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Hodgkin Lymphoma Early Detection, Diagnosis, and Staging

Know the signs and symptoms of Hodgkin lymphoma. Find out how Hodgkin lymphoma is tested for, diagnosed, and staged.

Detection and Diagnosis

Finding cancer early, when it's small and hasn't spread, often allows for more treatment options. Some early cancers may have signs and symptoms that can be noticed, but that's not always the case.

- [Can Hodgkin Lymphoma Be Found Early?](#)
- [Signs and Symptoms of Hodgkin Lymphoma](#)
- [Tests for Hodgkin Lymphoma](#)

Stages and Outlook (Prognosis)

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

- [Hodgkin Lymphoma Stages](#)
- [Survival Rates for Hodgkin Lymphoma](#)

Questions to Ask About Hodgkin Lymphoma

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

Can Hodgkin Lymphoma Be Found Early?

Signs and Symptoms of Hodgkin Lymphoma

- [B symptoms](#)
- [General \(non-specific\) symptoms](#)
- [If you have symptoms](#)

You or your child can have (HL) and feel perfectly well. But HL often causes symptoms or changes that should be checked by a doctor.

Lump(s) under the skin

The most common symptom of HL is a lump in the neck, under the arm, or in the groin, which is an enlarged [lymph node](#)¹. It doesn't usually hurt, but it may become painful after drinking alcohol. The lump might get bigger over time, or new lumps might appear near it or even in other parts of the body.

Still, HL is not the most common cause of lymph node swelling. Most enlarged lymph nodes, especially in children, are caused by an infection. Lymph nodes that grow because of infection are called **reactive** or **hyperplastic** nodes. These often hurt when they're touched. If an infection is the cause, the node should go back to its normal size after the infection goes away.

Other cancers can cause swollen lymph nodes, too. If you have an enlarged lymph node, especially if you haven't had a recent infection, it's best to see a doctor so that the cause can be found and treated, if needed.

B symptoms

Some people with HL have what are known as **B symptoms**:

- Fever (which can come and go over several weeks) without an infection
- Drenching night sweats
- Weight loss without trying (at least 10% of your body weight over 6 months)

These symptoms are an important part of [staging HL](#) and determining a person's outlook.

General (non-specific) symptoms

Other possible symptoms of HL include:

- Itching skin
- Feeling tired (fatigue)
- Loss of appetite

Sometimes the only symptom might be feeling tired all the time.

Cough, trouble breathing, chest pain

If HL affects lymph nodes inside your chest, the swelling of these nodes might press on the windpipe (trachea) and make you cough or even have trouble breathing, especially when lying down. Some people might have pain behind the breast bone.

If you have symptoms

Having one or more of the symptoms above doesn't mean you definitely have HL. In fact, many of these symptoms are much more likely to be caused by other problems, like an infection. Still, if you or your child has any of these symptoms, have them checked by a doctor so that the cause can be found and, if needed, treated.

Hyperlinks

1. www.cancer.org/cancer/diagnosis-staging/lymph-nodes-and-cancer.html

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Tests for Hodgkin Lymphoma

Medical history and physical exam

The doctor will want to get a thorough medical history. You'll be asked about symptoms, possible [risk factors](#)³, family history, and other medical conditions.

Next, the doctor will examine you (or your child), paying close attention to [lymph nodes](#)⁴ and other parts of the body that might be affected, including the spleen and liver. Because infections are the most common cause of enlarged lymph nodes, especially in children, the doctor will look for infection in the part of the body near any swollen lymph nodes.

The doctor also might order blood tests to look for signs of infection or other problems. If the doctor suspects that HL might be the problem, a biopsy of a swollen lymph node might be recommended.

Biopsies

Because swollen lymph nodes are more likely to be caused by something other than HL, like an infection, doctors often wait a few weeks to see if they shrink on their own as the infection goes away. You may be given antibiotics to see if they cause the nodes to shrink.

If the nodes don't shrink or if they continue to grow, a lymph node (or a small piece of a node) is taken out to be checked in the lab. This procedure, called a biopsy, is the only way to be sure of the diagnosis. If it is HL, the biopsy can also show what type it is.

