. Patients often stay in a special hospital room right after the transplant to help protect them from germs, and antibiotics are often given to try to prevent infections. Other side effects, like low red blood cell and platelet counts, might require blood product transfusions or other treatments.

**Late or long-term side effects:** Complications and side effects that can last for a long time or that may occur many years after the transplant include:

- Graft-versus-host disease (GVHD), a serious side effect in which the new immune system attacks the patient’s own body tissues. This can cause skin rashes, itching, mouth sores (which can affect eating), nausea, severe diarrhea, liver damage, and other problems. GVHD occurs only in allogeneic (donor) transplants.
- Menstrual changes, early menopause, and **loss of fertility in female patients** (caused by damage to the ovaries)
• Loss of fertility in male patients
• Damage to the thyroid gland, causing problems with metabolism
• Cataracts (damage to the lens of the eye that can affect vision)
• Bone damage called *aseptic necrosis*. If damage is severe, the patient might need to have part of the affected bone and the joint replaced.
• Damage to the lungs, causing shortness of breath
• Development of another cancer (such as leukemia) years later

For more on stem cell transplants, see Stem Cell Transplant for Cancer.

• References

See all references for Lymphoma of the Skin

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**Treatment for Specific Types of Skin Lymphoma**

The treatment of skin lymphoma is based mainly on the type of lymphoma, as well as its location and its stage – how far it has spread in the body. But other factors, such as your overall health, can also affect your treatment options. Talk to your doctor if you have any questions about the treatment plan he or she recommends.

The treatments mentioned in this section are discussed in more detail in earlier sections of this document.

**T-cell lymphomas**

**Mycosis fungoides**

Many forms of treatment can be used for mycosis fungoides (MF).

**Skin-directed treatments**: For early stages of MF, treatments are aimed at the skin.
Options may include:

- Phototherapy with ultraviolet (UV) light (either UVB light or UVA combined with drugs called psoralens, known as PUVA)
- Topical chemotherapy with BCNU or nitrogen mustard
- Topical corticosteroid ointments or injections
- Topical retinoids (vitamin A-like drugs), such as bexarotene
- Topical imiquimod
- Local radiation treatments if there is only one or a few lesions
- Total skin electron beam therapy (TSEBT) if MF covers most of the skin

Sometimes more than one type of skin-directed treatment is used.

**Systemic (whole-body) treatments:** Mycosis fungoides might stay limited to the skin for many years. But eventually it might spread, and patients may need systemic treatments.

Several types of treatment can be used, such as:

- Retinoids (taken by mouth)
- Targeted drugs like vorinostat (Zolinza) or romidepsin (Istodax)
- Photopheresis
- Interferons
- Denileukin diftitox (Ontak)
- Low-dose methotrexate (a chemo drug)

Chemotherapy (usually with a single drug) or monoclonal antibodies such as alemtuzumab (Campath) or brentuximab vedotin (Adcetris) might be other options, but they are often reserved for lymphomas that are no longer responding to other treatments. If single chemo drugs are not effective, combinations of drugs (similar to those used for other types of non-Hodgkin lymphoma) might be recommended.

More than one type of treatment might be used at the same time. This could include combinations of skin-directed and systemic treatments (such as TSEBT plus photopheresis) or combined systemic treatments (such as an oral retinoid plus interferon).

Many patients can be helped by these treatments, sometimes for many years, but they rarely cure the lymphoma. If other treatments are no longer working, a stem cell transplant may be an option. Newer treatments are also being studied. If current treatments are no longer helpful, patients may want to consider entering a clinical trial.
Sezary syndrome

The systemic treatments used for advanced MF are also used to treat Sezary syndrome. This disease has usually spread beyond the skin at the time it is diagnosed, so treatments directed only at the skin are less useful than in MF (although some might still be part of treatment).

Photopheresis may be helpful in treating the disease, as may retinoids, such as bexarotene. The targeted treatments vorinostat and romidepsin might also be used, as might interferon or denileukin diftitox. Chemotherapy or alemtuzumab can also be useful, but these are usually reserved for lymphomas that are no longer responding to other treatments. A stem cell transplant might be another option if other treatments are no longer working.

