

Classical Hodgkin lymphoma

This page is about classical Hodgkin lymphoma and its treatment. We have a separate page about [nodular lymphocyte predominant Hodgkin lymphoma](#), a rare type of Hodgkin lymphoma.

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What is classical Hodgkin lymphoma?

Lymphoma is a type of blood cancer that develops when **lymphocytes** (a type of white blood cell) become out of control. Classical Hodgkin lymphoma is any type of lymphoma that contains a particular type of cell called a Reed–Sternberg cell. Reed–Sternberg cells are abnormal **B lymphocytes** (white blood cells that make antibodies, which are important in fighting infections). Doctors can see Reed–Sternberg cells when they look at **biopsy** samples of classical Hodgkin lymphoma under a microscope.

If you are not sure what **type of lymphoma** you have, ask your doctor. Each type of lymphoma can behave and be treated differently.

There are four types of classical Hodgkin lymphoma. They are named after the appearance of the lymphoma cells and the cells surrounding them:

- nodular sclerosing classical Hodgkin lymphoma – about 70 out of every 100 cases
- mixed cellularity classical Hodgkin lymphoma – about 25 out of every 100 cases
- lymphocyte-rich classical Hodgkin lymphoma – about 5 out of every 100 cases
- lymphocyte-depleted classical Hodgkin lymphoma – fewer than 1 in every 100 cases.

All types of classical Hodgkin lymphoma are treated in the same way.

Causes of classical Hodgkin lymphoma

Scientists don't know exactly **what causes classical Hodgkin lymphoma**. Lots of different factors are likely to be involved.

About 40 out of 100 cases of Hodgkin lymphoma are related to a past infection with the Epstein-Barr virus (EBV). EBV is a very common virus that can cause glandular fever. EBV infects **B lymphocytes**. About 9 in 10 adults have been infected with EBV but many people don't know they've had it because it may not cause any symptoms. After you've been infected with it, EBV stays in your body but it is normally kept under control by your **immune system**.

People who have been infected with EBV have a higher risk of developing Hodgkin lymphoma than people who haven't. However, most people who have had EBV do **not** get Hodgkin lymphoma. Scientists don't know why some people who have had EBV get lymphoma while most don't.

Other risk factors for classical Hodgkin lymphoma include:

- **immune system problems**
 - **infection with HIV**
 - **family history**: lymphoma is not an inherited or contagious condition and you cannot pass it to family members but you have a very slightly higher risk of developing lymphoma if you have a close relative who has it.
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Symptoms of classical Hodgkin lymphoma

The most common **symptom** of classical Hodgkin lymphoma is a **swollen lymph node** or nodes that don't go down after a couple of weeks. The swollen lymph nodes are usually painless. They are most commonly found in the neck or just above the collar bones. They can also develop elsewhere in the body, such as the armpit or the groin.

Many people with classical Hodgkin lymphoma have swollen lymph nodes inside their **chest**. This might make you cough or feel breathless but it might not cause any symptoms at all. Occasionally, people with Hodgkin lymphoma have swollen lymph nodes that become painful a few minutes after drinking alcohol. This symptom is unusual – fewer than 1 in 20 people with Hodgkin lymphoma experience it – but it is a strong sign of Hodgkin lymphoma.

It is important to remember that lymph nodes can swell for lots of reasons. Most people with swollen lymph nodes do not have lymphoma.

I noticed a swollen gland near my left collar bone around early summer 2014. After a couple of weeks of it not going down, I made an appointment to see the doctor.

Zoe, diagnosed with Hodgkin lymphoma in 2014

Around 1 in 4 people with Hodgkin lymphoma have symptoms known as 'B symptoms'. These are:

- **fevers** (temperature above 38°C)
- **drenching sweats**, especially at night
- **unexplained weight loss**.

Your doctor takes into account whether or not you have B symptoms when planning treatment.

Some people have other symptoms, such as **itching** and **fatigue**. Rarely, Hodgkin lymphoma starts in an organ in your body rather than a lymph node.

Diagnosis and staging of classical Hodgkin lymphoma

The main way to diagnose any type of lymphoma is to remove a swollen lymph node, or a sample of cells from it, and look at it under a microscope. This is done in a small operation called a **biopsy**, which is usually done under a local anaesthetic.

