

# NHL

Non-Hodgkin  
Lymphoma



## WHAT YOU NEED TO KNOW

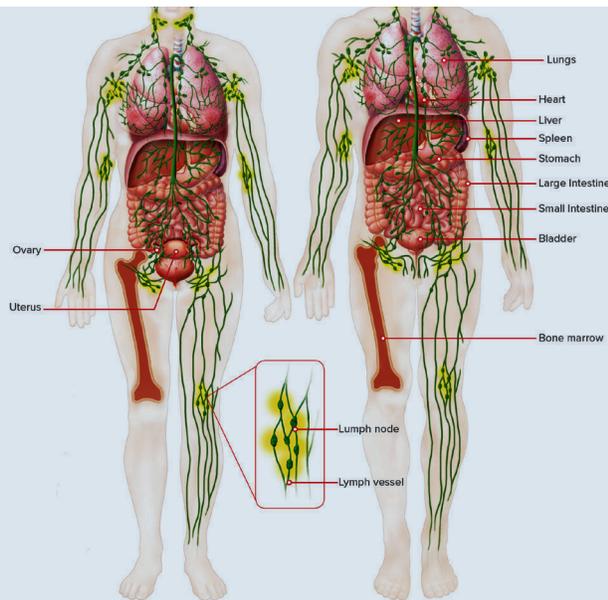
You or your loved one has been diagnosed with non-Hodgkin lymphoma (NHL). What does it mean and how will it affect you?

This fact sheet will help you:

Learn about NHL  
and how it is  
diagnosed

Get an overview  
of treatment  
options

Understand what  
happens next



## What is lymphoma?

Lymphoma is the name for a group of blood cancers that develop in your lymphatic system. The two main types are Hodgkin lymphoma and non-Hodgkin lymphoma. Lymphoma is cancer of the lymphatic system, which includes your bone marrow, lymph nodes, thymus, liver, skin, and spleen. Your lymphatic system defends your body against infection by creating white blood cells called lymphocytes. If these cells become abnormal, you may develop lymphoma.

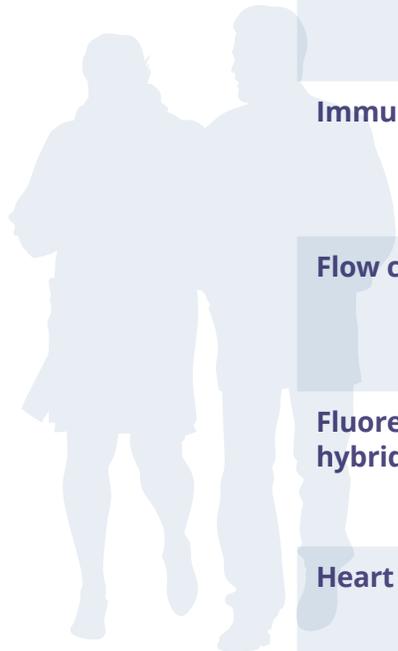
- About NHL**
- Includes a number of blood cancers that begin from lymphocytes, a type of white blood cell that are part of our immune system
  - Involves B-cells, T-cells, or natural killer (NK) cells
  - Lymphocytes change, multiply rapidly, and can cause tumours
  - Includes more than 60 subtypes
  - Can grow quickly (aggressive) or slowly (indolent)
  - Can happen at any age and is more common in men than women
  - Cause is unknown

- Signs and symptoms**
- The signs and symptoms of NHL can be similar to other less serious diseases. Some people have no symptoms, and their disease is uncovered during a routine medical examination. You may experience:
- Large masses in the neck or abdomen and/or painless swelling in one or more lymph nodes
    - When your lymph nodes are enlarged or swollen
  - Fevers and drenching night sweats
    - Possibly a response from your immune system
  - Ongoing fatigue, loss of appetite, pain in the abdomen
    - If your NHL is in the stomach or bowel
  - Feeling bloated or full
    - When your NHL cells cause your liver or spleen to enlarge
  - Cough or chest pain
    - When your NHL is in the chest
  - Itchy skin, rash, or skin lumps
    - This is a response from your immune system
  - Loss of appetite and significant weight loss
    - When you are eating less or using more energy

## After your diagnosis

With your diagnosis, your doctor can determine the right treatment for you. Your test results help your doctor predict how NHL will likely progress and how you may respond to treatment. Identifying your subtype helps your doctor estimate how fast your disease is progressing and how to treat it.

Name of test	Description
<b>Blood tests</b>	Blood tests help determine your need for treatment and the extent of your disease. They also help identify several non-Hodgkin lymphoma (NHL) subtypes.
<b>Bone marrow biopsy</b>	A bone marrow biopsy will confirm whether the lymphoma has spread to your bone marrow. It will help your doctor decide the benefits of specific therapies.
<b>Lymph node biopsy</b>	A sample of the tumour or lymph node is used in testing to look at the size, shape, and arrangement of the lymphoma cells.
<b>Immunohistochemistry</b>	This test determines if cells produce certain proteins, which lets doctors know how your NHL might progress. For example, doctors will try to determine if your lymphoma are B-cells, T-cells, or NK cells.
<b>Flow cytometry</b>	During this test, cells from your blood or tissue biopsy are examined to detect which proteins or markers (antigens) are in your lymphoma cells.
<b>Fluorescence in situ hybridization (FISH)</b>	This lab test looks at genes and chromosomes in your cells to find NHL cells.
<b>Heart tests</b>	Heart tests assess how well your heart is working before and after starting a treatment. This may include an echocardiogram, which creates a picture of your heart.
<b>Imaging tests</b>	These tests take pictures that let your doctor see where your NHL is, how it has spread, what size it is, and if other organs are involved.
<b>Medical history and physical exam</b>	Doctors will review your past illnesses, injuries, and symptoms. They will also measure your lymph node groups and organs.



