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# When Your Child Has Hodgkin Lymphoma

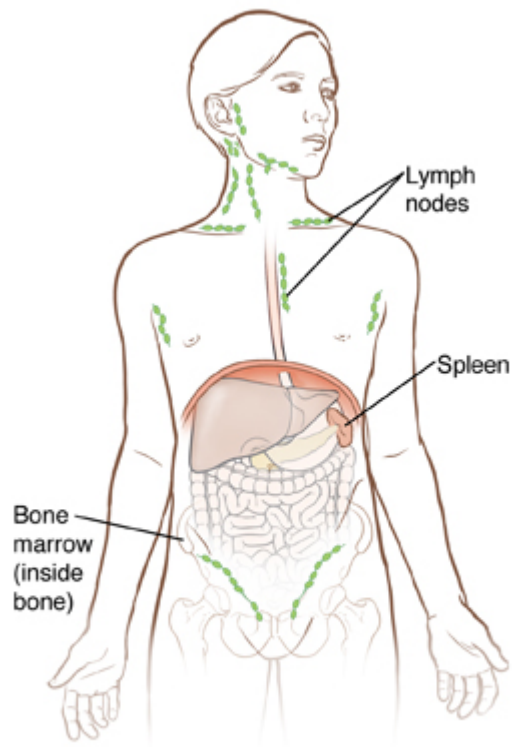
Your child has been diagnosed with Hodgkin lymphoma. You're likely feeling shocked and scared. You are not alone. Support and treatment are available for your child. You and your family will be supported, too. Your child's healthcare team will help you as you make important decisions about your child's health.

## What is Hodgkin lymphoma?

Hodgkin lymphoma is also called Hodgkin disease. It's a cancer that starts in cells of the lymphatic system. The lymphatic system is part of the immune system, which helps the body fight infection. The lymphatic system includes:

- **Lymph.** Infection-fighting fluid that carries white blood cells called lymphocytes.
- **Lymph nodes.** Small, bean-shaped organs that filter lymph and store white blood cells. Lymph nodes are grouped together all over the body. They can sometimes be felt in the neck, armpit, and groin.
- **Bone marrow.** Thick, spongy tissue found in the center of bones. Blood cells are made in the bone marrow.
- **Spleen.** Organ that makes and stores certain lymphocytes and filters the blood. It's under the ribs on the left side of the body.
- **Certain other organs and body tissues.** Lymph tissue is also found in other parts of the body, like the thymus, tonsils, and stomach.

With Hodgkin lymphoma, cancer cells form in the lymphatic system. When the cancer cells group together, they form a tumor. They also can spread (metastasize) to another part of the body, like the lungs, bone marrow, or liver. Cancer cells make it hard for the body to fight infection. They can cause other health problems, too.



## Who gets Hodgkin lymphoma?

Children can get Hodgkin lymphoma at any age. But teens are affected most often.

Hodgkin lymphoma is not contagious. This means your child can't pass it to another person.

## What causes Hodgkin lymphoma?

Hodgkin lymphoma starts when white blood cells change (mutate) and grow out of control. Experts don't know what causes this.

Most of the time, the cause of cancer in children isn't known. In rare cases, certain factors might play a role in Hodgkin lymphoma. These include being exposed to certain viruses like the Epstein-Barr virus. Or having a weak immune system.

## What are the symptoms of Hodgkin lymphoma?

Some common symptoms of Hodgkin lymphoma include:

- Fever with no known cause
- Night sweats that soak the bedding
- Weight loss without trying
- Extreme tiredness (fatigue)
- Itchy skin

- Swollen lymph nodes in the neck, chest, armpits, or groin that don't hurt

Your child may have these or other symptoms.

## How is Hodgkin lymphoma diagnosed?

Your child's healthcare provider will do a physical exam. You'll be asked about your child's symptoms and health history. Your child may also need 1 or more of these tests:

- **Blood tests.** Blood is taken from a vein and sent to a lab where tests are done. It's checked under a microscope.
- **Imaging tests.** These give detailed images of the inside of your child's body. They may include a chest X-ray, CT scan, MRI, or PET scan.
- **Lymph node biopsy.** A needle is used to take out a small piece (sample) of lymph node tissue for testing. Sometimes surgery is done to take out the entire node.
- **Bone marrow aspirations and biopsies.** A thick needle is used to take out a small amount of liquid bone marrow and a piece of bone from the back of the hip bone or the breastbone. These samples are tested to learn more about the cancer.

