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# Lymphoma of the Skin Causes, Risk Factors, and Prevention

Learn about the risk factors for lymphoma of the skin and what you might be able to do to help lower your risk.

## 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.

- [Risk Factors for Lymphoma of the Skin](#)
- [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?](#)

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# Risk Factors for Lymphoma of the Skin

While most people with lymphoma of the skin may have some factors (such as their age or sex) that make them more likely to get this disease, in most people there is no clear

[cause](#) of the lymphoma.

- [What is a risk factor?](#)
- [Age](#)
- [Sex and race](#)
- [Having a weakened immune system](#)
- [Certain infections](#)

## What is a risk factor?

A risk factor is anything that increases your chance of getting a disease like cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like a person's age or family history, can't be changed.

But having a risk factor, or even several, does not mean that a person will get the disease. And many people who get the disease may have few or no known risk factors.

## Age

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

## Sex 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 White people. The reasons for this are not known.

## Having a weakened immune system

Skin lymphomas may be more common in people who have a weakened immune system. This includes people with acquired immunodeficiency syndrome (AIDS), as well as people who have had an organ transplant such as a heart, kidney or liver transplant, who must take drugs that suppress their immune system.

## Certain infections

Infection with certain viruses or other germs has been suggested as a possible cause of some skin lymphomas.

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 some 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.

Infection with the [human immunodeficiency virus \(HIV\)](#)<sup>1</sup>, the virus that causes AIDS, may increase a person's risk of skin lymphoma by weakening their immune system.

Some studies have suggested that infections with other viruses might also be linked with skin lymphomas, but more research is needed on this.

## Hyperlinks

1. [www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html](http://www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html)

## References

Foss FM, Gibson JF, Edelson RL, Wilson LD. Chapter 104: Cutaneous lymphomas. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

Querfeld C, Rosen ST. Chapter 107: Cutaneous T-cell lymphoma and cutaneous B-cell lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

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## 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 (immune system cells) might cause them to become lymphoma cells. DNA is the chemical in each of our cells that makes up our genes, which control 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**.
- Genes that help keep cell division under control 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 most types of 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 skin lymphomas. People with weakened immune systems (such as people with acquired immunodeficiency syndrome (AIDS) and people who have had an organ transplant) seem to have a

greater chance of developing skin lymphoma, but it's not clear why.

Some types of infections might also raise the risk of skin lymphomas. This might be because the infections force the body's immune system to constantly be active. As more lymphocytes are made to fight the infection, there is a greater chance that some of these cells will have DNA mutations in key genes, which might eventually lead to lymphoma. Researchers are still studying this.

## References

Foss FM, Gibson JF, Edelson RL, Wilson LD. Chapter 104: Cutaneous lymphomas. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

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# 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<sup>1</sup>](#).

## Hyperlinks

1. [www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html](http://www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html)

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Foss FM, Gibson JF, Edelson RL, Wilson LD. Chapter 104: Cutaneous lymphomas. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

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