The sample is then sent to a specialised laboratory where doctors experienced in diagnosing lymphoma examine it. The lymph node cells are also tested for particular proteins that are found on the surface of lymphoma cells. The proteins the cells make can help doctors decide what treatment might be best for you.

It may take a while to have all the necessary tests done on your biopsy. The results help your doctor diagnose which type of lymphoma you have and then decide on the treatment it is most likely to respond to. **Waiting for your test results** can be frustrating and worrying but it is very important for your medical team to work out exactly what type of lymphoma you have and how it is affecting you. This information helps them plan the best treatment for you. You might find it helpful to discuss any anxieties with your medical team. They can answer any questions you have during this time and may be able to signpost you to sources of support.

Once you have been diagnosed, you need other tests to find out which areas of your body are affected by lymphoma. This is called **staging**. Most people have lymphoma staged by having a **PET scan** and a **CT scan**. Some people, particularly children, may have an **MRI scan**.

You also have **blood tests** to look at your general health, check your **blood cell counts**, make sure your kidneys and liver are working well and rule out infections that could flare up when you have treatment. Blood tests are also used to check for signs of inflammation, which are sometimes associated with Hodgkin lymphoma.

Rarely, you might have a sample of your bone marrow cells taken (a **bone marrow biopsy**), to check if you have lymphoma cells in your bone marrow.

You usually have these tests done as an outpatient. It takes a few weeks to get all the results. **Waiting for test results** can be a worrying time, but it is important for your doctor to gather all of this information in order to plan the best treatment for you.

Outlook for classical Hodgkin lymphoma

Classical Hodgkin lymphoma generally responds very well to treatment. The majority of people are cured, even if their lymphoma is advanced when it is diagnosed.

Your lymphoma specialist is the best person to talk to about the likely outcome of your treatment. They can use the results of your tests and consider other 'risk factors', like your age, symptoms, and any other conditions you have to give you a more informed prognosis (outlook).

Treatment of classical Hodgkin lymphoma

Treatment for classical Hodgkin lymphoma usually involves **chemotherapy**, sometimes followed by **radiotherapy**.

The exact treatment you need depends on the stage of your disease and on the signs and symptoms you have. **Stage 1** or **Stage 2** Hodgkin lymphoma is known as 'early' disease. **Stage 3** or **Stage 4** Hodgkin lymphoma is known as 'advanced' disease. Just over half of cases (55%) of all types of Hodgkin lymphoma are early stage at diagnosis.

When choosing your treatment, your doctor takes into account your age, general health and fitness, your feelings about treatment and factors that may be important to you in the future, such as having a family.

Your doctor also considers any potential **side effects**, long-term or **late effects** (health problems that develop months or years after treatment) of the treatment. This is important because most people live for many years after their lymphoma has gone into **remission** (no evidence of disease). Your medical team should explain the possible side effects and late effects of your planned treatment.

The most common **chemotherapy regimens** (combinations of chemotherapy drugs) used to treat Hodgkin lymphoma are called ABVD and BEACOPPesc.

- **ABVD** is doxorubicin (also known as **Adriamycin®**), **bleomycin**, **vinblastine** and **dacarbazine**. You usually have all these drugs every 2 weeks intravenously (as an injection into a vein or through a drip). The 2-week break allows your body to recover between treatments. Each 4 weeks of treatment is called a 'cycle'.
- **BEACOPPesc** is **bleomycin**, **etoposide**, doxorubicin (also known as **Adriamycin®**), **cyclophosphamide**, **vincristine** (also known as **Oncovin®**), **procarbazine** and **prednisolone** in an **escalated** dose. You have all these drugs every 2 or 3 weeks. They are all given intravenously (as an injection into a vein or through a drip) except procarbazine and prednisolone, which are given by mouth as capsules or tablets. BEACOPPesc is a stronger treatment than ABVD and is more likely to have both short-term and long-term **side effects**.

You might have a PET-CT scan after your first few cycles of treatment to check how well you are responding. Your consultant uses the results of the scan to decide how many more cycles of treatment you need, whether you should change to a different chemotherapy regimen and whether radiotherapy might be appropriate for you.

