



# Treatment Options for Non-Hodgkin's Lymphoma

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## What is Non-Hodgkin's Lymphoma?

Non-Hodgkin's lymphoma (NHL) is a type of cancer that starts in the lymphatic system and travels throughout the lymph nodes.

Like all cancer, NHL begins when a person's cells start multiplying out of control and start to produce cells that are cancerous. NHL is classified by sub-types depending on what cells the cancer starts in (B-cell or T-cell).

Treatment options can vary based on the subtype of NHL. More than 70,000 cases are diagnosed each year. As a result, many people seek out information on non-Hodgkin lymphoma treatment options.

## Stages of Non-Hodgkin's Lymphoma

- **Stage 1** is when a person exhibits one of the following: cancer growth in a single lymph node, a single group of lymph nodes, one organ connected to the lymph system that has the cancerous cells, or the cancer is in an extra-nodal site (such as the stomach).
- **Stage 2** means a person has either two or more cancerous lymph nodes or groups, or one cancerous lymph node or group that is located at an extra-nodal site as well.
- **Stage 3** NHL occurs on each side of the diaphragm.
- **Stage 4** is determined by the presence of NHL on an extra-nodal site while the lymph nodes are also affected, or the NHL is exhibiting in two or more extra-nodal sites. At this point the NHL is widespread and affecting other organs such as the lungs or liver.

## Non-Hodgkin Lymphoma Treatment Options

For some people diagnosed with indolent (slow-growing) NHL, doctors wait to begin treatment. The patient will have more frequent doctor visits to ensure the cancer is not progressing. However, if the cancer is starting to move faster, there are numerous non-Hodgkin lymphoma treatment options available.

While certain stages call for certain types of treatment, it is ultimately up to the doctor and patient to determine what treatment course is best for them, depending on a variety of factors. Doctors may use just one type of non-Hodgkin lymphoma treatment or can use a combination depending on the stage the cancer is in.

The following are the most common treatment options, depending on what stage the cancer is in.

### Immunotherapy

Immunotherapy is a cancer treatment option that aims to stimulate the body's own natural immune system to help fight cancer, especially during stage 1 NHL.

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One type gives the patient's immune system proteins that are man-made and designed to target a specific cancer cell and attack it. Another helps to increase the rate at which the immune system works. Other types of immunotherapy work more like vaccines and help the body start the immune response to the cancer.

## **Surgery**

Surgery is used for taking a biopsy sample to correctly diagnose NHL, although X-rays, CT scans, MRIs and PET scans can also be used. Usually, surgery is rarely used for NHL itself, unless the lymphoma has developed in a specific organ that is not within the lymphatic system. For example, it can be used if the cancer has spread to the stomach or thyroid.

## **Radiation Therapy**

Radiation therapy is a common treatment for NHL, especially during primarily stage 1, 2 and after remission. It is used to shrink cancer that is in an early stage to prevent it from coming back and to treat a variety of symptoms when the cancer spreads.

Radiation is often the only treatment that is needed. It is a good option because it targets the tumor and does not impact the rest of the body like chemotherapy can.

## **Chemotherapy**

Chemotherapy consists of a variety of different drugs that fight cancer and can be taken intravenously or orally. These drugs are often a common treatment option for people who are in stage 1 through 4, and it is commonly used in combination with other types of treatment.

Chemotherapy drugs have come a long way. It used to be common to lose hair while in chemotherapy, but as new drugs are continually developed they are getting better with diminishing the side effects of chemotherapy. Nausea is also one of many side effects, but other medications have been developed to help minimize this as well.

## **Stem Cell Transplant**

Stem cell transplants can also be referred to as a bone marrow transplant. It is an extended push of high levels of chemotherapy into the body. The patient is often in the hospital for several weeks in a quarantined unit while the body is given this treatment. This treatment is typically performed during stage 4 NHL.

It works by transplanting blood-forming stem cells (healthy cells) into the body to restore any damaged bone marrow. Regular chemotherapy can have severe side effects, including killing the bone marrow, which is why the stem cells are needed for the process to work.

A patient's age and health prior to their diagnosis will often factor into whether a stem cell transplant is a good option. It is often used as a last-ditch effort when other treatments have not worked or slowed the progression of the NHL. As with many advances in cancer, stem cell transplants are becoming more successful as doctors and researchers learn more about the process and how bodies respond to it.