Follicular lymphoma

This information is about a type of non-Hodgkin lymphoma known as follicular lymphoma.

On this page

- Non-Hodgkin lymphoma
- Follicular lymphoma
- Causes of follicular lymphoma
- Signs and symptoms of follicular lymphoma
- How follicular lymphoma is diagnosed
- Staging and grading of follicular lymphoma
- Treatment for follicular lymphoma
- Clinical trials for follicular lymphoma
- Information and support
- Useful organisations
- References and thanks

Non-Hodgkin lymphoma

Non-Hodgkin lymphoma is a cancer of the lymphatic system. This is part of the body's immune system and helps us fight infection. It's made up of organs such as the bone marrow, thymus, spleen and the lymph nodes (or lymph glands). Lymph nodes are connected by a network of tiny lymphatic vessels that contain lymph fluid.

There is also lymphatic tissue in other organs such as the lungs, stomach and skin.
The lymphatic system

There are lymph nodes all over the body. As lymph fluid flows through the lymph nodes, the nodes collect and filter out anything harmful or anything that the body doesn't need. This includes bacteria, viruses, damaged cells and cancer cells.

Lymph fluid contains lymphocytes. These are a type of white blood cell that help the body fight infection and disease.

Lymphocytes start to grow in the bone marrow, where blood cells are made. The two main types of lymphocytes are B-cells and T-cells. B-cells mature in the bone marrow, while T-cells mature in the thymus gland behind the breast bone. When they're mature, both B-cells and T-cells help fight infections.

Lymphoma is a disease in which either T-cells or B-cells grow in an uncontrolled way.

There are many different types of non-Hodgkin lymphomas. They're grouped (or classified) according to certain characteristics such as the type of cell involved (B-cells or T-cells). The most widely used classification system is produced by the World Health Organisation.

**Follicular lymphoma**

Follicular lymphoma is a common type of lymphoma, making up around 1 in 3 of all lymphomas. It is a cancer of the B-cells. It nearly always affects adults, and the average age at diagnosis is 60. It's slightly more common in women.

**Causes of follicular lymphoma**

The causes of follicular lymphoma are unknown. Like other cancers, it's not infectious and can't be passed on to other people.

**Signs and symptoms of follicular lymphoma**
The first sign of the condition is often a painless swelling in the neck, armpit or groin that is caused by enlarged lymph nodes.

Other symptoms may include loss of appetite and tiredness.

Some people have night sweats, high temperatures (fever) and weight loss. These are known as B symptoms.

**How follicular lymphoma is diagnosed**

A diagnosis is made by removing part or all of an enlarged lymph node (a biopsy) and examining the cells under a microscope. It's a small operation and may be done under local or general anaesthetic. Biopsies can also be taken from other body tissues.

Additional tests including blood tests, x-rays, scans and bone marrow samples are then used to get more information about the type of lymphoma and how far it has spread in the body.

Doctors use this information to decide which treatment is most appropriate for you. We have more information about tests for non-Hodgkin lymphoma.

**Staging and grading of follicular lymphoma**

**Staging**

The stage of non-Hodgkin lymphoma describes how many groups of lymph nodes are affected, where they are in the body and whether other organs such as the bone marrow or liver are involved.

**Stage 1**

One group of lymph nodes is affected.

**Stage 2**

More than one group of lymph nodes is affected, but all the affected nodes are in either the upper or lower half of the body. The upper half of the body is above the diaphragm (the sheet of muscles underneath the lungs) and the lower half is below it.

**Stage 3**

The lymphoma is in lymph nodes both above and below the diaphragm.

**Stage 4**

The lymphoma has spread beyond the lymph nodes to other organs such as the bones, liver or lungs.

**B symptoms**

As well as giving each stage a number, doctors also use either the letter A or B to show whether or not you have specific symptoms. If you don't have any of these symptoms, the letter A will be added next to the stage. If you do have these symptoms (weight loss, fevers or night sweats), the letter B is added next to the stage.

Occasionally, follicular lymphoma can occur outside the lymph nodes, for example in the skin or testicles. This is called extranodal follicular lymphoma.

**Grading**

For practical purposes, non-Hodgkin lymphomas are divided into two groups: indolent (sometimes called low-grade) and aggressive (sometimes called high-grade). Indolent lymphomas are usually slow-growing, and
aggressive lymphomas grow more quickly.

Follicular lymphoma is an indolent lymphoma and usually develops very slowly. In some people, follicular lymphoma may change (transform) into an aggressive non-Hodgkin lymphoma, which needs more intensive treatment.

**Treatment for follicular lymphoma**

If the lymphoma is not causing symptoms, you may not need to have treatment immediately. Early treatment at this stage doesn't help people to live longer and can cause side effects.

You'll be seen regularly by your cancer specialist or GP, and treatment will be advised when you start to get symptoms. It may be some time before this happens and some people may never need any treatment.

After treatment many people have a period of time with no signs of active disease, which is known as remission. If the lymphoma comes back, it can be treated again. This can give another period of remission, and follicular lymphoma can often be controlled in this way for many years.