Treatment for early stage classical Hodgkin lymphoma

For early stage classical Hodgkin lymphoma, your doctor considers the signs and symptoms you have before deciding what chemotherapy is most likely to be effective for you and how long you should be treated for. These are sometimes called 'prognostic indicators'. They include:

- whether you have very enlarged lymph nodes in your chest, or enlarged lymph nodes in several areas of your body
- whether you have **B symptoms**
- whether your blood tests show you have a high level of inflammation
- how old you are
- whether you have any lymphoma outside your **lymphatic system** (extranodal disease).

If you don't have any of these signs, you are most likely to be treated with two to three cycles of ABVD followed by radiotherapy.

If you have any of these signs, the most likely treatment is four cycles of ABVD followed by radiotherapy, or two cycles of BEACOPPesc and two cycles of ABVD followed by radiotherapy. You might have a PET-CT scan after two cycles. If there is no evidence of lymphoma on this scan, you might not need the bleomycin component of your chemotherapy for the remaining cycles.

A few weeks after your chemotherapy finishes, you usually have **radiotherapy** to the areas affected by your lymphoma. It is common to have radiotherapy every day (except weekends) for 2 to 4 weeks.

You might not need radiotherapy if:

- you do not have any B symptoms
- you do not have any lumps of lymphoma bigger than around 10cm
- a PET-CT scan shows all your lymphoma has gone after chemotherapy
- you are a young female and radiotherapy might affect your breast tissue.

Chemotherapy without radiotherapy is less likely to cause long-term side effects, but you have a slightly higher risk of your lymphoma **relapsing** (coming back). If you don't have radiotherapy, you usually have a total of at least three cycles of chemotherapy. Your doctor should discuss the treatment choices with you and take your views and wishes into account.

Treatment for advanced stage classical Hodgkin lymphoma

Advanced stage classical Hodgkin lymphoma is also usually treated with **chemotherapy**, but you are likely to have more cycles of treatment. The most commonly used treatments are six cycles of ABVD or four to six cycles of BEACOPPesc. Your consultant will discuss the treatment choices with you.

You might have a PET-CT scan after your first few treatment cycles. Depending on the results of your scan, your doctor might recommend changing to a different chemotherapy regimen or adjusting the number of cycles or chemotherapy drugs you need. For example, if there is no evidence of lymphoma on a PET-CT scan after two cycles of treatment, you might not need the bleomycin component of your chemotherapy for the remaining cycles. Alternatively, if you are on BEACOPPesc, you might only need another two cycles of treatment rather than four.

You might also have **radiotherapy** if there are any lumps of lymphoma left after your chemotherapy. Most people with advanced stage classical Hodgkin lymphoma do not have radiotherapy.

I was put on a six-month course of ABVD chemotherapy, given fortnightly. I found this fairly easy to cope with and was fortunate to have very few side effects.

John, diagnosed with stage 3 Hodgkin lymphoma in 2008

Treatment for people over 60

About 1 in 5 people diagnosed with Hodgkin lymphoma are over 60. Age alone may not affect treatment but people over 60 might be more likely to experience serious side effects than younger people. Your doctor will consider your fitness and any other health problems you have and may recommend a less intensive treatment if they think you have a higher risk of side effects. They always aim to give you a treatment that is as safe and effective as possible with the lowest possible risk of causing side effects.

ABVD can be given to people over 60. However, other, less toxic chemotherapy regimens are used more often in this age group, such as:

- **ChIVPP:** **chl**orambucil, **vin**blastine, **p**rocarbazine and the steroid **p**rednisolone. Vinblastine is given intravenously (through a drip into a vein) and the other drugs are given by mouth as tablets or capsules. Each treatment cycle is 28 days.
- **VEPEMB:** **vin**blastine, cyclophosphamide, **p**rocarbazine, **e**toposide, **mitoxantrone** and **bleomycin**, and the steroid prednisolone. Vinblastine, cyclophosphamide, mixantrone and bleomycine are given intravenously (through an injection or drip into a vein). Procarbazine, etoposide and prednisolone are tablets. Each treatment cycle is 28 days.

Follow-up of classical Hodgkin lymphoma

You have regular **follow-up appointments** with your specialist after you finish your treatment. At first, these are scheduled roughly every 3 months. If all is well, they gradually become less frequent.