Types of biopsies

There are different types of biopsies. Doctors choose the best one to do based on the situation.

Excisional or incisional biopsy: This is the preferred and most common type of biopsy for an enlarged lymph node. The doctor cuts through the skin to remove the lymph node.

- If the whole lymph node is removed, it's an **excisional** biopsy.
- If a small part of a larger tumor or node is removed, it's an **incisional** biopsy.

If the node is just under the skin, the biopsy is fairly simple and can sometimes be done with numbing medicine (called local anesthesia). But if the node is inside the chest or

abdomen (belly), you'll be sedated or given general anesthesia (where drugs are used to put you in a deep sleep). This type of biopsy almost always provides enough tissue to make a diagnosis of HL and tell the exact type.

Needle biopsy: A needle biopsy is less invasive than excisional or incisional biopsies because there's no cut in the skin. But the drawback is that it might not get enough tissue to diagnose HL (or find out which type it is). There are 2 main types of needle biopsies:

- A **fine needle aspiration (FNA) biopsy** uses a very thin, hollow needle attached to a syringe to take out (aspirate) a small amount of fluid and tiny bits of tissue.
- A **core needle biopsy** uses a larger needle to remove a slightly larger piece of tissue.

To biopsy an enlarged node just under the skin, the doctor can aim the needle while feeling the node. If a node or tumor is deep inside the body, a CT scan or ultrasound (see below) can be used to guide the needle.

Most doctors do not use needle biopsies (especially FNA biopsies) to diagnose HL. But if the doctor suspects that lymph node swelling is caused by an infection or by the spread of cancer from another organ (such as the [breast](#)⁵, [lungs](#)⁶, or [thyroid](#)⁷), a needle biopsy might be the first type of biopsy done. An excisional biopsy may still be needed to diagnose HL, even after a needle biopsy has been done.

If HL has already been diagnosed, needle biopsies are sometimes used to check changes (like swollen nodes) in other parts of the body that might be from the lymphoma spreading or coming back after treatment.

Bone marrow aspiration and biopsy: These tests are not used to diagnose HL, but they may be done after the diagnosis is made to see if the lymphoma is in the bone marrow. The bone marrow aspiration and biopsy are usually done at the same time. The samples are taken from the back of the pelvic (hip) bone, but sometimes they may be taken from other bones.

In **bone marrow aspiration**, you lie on a table (either on your side or on your belly). After cleaning the skin over the hip, the doctor numbs the skin and the surface of the bone by injecting a local anesthetic (numbing drug). This may cause a brief stinging or burning feeling. A thin, hollow needle is then pushed into the bone, and a syringe is used to suck out a small amount of liquid bone marrow. Even with the anesthetic, most patients have some brief pain when the marrow is pulled out.

A **bone marrow biopsy** is usually done just after the aspiration. A small piece or core of bone and marrow is removed with a slightly larger needle that's pushed into the bone. The biopsy may also cause some brief pain.

Most children having a bone marrow aspiration and biopsy are either given medicine to make them drowsy or are given general anesthesia so they're asleep while it's done.

Lab tests of biopsy samples

All biopsy samples are looked at under a microscope by a pathologist (a doctor specially trained to recognize cancer cells), who will look for Hodgkin lymphoma cells (called Reed-Sternberg cells). Sometimes the first biopsy doesn't give a clear answer and more biopsies are needed.

Looking at the tissue samples under the microscope is often enough to diagnose HL (and what type it is), but sometimes more lab tests are needed.

Immunohistochemistry: This lab test looks for certain proteins on cells, such as CD15 and CD30. These are found on the surface of the Reed-Sternberg cells in classic Hodgkin lymphoma (cHL). [Tests for other proteins](#)⁸ may point to nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL), to non-Hodgkin lymphoma (rather than Hodgkin lymphoma), or maybe to other diseases.