## Staging of Hodgkin lymphoma

Staging is the process of finding out how big the cancer is and how much it has spread. Staging helps the healthcare team plan treatment for your child. It can also help figure out the likely outcomes (prognosis). The staging system for Hodgkin lymphoma looks at:

- If your child has certain symptoms linked to Hodgkin lymphoma
- Where the lymph nodes that contain cancer are
- How big the tumor is
- If the cancer is in the spleen or thymus
- If the cancer has grown into tissues outside the lymphatic system
- If the cancer has spread to other parts of the body

Hodgkin lymphoma is given a stage of 1 through 4. It's listed as a Roman numeral and can have a value of I (1), II (2), III (3), or IV (4). The different stage numbers refer to the amount of lymphoma in the body. For instance, stage I is a very early stage of cancer. It's small and in 1 part of the body. Stage IV means the cancer is widespread to parts of the body far from where it started.

Letters can be added to the Roman numerals to give more information about the Hodgkin lymphoma. An A or B might be used. A means the child doesn't have certain symptoms. These are fever, night sweats, or weight loss. B means the child does have these symptoms. An E (for extralymphatic) means the cancer has spread outside the lymphatic system. If it's in the spleen, an S is used.

Your child's healthcare provider can tell you more. Talk with the provider if you have any questions about the stage of your child's cancer and what it means.

## How is Hodgkin lymphoma treated?

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The goal of treatment is to kill the cancer cells. Your child will get treatment based on the stage of the Hodgkin lymphoma and other factors. More than one kind of treatment may be used.

These treatments are commonly used to treat Hodgkin lymphoma in children:

- **Chemotherapy (chemo).** Strong medicines are used to kill cancer cells or stop them from growing. Many kinds of chemo can be used. These medicines are often given right into the blood through an IV (intravenous) tube that's in a vein in the arm or chest. In some cases, they may be given by mouth or as a shot (injection).
- **Radiation therapy.** This destroys cancer cells with high-energy X-rays.
- **High-dose chemotherapy and stem cell transplant.** High doses of chemo can't be used alone. That's because they can kill the bone marrow, where new blood cells are made. But high doses can be used with a stem cell transplant. The transplant replaces the cells in the bone marrow with young blood cells called stem cells.
- **Monoclonal antibody therapy.** This treats the cancer with special manmade versions of immune system proteins. They can help the immune system better find and kill cancer cells.
- **Targeted therapy.** These medicines target certain parts of cancer cells that make them different from normal cells. They can kill the cancer cells while limiting damage to healthy cells.

## Supportive treatments

The goal of supportive treatment is to ease problems caused by the cancer or cancer treatment. For instance, medicines might be used to help protect your child from infection, ease discomfort, and keep their blood counts in a healthy range. Antinausea, antidiarrhea, and other medicines may also be given as needed.

## What are the long-term concerns?

With treatment, Hodgkin lymphoma can often be cured. But chemotherapy and radiation may cause some problems. These include long-term effects, such as damage to certain organs, growth and development issues, or fertility problems. Later in life, your child may have another (second) cancer. But this is very rare.

Your child's health will need to be monitored their whole life. This may include clinic visits, blood tests, imaging tests, heart ultrasounds, and lung function tests.

## Coping

A cancer diagnosis for your child is scary and confusing. It's important to remember that you're not alone. Your child's healthcare team will work with you and your child during your child's illness and care. You may also want to get information and support for yourself and your family. Doing so can help you cope with the changes cancer brings to your family. Learning about and talking with others who also have a child with cancer may help you and your family cope. Some helpful resources include:

- [Lymphoma Research Foundation at www.lymphoma.org](http://www.lymphoma.org)
- [Children's Oncology Group at www.childrensoncologygroup.org](http://www.childrensoncologygroup.org)

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- [The Leukemia & Lymphoma Society at www.lls.org](http://www.lls.org)