As with advanced MF, these treatments are often helpful for a time, but they rarely result in a cure. Newer treatments are now being studied, and patients may want to consider entering a clinical trial of one of these.

Primary cutaneous anaplastic large cell lymphoma (ALCL)

This lymphoma usually stays confined to the skin. It seldom spreads inside the body and rarely causes death. If it’s not causing symptoms, it can often be monitored closely without needing to be treated right away. The skin lesions may even go away on their own, without any treatment.

If treatment is needed, surgery and/or radiation therapy are the most common options for single skin lesions (or small groups of lesions). Topical chemotherapy, retinoids, or other medicines might be options if there are skin lesions in several places.

If the lymphoma comes back after treatment and/or spreads to lymph nodes or (rarely) internal organs, then systemic chemotherapy is often used. Newer targeted drugs such as brentuximab vedotin (Adcetris) might also be an option.

Lymphomatomoid papulosis

This disease often comes and goes on its own and usually has such a good outlook that treatment is not needed right away. If treatment is needed, phototherapy and topical corticosteroids are the most common treatments if there are only a few skin lesions. If the lesions are more extensive, topical chemotherapy or systemic treatments such as oral retinoids or low-dose methotrexate are other options. Rarely is there any need for systemic chemotherapy.
Subcutaneous panniculitis-like T-cell lymphoma

Patients with this type of lymphoma can live a long time and generally have an excellent outlook. Although chemotherapy and radiation have been used successfully in the past, the disease can often be controlled for long periods with just corticosteroids.

Primary cutaneous peripheral T-cell lymphoma, unspecified

Primary cutaneous aggressive epidermotropic CD8+ cytotoxic T-cell lymphomas are usually fast growing and are treated with systemic chemotherapy.

Primary cutaneous gamma/delta T-cell lymphoma tends to grow and spread very quickly. It is treated with systemic chemotherapy or radiation therapy, but generally does not respond well to treatment.

Primary cutaneous CD4+ small/medium sized pleomorphic T-cell lymphoma may be removed with surgery or treated with radiation if there is only a single tumor. If there are many tumors, systemic chemotherapy or corticosteroids are often effective. People with this lymphoma generally have a good outlook, especially if they have only one tumor.

Primary cutaneous peripheral T-cell lymphoma, unspecified, is treated with systemic chemotherapy. Although these lymphomas may respond to chemotherapy at first, they often come back later, at which point they can be very hard to treat.

These lymphomas are often hard to treat effectively, so patients may want to consider clinical trials studying newer forms of treatment.

B-cell lymphomas

Primary cutaneous marginal-zone B-cell lymphoma or Primary cutaneous follicle-center lymphoma

These types of lymphoma can sometimes be watched without treatment until problems develop. For lymphomas that are in one spot or only a few spots close together, initial treatment is usually radiation therapy or surgery. If the lymphoma does not go away completely or keeps growing, further treatment may include surgery; radiation therapy; topical medicines such as corticosteroids, chemotherapy, bexarotene (Targretin), or imiquimod (Zyclara); or injected corticosteroids.
For lymphomas that have spread over larger parts of the skin, treatment options include rituximab (Rituxan), topical medicines (such as corticosteroids, chemotherapy, bexarotene, or imiquimod), radiation therapy, or injected corticosteroids. Systemic chemotherapy (sometimes with rituximab), like that used for other slow-growing B-cell lymphomas, can also be used if there are many lesions.

If the lymphoma has spread to lymph nodes or internal organs, it is treated like follicular lymphomas found in other parts of the body, typically with a combination of chemotherapy and rituximab (see Non-Hodgkin Lymphoma for more details).

**Primary cutaneous diffuse large B-cell lymphoma, leg type**

These lymphomas might look like they involve only a small area of the skin at first, but the disease is often more widespread than it first appears. The treatment of choice is rituximab along with systemic chemotherapy. Often the regimen called R-CHOP (rituximab plus cyclophosphamide, doxorubicin, vincristine, and prednisone) is given, but other chemo combinations can also be used. If the lymphoma is in only one or a few areas, radiation therapy directed at the tumors is often used as well. For people who can’t tolerate chemotherapy, radiation therapy alone may be given.