Imaging tests

[Imaging tests](#)⁹ use x-rays, sound waves, magnetic fields, or radioactive particles to make pictures of the inside of the body. Imaging tests can be used in many ways, such as:

- To look for possible causes of certain symptoms, such as enlarged lymph nodes in the chest
- To help determine the [stage](#)¹⁰ (extent) of Hodgkin lymphoma
- To help show if treatment is working
- To look for possible signs of cancer coming back after treatment

These are the imaging tests most commonly used:

Chest x-ray

HL often enlarges lymph nodes in the chest. This can often be seen on a chest [x-ray](#)¹¹.

Computed tomography (CT) scan

A [CT scan](#)¹² combines many x-rays to make detailed cross-sectional images of your body. This scan can help tell if any lymph nodes or organs in your body are enlarged. CT scans are useful for looking for HL in the neck, chest, abdomen (belly), and pelvis.

CT-guided needle biopsy: A CT scan 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 moves 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)

Like CT scans, [MRIs](#)¹³ show detailed images of soft tissues in the body. But MRIs use radio waves and strong magnets instead of x-rays. This test is rarely used in HL, but if the doctor is concerned about spread to the spinal cord or brain, MRI is very useful for looking at these areas.

Positron emission tomography (PET) scan

For a [PET scan](#)¹⁴, a slightly radioactive form of sugar is put into your blood. Over time, it collects in very active cells, like cancer cells. A special camera is then used to create a picture of the parts of the body where the radioactivity collected. The picture is not detailed like a CT or MRI scan, but it can give helpful information about your whole body.

PET scans can be used for many reasons in a person with HL:

more detailed pictures from the CT scan. PET/CT scans often can help pinpoint the areas of lymphoma better than a CT scan alone.

Bone scan

A [bone scan](#)¹⁵ isn't usually done unless a person is having bone pain or has lab test results that suggest the lymphoma might have reached the bones.

For this test, a radioactive substance is injected into a vein. It travels to damaged areas of bone, and a special camera can then detect the radioactivity. HL sometimes causes bone damage, which may be picked up on a bone scan. But bone scans can't show the difference between cancers and non-cancer problems, so more tests might be needed.

Other tests

Blood tests

Blood tests aren't used to diagnose HL, but they can help your doctor get a sense of how advanced it is and how well you might tolerate certain treatments.

The **complete blood count (CBC)** is a test that measures the [levels of different cells](#)¹⁶ in the blood. People with HL can sometimes have abnormal blood counts. For example, if the lymphoma invades the bone marrow (where new blood cells are made) a person might have [anemia](#)¹⁷ (not enough red blood cells). A high white blood cell count is another possible sign of HL, although it can also be caused by infection.

A test called an **erythrocyte sedimentation rate (ESR)** can help measure how much inflammation is in the body. It can be elevated in some people with HL.

Blood tests might also be done to check **liver and kidney function** and to look for signs that the cancer might have reached the bones. Some women may have a **pregnancy test**.

Your doctor might also suggest other blood tests to look for signs of certain infections:

- **HIV test:** This may be done if you have abnormal symptoms that might be related to HIV infection.
- **Hepatitis B and C virus test:** Certain chemo drugs could cause problems if you have these infections.

Tests of heart and lung function

These tests might be done if certain chemo drugs that could affect the heart or the lungs are going to be used.

- An **echocardiogram** (an ultrasound of the heart) or a **MUGA scan** can be used to check heart function.
- **Lung (pulmonary) function tests (PFTs)** can be used to see how well the lungs are working.

Hyperlinks

1. www.cancer.org/cancer/diagnosis-staging/tests.html
2. www.cancer.org/cancer/types/hodgkin-lymphoma/about/what-is-hodgkin-disease.html
3. www.cancer.org/cancer/types/hodgkin-lymphoma/causes-risks-prevention/risk-factors.html
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Last Revised: May 1, 2018

Hodgkin Lymphoma Stages

- [Lugano classification](#)

After someone is diagnosed with Hodgkin lymphoma (HL), 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](#)¹

- HL is found in only 1 lymph node area or lymphoid organ such as the thymus (I).
- The cancer is found only in 1 part of 1 organ outside the lymph system (IE).

Stage II: Either of the following means that the HL is stage II:

- HL is found in 2 or more lymph node areas on the same side of (above or below) the diaphragm, which is the thin muscle beneath the lungs that separates the chest and abdomen (II).
- The cancer extends locally from one lymph node area into a nearby organ (IIE).