**Chemotherapy**

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. It is an important treatment for follicular lymphoma and can often get the lymphoma into remission.

Chemotherapy is often given in combination with a drug called rituximab (Mabthera®), which is a monoclonal antibody.

Chemotherapy can be given as tablets or into a vein (intravenously). You may be given just one type of chemotherapy drug or you may be given two or more chemotherapy drugs together (combination chemotherapy).

Chemotherapy treatments for follicular lymphoma include:

- R-CVP
- Chlorambucil
- R-CHOP
- Fludarabine
- Bendamustine

R-CVP is made up of the monoclonal antibody rituximab, the chemotherapy drugs cyclophosphamide and vincristine, and the steroid prednisolone. It's given as a drip into a vein, usually once every three weeks.

Chlorambucil is another commonly used treatment. It comes as tablets and is usually given on its own.

R-CHOP, which is a combination chemotherapy treatment, is sometimes given. This includes the chemotherapy drugs vincristine, cyclophosphamide and doxorubicin, as well as prednisolone (a steroid) and a monoclonal antibody called rituximab.

Fludarabine can be given as tablets or into a vein, and may be given on its own or with other chemotherapy drugs.

Bendamustine is given as a drip into a vein.

There are other chemotherapy drugs and combinations that can be used to treat follicular lymphoma. Your specialist will be able to tell you which is most appropriate for you.

**Monoclonal antibody therapy**

Monoclonal antibodies are drugs that recognise, target and stick to specific proteins on the surface of cancer cells, and can stimulate the body’s immune system to destroy these cells.

**Rituximab (Mabthera®)**

Rituximab is a monoclonal antibody, which is commonly used to treat follicular lymphoma. It is often given
with chemotherapy as part of a regime called R-CVP or sometimes R-CHOP.

Some people who have no signs of lymphoma at the end of their treatment (remission) may be given additional treatment to help keep the lymphoma away in remission. This involves treatment with rituximab for up to two years and is known as maintenance therapy.

Other monoclonal antibodies

Other types of monoclonal antibodies are occasionally used. Some are attached to low doses of a radioactive substance, and deliver radiation into the lymphoma cells. The most commonly used radioactive monoclonal antibodies are 90Y-ibritumomab tiuxetan (Zevalin®) and Iodine131 tositumomab (Bexxar®).

Steroid therapy

Steroids are drugs that are often given with chemotherapy to help treat lymphomas. They also help you feel better and can reduce feelings of sickness (nausea).

Stem cell treatment (transplants)

Some people with lymphoma may have treatments involving the use of their own stem cells or stem cells from a donor. Stem cells are a special type of blood cell that can make all other types of blood cells.

This treatment is not suitable for everyone and isn't done routinely. It is sometimes used to treat follicular lymphoma that has come back after treatment (relapsed). Doctors take into account a person's general health and fitness before recommending them.

Some people have some of their own stem cells collected and stored. This allows them to have higher doses of chemotherapy to destroy the lymphoma cells.

After the chemotherapy, their stem cells are returned by a drip (like a blood transfusion) to help their blood cells recover from the effects of chemotherapy. This is called a donor (allogeneic) stem cell transplant.

Some people may have treatment using stem cells from another person (a donor). This is called an allogeneic transplant.

Radiotherapy

Radiotherapy is the use of high-energy rays to destroy cancer cells while causing as little harm as possible to the healthy cells.

It may be used as a first treatment if the lymphoma cells are contained in one or two groups of lymph nodes in the same part of the body (stage 1 or 2). In some people this may cure the lymphoma.

Radiotherapy can also be used to treat lymphoma that has come back in one area of lymph nodes.

Clinical trials for follicular lymphoma

New treatments for follicular lymphoma are being researched all the time. Your doctor may invite you to take part in a clinical trial to compare a new treatment against the best available standard treatment.

Your doctor must discuss the treatment with you and have your informed consent before entering you into a trial.

Before any trial is allowed to take place, it must be approved by a research ethics committee, which protects the interests of those taking part.

You may decide not to take part or to withdraw from the trial at any stage. You will then receive the best standard treatment available.

Information and support

Everyone has their own way of dealing with their illness and the different emotions they experience. Some
people find it helpful to talk things over with family and friends or their doctor or nurse. You can also contact our cancer support specialists or the organisations below for more information and support.

**Useful organisations**

**The Lymphoma Association**

The Lymphoma Association gives emotional support, advice and information on all aspects of Hodgkin lymphoma and non-Hodgkin lymphoma. Has a national network of people with lymphoma and local groups.

**Leukaemia CARE**

Leukaemia CARE is a national group promoting the welfare of people with leukaemia and other blood disorders, including non-Hodgkin lymphoma. Has regional support groups in many counties.

**References and thanks**

This section has been compiled using information from a number of reliable sources, including:

- BCSH Guidelines on the investigation and management of follicular lymphoma 2011 [PDF, 468kb]
- Facilities for the treatment of adults with haematological malignancies - ‘Levels of Care’ British Committee for Standards in Haematology 2010

**Thanks**

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