If the lymphoma has spread to the lymph nodes or other organs, treatment is the same as that used for diffuse large B-cell lymphomas (DLBCLs) found in other parts of the body, which is usually R-CHOP, with or without radiation therapy (see Non-Hodgkin Lymphoma for more details).

**Primary cutaneous diffuse large B-cell lymphoma, other (non-leg)**

Patients with this type of lymphoma (which involves sites other than the leg) need systemic chemotherapy, similar to that used for primary cutaneous diffuse large B-cell lymphoma, leg type. This is most often the R-CHOP regimen (rituximab plus cyclophosphamide, doxorubicin, vincristine, and prednisone).

- References

See all references for Lymphoma of the Skin

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What If the Lymphoma Keeps Growing or Comes Back After Treatment?

Some lymphomas may not respond well to treatment. Most often, other types of treatment can then be tried. But as more treatments are tried, they may be less likely to work or more likely to cause side effects.

When a cancer comes back after treatment it is called *recurrent* or *relapsed*. In general, if a skin lymphoma comes back it tends to be in the skin. If this is the case, skin-directed therapies that haven’t been used yet may be effective.

Some skin lymphomas eventually spread inside the body as well. Often, lymph nodes are the first site of relapse. After that, it may spread to organs such as the liver, spleen, and bone marrow. Different types of systemic treatments may be helpful in this situation. Chemotherapy is often used, especially if the patient hasn’t had chemo before. Depending on the type of lymphoma, other drugs, such as vorinostat (Zolinza), romidepsin (Istodax), alemtuzumab (Campath), and denileukin diftitox (Ontak), might also be options for a relapse. A stem cell transplant may be another option at some point.

Advanced skin lymphomas are very hard to cure. Different systemic treatments may be effective for some time. But in general, the more treatments a person has had, the less likely it is that the next treatment will be helpful. If the lymphoma improves with later treatments, it often comes back sooner than it did before. Over time, treatments tend to provide less benefit, but they can still cause side effects.

One option might be to consider clinical trials of newer treatments that work in new ways. But at some point, a person might want to think about treatments aimed more at relieving the symptoms of the lymphoma, rather than trying to get rid of it with more aggressive treatments that have a very small chance of success. This approach is called palliative care.

For example, if lymph nodes enlarge, they can press on nerves and cause pain. Radiation therapy to these areas can often help relieve the pain. Treatment with appropriate pain medicines is also important. Help with pain treatment from a palliative care team may be required.

Some lymphoma symptoms can result from low blood counts. Fatigue may be caused by low red blood cell counts (anemia). Sometimes blood transfusions may be used to increase the number of red blood cells and help a person feel better. Low white blood...
cell counts (from chemotherapy or from the lymphoma itself) can lead to infections. Certain drugs such as G-CSF (Neupogen) or GM-CSF (Leukine) may be used to increase the white blood cell count.

Nausea and loss of appetite can occur because of the disease or its treatment. These symptoms can also be treated effectively with drugs, as well as high-calorie food supplements. If the lymphoma involves the lungs, patients may get short of breath. Oxygen may be used to help treat this symptom. See the Physical Side Effects section of our website for more information on side effects from cancer and cancer treatment.

Some people may become depressed. Counseling and medication may be helpful. If depression is a problem, it is important to discuss your feelings with your doctor or nurse, so that appropriate treatment can be started. See the Emotional Side Effects section of our website for information on coping with cancer.

For more on dealing with lymphoma that is no longer responding to treatment, see If Treatment of Lymphoma of the Skin Is No Longer Working.

- References

See all references for Lymphoma of the Skin

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After Treatment for Lymphoma of the Skin

Living as a Cancer Survivor

For many people, cancer treatment often raises questions about next steps as a survivor.

- What Happens After Treatment for Lymphoma of the Skin?
- Lifestyle Changes After Lymphoma of the Skin
- How Might Having Lymphoma of the Skin Affect Your Emotional Health?

Cancer Concerns After Treatment

Treatment may remove or destroy the cancer, but it is very common to have questions about cancer coming back or treatment no longer working.