I had follow-up checks every 3 months, then 6 months, then annually.

John, diagnosed with Hodgkin lymphoma in 2008

You may also have occasional tests or scans, but generally these are not necessary if you don't have any symptoms. As time goes on, you may have other tests to check for **late effects**, such as heart scans or thyroid hormone tests.

Most people are followed-up for at least 2 years after treatment for Hodgkin lymphoma. Some hospitals offer follow-up for 5 years or longer. You might have regular follow-up appointments, or you might be given guidance on **booking your own appointments** as-and-when you need them.

After your follow-up period ends, your GP usually becomes your main point of contact if you have any concerns or notice anything unusual. Your GP should have a record of your diagnosis and all the treatment you've had.

Relapsed and refractory classical Hodgkin lymphoma

In a small number of people, classical Hodgkin lymphoma is **refractory** (does not respond to treatment) or **relapses** (comes back). In either event, there are other treatments that your doctor can suggest.

If the lymphoma is only in one place in your body, you might be given **radiotherapy** to the affected area.

If your Hodgkin lymphoma has not responded to treatment, or has come back, you may have **chemotherapy** with a different combination of drugs from the ones you had first time round. This is sometimes called 'salvage' chemotherapy. Lots of different **treatment regimens** (combinations of drugs) are used for salvage chemotherapy. The exact one you have depends on lots of factors, including the stage of your lymphoma, how old you are, whether you have any other illnesses and what side effects you experienced with your previous treatment.

If you respond to salvage chemotherapy and you are fit enough, your doctor might suggest a **stem cell transplant**. This involves having very high-dose chemotherapy. High-dose chemotherapy can damage your **bone marrow** (the spongy part in the centre of your bones that makes all the your red and white blood cells) so it is followed by treatment with healthy blood stem cells (cells that can make new blood cells while your bone marrow recovers). We have separate **detailed information about stem cell transplants** and what they involve.

A stem cell transplant is a very intensive treatment. You need tests beforehand to make sure you are fit enough to have it.

You might need different treatment if:

- you do not respond to salvage chemotherapy
- you are not fit enough to have a stem cell transplant
- you do not respond to a stem cell transplant.

This might include more salvage chemotherapy with a different regimen. There are also targeted treatments that might be suitable for you, such as:

- **Brentuximab vedotin**, an **antibody therapy** that sticks to a protein called CD30 on lymphoma cells and carries a chemotherapy drug straight to them. It is only suitable for people whose lymphoma makes the CD30 protein. Brentuximab vedotin is available on the NHS for people with classical Hodgkin lymphoma who have relapsed after a stem cell transplant, or who have had at least two previous treatments and are not suitable for a stem cell transplant.
- Nivolumab, a type of treatment called a '**checkpoint inhibitor**.' Nivolumab stops lymphoma cells hiding from your immune system so your immune system can recognise and destroy the lymphoma cells. Nivolumab is available on the NHS for people with classical Hodgkin lymphoma who have relapsed after a stem cell transplant and brentuximab vedotin.
- Pembrolizumab, which works in a similar way to nivolumab. Pembrolizumab is available on the NHS for people with classical Hodgkin lymphoma who are not suitable for a stem cell transplant and have relapsed after brentuximab vedotin. In Scotland, it can also be used for people who have relapsed after a stem cell transplant and brentuximab vedotin.

Research in classical Hodgkin lymphoma

Treatment for classical Hodgkin lymphoma is usually successful but doctors continue to research less intensive treatments for Hodgkin lymphoma. They aim to find treatments that are effective with as few **side effects** and **late effects** as possible. Some research is looking at how to predict who will respond to which treatments, or who will need radiotherapy after chemotherapy and who won't.

Your medical team may offer you the chance to take part in a clinical trial, if there is one suitable for you. You can find out more about clinical trials and search for a trial that might be suitable for you at [Lymphoma TrialsLink](#).

We have separate information about the topics in **bold font**. Please get in touch if you'd like to request copies or if you would like further information about any aspect of lymphoma. Phone **0808 808 5555** or email information@lymphoma-action.org.uk.

References

The full list of references for this page is available on our website. Alternatively, email publications@lymphoma-action.org.uk or call 01296 619409 if you would like a copy.

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