Stage III: Either of the following means that the HL is stage III:

- HL is found in lymph node areas on both sides of (above and below) the diaphragm (III).
- HL is in lymph nodes above the diaphragm and in the spleen.

Stage IV: HL has spread widely into at least one organ outside of the lymph system, such as the liver, bone marrow, or lungs.

Other modifiers may also be used to describe the Hodgkin lymphoma stage:

Bulky disease

This term is used to describe tumors in the chest that are at least as wide as the chest, or tumors in other areas that are at least 10 centimeters (about 4 inches) across. It's usually labeled by adding the letter X to the stage. It's especially important for stage II lymphomas, because bulky disease may require more intensive treatment.

A vs. B

Each stage may also be assigned a letter (A or B). B is added (stage IIIB, for example) if a person has any of these **B symptoms**:

- Loss of more than 10% of body weight over the previous 6 months (without dieting)
- Unexplained fever of at least 100.4°F (38°C)
- Drenching night sweats

If a person has any B symptoms, it usually means the lymphoma is more advanced, and more intensive treatment is often recommended. If no B symptoms are present, the

letter A is added to the stage.

Resistant or recurrent Hodgkin lymphoma

Resistant or recurrent HL is not part of the formal staging system, but doctors or nurses might use these terms to describe what's going on with the lymphoma in some cases.

- The terms **resistant** or **progressive** disease are used when the lymphoma does not go away or progresses (grows) while you're being treated.
- **Recurrent** or **relapsed** disease means that HL went away with treatment, but it has now come back. If the lymphoma returns, it might be in the same place where it started or in another part of the body. This can happen shortly after treatment or years later.

Hyperlinks

1. www.cancer.org/cancer/types/hodgkin-lymphoma/treating.html
2. www.cancer.org/cancer/types/hodgkin-lymphoma/about/what-is-hodgkin-disease.html

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The American Cancer Society relies on information from the Surveillance, Epidemiology, and End Results (SEER) database, maintained by the National Cancer Institute (NCI), to provide survival statistics for different types of cancer.

The SEER database tracks 5-year relative survival rates for Hodgkin lymphoma in the United States, based on how far the cancer has spread. The SEER database, however, does not group cancers by the [Lugano classification](#) (stage 1, stage 2, stage 3, etc.). Instead, it groups cancers into localized, regional, and distant stages:

- **Localized:** The cancer is limited to one lymph node area, one lymphoid organ, or one organ outside the lymph system.
- **Regional:** The cancer reaches from one lymph node area to a nearby organ, is found in two or more lymph node areas on the same side of (above or below) the diaphragm, or is considered [bulky disease](#).
- **Distant:** The cancer has spread to distant parts of the body, such as the lungs, liver, or bone marrow, or to lymph node areas above and below the diaphragm.

5-year relative survival rates for Hodgkin lymphoma

These numbers are based on people diagnosed with Hodgkin lymphoma between 2012 and 2018.

SEER Stage	5-Year Relative Survival Rate
Localized	93%
Regional	95%
Distant	83%
All SEER stages combined	89%

Understanding the numbers

- **These numbers apply only to the stage of the cancer when it is first diagnosed.** They do not apply later on if the cancer grows, spreads, or comes back after treatment.
- **These numbers don't take everything into account.** Survival rates are grouped based on how far the cancer has spread, but your age and overall health, how well

the lymphoma responds to treatment, and other prognostic factors (described below) can also affect your outlook.

- **People now being diagnosed with Hodgkin lymphoma may have a better outlook than these numbers show.** Treatments have improved over time, and these numbers are based on people who were diagnosed and treated at least 5 years earlier.

Other prognostic factors

Along with the stage of the Hodgkin lymphoma, other factors can affect a person's prognosis (outlook). For example, having some of these factors means the lymphoma is likely to be more serious:

Having

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Last Revised: March 2, 2023

Questions to Ask About Hodgkin Lymphoma

- [When you're told you have Hodgkin lymphoma](#)

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