- If Treatment of Lymphoma of the Skin Is No Longer Working

What Happens After Treatment for Lymphoma of the Skin?

For some people with skin lymphoma, treatment may remove or destroy the cancer. Completing treatment can be both stressful and exciting. You may be relieved to finish treatment, but find it hard not to worry about the lymphoma coming back. (When cancer comes back after treatment, it is called recurrence.) This is a very common concern in people who have had cancer.

It may take a while before your fears lessen. But it may help to know that many cancer survivors have learned to live with this uncertainty and are leading full lives. See
Understanding Recurrence for more detailed information on this.

For many people, the lymphoma may never go away completely. These people may get regular treatments with chemotherapy, radiation, or other therapies to help keep the lymphoma under control for as long as possible and to help relieve symptoms from it. Learning to live with lymphoma as more of a chronic disease can be difficult and very stressful. It has its own type of uncertainty. See Managing Cancer as a Chronic Illness for more about this.

Follow-up care

Whether you have completed treatment or are still being treated, your doctors will still want to watch you closely with regular physical exams, blood tests, and possibly imaging tests. It is very important to go to all of your follow-up appointments.

You may need to have frequent blood tests to monitor your bone marrow function, to check that you have recovered from treatment, and to look for possible signs of disease recurrence. Rarely, blood cell counts can become abnormal as a long-term side effect of chemotherapy. If chemo damages the bone marrow, a disease called myelodysplasia can occur. In some cases this might even lead to acute leukemia.

The choice of other tests depends on the type, location, and extent of your lymphoma. If lymph nodes or other organs are affected, CT scans may be used to measure the size of any remaining tumors. PET scans may be done if your doctors aren’t sure if an abnormal area on a CT scan is an active lymphoma or scar tissue.

Almost any cancer treatment can have side effects. Some may last for only a short time, but others can last longer, or might even be permanent. Tell your cancer care team about any symptoms or side effects that bother you so they can help you manage them.

If the lymphoma does come back at some point, further treatment will depend on where it recurs, what treatments you’ve had before, how long it’s been since treatment, and your overall health. For more information, see What if the Lymphoma Keeps Growing or Comes Back After Treatment? For more general information on dealing with a recurrence, see Coping with Cancer Recurrence.

Seeing a new doctor

At some point after treatment, you may find yourself seeing a new doctor who does not know anything about your medical history. It is important that you be able to give your
new doctor the details of your diagnosis and treatment. Gathering these details soon after treatment may be easier than trying to get them at some point in the future. Make sure you have this information handy (and always keep copies for yourself):

- A copy of your pathology report(s) from any biopsies or surgeries
- Copies of imaging tests (CT or MRI scans, etc.) or photographs, which can usually be stored digitally (on a DVD, etc.)
- If you had surgery, a copy of your operative report(s)
- If you stayed in the hospital, a copy of the discharge summary that the doctor wrote when you were sent home
- If you had chemotherapy or other drug treatments, a list of the drugs, drug doses, and when you took them
- If you had radiation therapy, a summary of the type and dose of radiation and when and where it was given
- The names and contact information of the doctors who treated your lymphoma

It is also very important to keep health insurance. Tests and doctor visits cost a lot, and even though no one wants to think of their cancer coming back, this could happen.

- References
  See all references for Lymphoma of the Skin

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**Lifestyle Changes After Lymphoma of the Skin**

You can’t change the fact that you have had cancer. What you can change is how you live the rest of your life – making choices to help you stay healthy and feel as well as you can. This can be a time to look at your life in new ways. Maybe you are thinking about how to improve your health over the long term. Some people even start during cancer treatment.

**Make healthier choices**
For many people, a diagnosis of cancer helps them focus on their health in ways they may not have thought much about in the past. Are there things you could do that might make you healthier? Maybe you could try to eat better or get more exercise. Maybe you could cut down on alcohol, or give up tobacco. Even things like keeping your stress level under control might help. Now is a good time to think about making changes that can have positive effects for the rest of your life. You will feel better and you will also be healthier.

You can start by working on those things that worry you most. Get help with those that are harder for you. For instance, if you are thinking about quitting smoking and need help, call the American Cancer Society at 1-800-227-2345.