## Stages of NHL

Identifying the stage of your disease is an important step to planning your treatment. The stage of lymphoma refers to where your disease is located and the extent of the disease in your body. **It does not determine how well you will respond to treatment.**

Your doctor will determine the stage of your disease using imaging, lab tests, and physical examination. This helps figure out:

- Your NHL subtype
- Which lymph nodes are larger than normal
- Whether your disease affects organs other than your lymph nodes
- If you have large masses of tumour

### Stages

- **Stage I** involves one group of lymph nodes.
- **Stage II** involves two or more groups of lymph nodes on the same side of your diaphragm.
- **Stage III** involves groups of lymph nodes on both sides of your diaphragm.
- **Stage IV** involves one or more organs that are not part of a lymphatic area and/or your lymph nodes. Or it may involve the liver, bone marrow, or lungs.

### Categories

- **Category E** means your lymphoma has spread to areas or organs outside of your lymph nodes or to tissues beyond your major lymphatic areas.
- **Category S** means your testing has found lymphoma in your spleen.
- **Category X** means your testing has shown large masses of lymphocytes (Bulky disease).

### EXAMPLE

A diagnosis of **Stage IIIS** means your disease involves lymph node groups on both sides of your diaphragm as well as your spleen.

## NHL treatment

Your treatment is focused on destroying as many lymphoma cells as possible. When you no longer have evidence of lymphoma cells in your body, you are said to be in remission. Your treatment may result in **partial remission**, meaning that your tests still show evidence of NHL, but that it is under control.

## Types of treatment

### Aggressive NHL subtypes

If you have an aggressive NHL subtype, you can often be cured with treatment. Treatments include:

- **Chemotherapy** uses medicine (chemicals) to kill cancer cells.
- **Radiation therapy** uses x-rays or other high-energy rays. Radiation may be done in addition to chemotherapy.
- **Monoclonal antibody therapy** stimulates your immune system to attack proteins on cancer cells.

### Indolent NHL subtypes

When you have an indolent (slow growing) NHL subtype, the goal of treatment is to get you into remission and stable. You may never be fully cured. Radiation therapy is sometimes used to treat indolent subtypes. Other treatments depend on your situation.

### Early stage

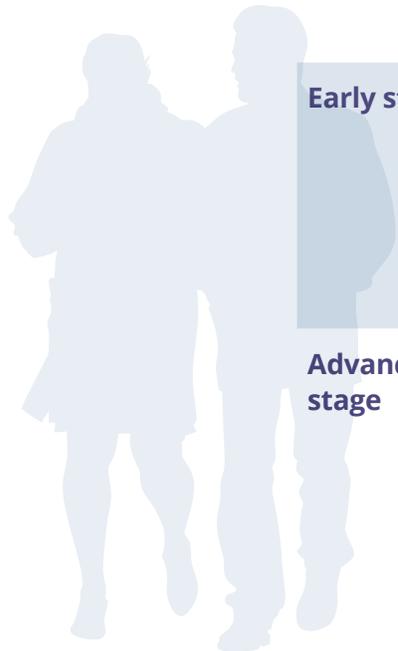
- **Watch and wait or active surveillance** delays treatment until the disease progresses.
- **Radiation therapy** (see above).
- **Monoclonal antibody therapy** (see above).

### Advanced stage

- **Watch and wait**, if you are showing no symptoms.
- **Monoclonal antibody therapy** is also used at advanced stages to get your immune system to attack the cancer.
- **Alkylating agents** are chemotherapy drugs that prevent the cancerous cells from reproducing.
- **Combination chemotherapy** uses two or more different chemotherapy drugs to treat NHL.

### Factors that affect treatment

Discuss your treatment options with your doctor to make sure you understand the benefits and risks of each approach. Your treatment plan is based on your diagnosis, symptoms, and overall health.



## Treatment side effects

When you begin your treatment for NHL, you may experience mild to severe side effects. Most side effects disappear once your treatment ends. New drugs and therapies can help control side effects, such as nausea and vomiting. Speak to your doctor if you are experiencing side effects.

### Common side effects

You may experience side effects such as:

- Nausea, diarrhea, vomiting, and temporary hair loss from chemotherapy or radiation treatments
- Infection from a decrease in white blood cells that can cause side effects such as fever or chills, coughing, sore throat, frequent/loose bowel movements, mouth sores, hair loss, and rashes
- Neuropathy, which is nerve damage from treatment that can make your fingers and toes feel numb or tingle
- Tumour Lysis Syndrome (TLS) when many cancer cells die quickly; TLS changes your metabolism and can lead to other health complication

### Long-term or late effects of treatment

Medical follow-up is important after treatment for NHL. You may need blood tests, bone marrow tests, or molecular tests. Your medical team should provide you with a care plan listing the frequency of follow-up visits and the tests you will have at those visits.

- **Long-term side effects** are common and can last for months or years after treatment ends. One example is fatigue.
- **Late effects** are medical problems that do not show up until years after treatment ends. See your doctor to get follow-up care for possible early detection of heart disease, secondary cancers, and fertility problems.



Living with CNL can be overwhelming. Seek medical help if you feel “down” or “blue” or don’t want to do anything and your mood does not improve over time. These could be signs of depression, an illness that should be treated even when you’re undergoing treatment for CNL. Treatment for depression has important benefits for people living with cancer. Remember, you are not alone.

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