**Eating better**

Eating right can be hard for anyone, but it can get even tougher during and after cancer treatment. Treatment may change your sense of taste. Nausea can be a problem. You may not feel like eating and lose weight when you don’t want to. Or you may have gained weight that you can’t seem to lose. All of these things can be very frustrating.

If treatment causes weight changes or eating or taste problems, do the best you can and keep in mind that these problems usually get better over time. You may find it helps to eat small portions every 2 to 3 hours until you feel better. You might also want to ask your cancer team about seeing a dietitian, an expert in nutrition who can give you ideas on how to deal with these treatment side effects.

One of the best things you can do after cancer treatment is to practice healthy eating habits. You may be surprised at the long-term benefits of some simple changes, like increasing the variety of healthy foods you eat. Getting to and staying at a healthy weight, eating a healthy diet, and limiting your alcohol intake may lower your risk for a number of types of cancer, as well as having many other health benefits.

To learn more, see [Nutrition and Physical Activity During and After Cancer Treatment: Answers to Common Questions](#).

**Rest, fatigue, and exercise**

Extreme tiredness, called fatigue, is very common in people treated for cancer. This is not a normal tiredness, but a bone-weary exhaustion that often doesn’t get better with rest. For some people, fatigue lasts a long time after treatment, and can make it hard for them to exercise and do other things they want to do. But exercise can help reduce fatigue. Studies have shown that patients who follow an exercise program tailored to
their personal needs feel better physically and emotionally and can cope better, too.

If you were sick and not very active during treatment, it’s normal for your fitness, endurance, and muscle strength to decline. Any plan for physical activity should fit your own situation. A person who has never exercised will not be able to take on the same amount of exercise as someone who plays tennis twice a week. If you haven’t been active in a few years, you will have to start slowly – maybe just by taking short walks.

Talk with your health care team before starting anything. Get their opinion about your exercise plans. Then, try to find an exercise buddy so you’re not doing it alone. Having family or friends involved when starting a new activity program can give you that extra boost of support to keep you going when the push just isn’t there.

If you are very tired, you will need to learn to balance activity with rest. It’s OK to rest when you need to. Sometimes it’s really hard for people to allow themselves to rest when they are used to working all day or taking care of a household, but this is not the time to push yourself too hard. Listen to your body and rest when you need to. For more information on fatigue and other treatment side effects, see the Physical Side Effects section of our website.

Keep in mind exercise can improve your physical and emotional health.

- It improves your cardiovascular (heart and circulation) fitness.
- Along with a good diet, it will help you get to and stay at a healthy weight.
- It makes your muscles stronger.
- It reduces fatigue and helps you have more energy.
- It can help lower anxiety and depression.
- It can make you feel happier.
- It helps you feel better about yourself.

And long term, we know that getting regular physical activity plays a role in helping to lower the risk of some cancers, as well as having other health benefits.

**Can I lower my risk of the lymphoma progressing or coming back?**

Most people want to know if there are specific lifestyle changes they can make to reduce their risk of cancer progressing or coming back. Unfortunately, for most cancers there isn’t much solid evidence to guide people. This doesn’t mean that nothing will help – it’s just that for the most part this is an area that hasn’t been well studied. Most studies have looked at lifestyle changes as ways of preventing cancer in the first place, not slowing it down or preventing it from coming back.
At this time, not enough is known about skin lymphoma to say for sure if there are things you can do that will be helpful. Adopting healthy behaviors such as not smoking, eating well, and staying at a healthy weight may help, but no one knows for sure. However, we do know that these types of changes can have positive effects on your health that can extend beyond your risk of lymphoma or other cancers.

So far, no dietary supplements of any kind have been shown to clearly help lower the risk of skin lymphoma progressing or coming back. Again, this doesn’t necessarily mean that none will help, but it’s important to understand that none have been proven to do so.

- References
See all references for Lymphoma of the Skin

How Might Having Lymphoma of the Skin Affect Your Emotional Health?

During and after treatment, you may find yourself overcome with many different emotions. This happens to a lot of people.

You may find yourself thinking about death and dying. Or maybe you’re more aware of the effect the cancer has on your family, friends, and career. You may take a new look at your relationships with those around you. Unexpected issues may also cause concern. For instance, you might be stressed by the costs of your treatment. You might also see your health care team less often after treatment and have more time on your hands. These changes can make some people anxious.

Almost everyone who is going through or has been through cancer can benefit from getting some type of support. You need people you can turn to for strength and comfort. Support can come in many forms: family, friends, cancer support groups, religious or spiritual groups, online support communities, or one-on-one counselors. What’s best for you depends on your situation and personality. Some people feel safe in peer-support
groups or education groups. Others may feel more at ease talking one-on-one with a trusted friend or counselor. Whatever your source of strength or comfort, make sure you have a place to go with your concerns.

The cancer journey can feel very lonely. It’s not necessary or good for you to try to deal with everything on your own. And your friends and family may feel shut out if you do not include them. Let them in, and let in anyone else who you feel may help. If you aren’t sure who can help, call your American Cancer Society at 1-800-227-2345 and we can put you in touch with a group or resource that may work for you. You can also see the Coping With Cancer section of our website for more information.

- References

See all references for Lymphoma of the Skin

If Treatment of Lymphoma of the Skin Is No Longer Working

If lymphoma keeps growing or comes back after one kind of treatment, it may be possible to try another treatment plan that might still cure it or at least keep it under control enough to help you live longer and feel better. Clinical trials also might offer chances to try newer treatments that could be helpful.

But when a person has tried many different treatments and the lymphoma is no longer getting better, even newer treatments may no longer be helpful. If this happens, it’s important to weigh the possible limited benefits of a new treatment against the possible downsides, including treatment side effects. Everyone has their own way of looking at this.

This is likely to be the hardest part of your battle with cancer – when you have been through many treatments and nothing’s working anymore. Your doctor may offer you new options, but at some point you may need to consider that treatment is not likely to improve your health or change your outcome or survival.
If you want to continue to get treatment for as long as you can, you need to think about the odds of treatment having any benefit and how this compares to the possible risks and side effects. Your doctor can estimate how likely it is the cancer will respond to treatments you're considering. For instance, the doctor may say that more treatment might have about a 1 in 100 chance of working. Some people are still tempted to try this. But it’s important to have realistic expectations if you do choose this plan.

**Palliative care**

No matter what you decide to do, it's important that you feel as good as you can. Make sure you are asking for and getting treatment for any symptoms you might have, such as nausea or pain. This type of treatment is called [palliative care](#).

Palliative care helps relieve symptoms, but it is not expected to cure the disease. It can be given along with cancer treatment, or can even be cancer treatment. The difference is its purpose – the main goal of palliative care is to improve the quality of your life, or help you feel as good as you can for as long as you can. Sometimes this means using drugs to help with symptoms like [pain](#) or [nausea](#). Sometimes, though, the treatments used to control your symptoms are the same as those used to treat cancer. For instance, radiation or other treatments might be used to help relieve pain caused by a large tumor. But this is not the same as treatment to try to cure the cancer.

**Hospice care**

At some point, you may benefit from hospice care. This is special care that treats the person rather than the disease; it focuses on quality rather than length of life. Most of the time, it is given at home. Your cancer may be causing problems that need to be managed, and hospice focuses on your comfort. You should know that while getting hospice care often means the end of treatments such as chemo and radiation, it doesn’t mean you can’t have treatment for the problems caused by the cancer or other health conditions. In hospice the focus of your care is on living life as fully as possible and feeling as well as you can at this difficult time. You can learn more in [Hospice Care](#).

Staying hopeful is important, too. Your hope for a cure may not be as bright, but there is still hope for good times with family and friends – times that are filled with happiness and meaning. Pausing at this time in your cancer treatment gives you a chance to refocus on the most important things in your life. Now is the time to do some things you’ve always wanted to do and to stop doing the things you no longer want to do. Though the cancer may be beyond your control, there are still choices you can make.

**To learn more**
You can learn more about the changes that occur when treatment stops working, and about planning ahead for yourself and your family, in Advance Directives and Nearing the End of Life.

- References

See all references for Lymphoma of the Skin

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