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# Essential Thrombocythaemia (ET)

**A Guide for  
Patients**

**Leukaemia Care**  
YOUR Blood Cancer Charity

# Introduction

**Being diagnosed with essential thrombocythaemia (ET) can be a shock, particularly when you may never have heard of it before, and may even have had no obvious symptoms. If you have questions about ET – what causes it, who it affects, how it affects your body, what symptoms to expect and likely treatments – this booklet covers the basics for you.**

You'll also find useful advice about how to get the best from your haematologist, plus practical advice on how to help important people in your life understand such a rare condition. For more information, talk to your haematologist, clinical nurse specialist (CNS) or hospital pharmacist.

Booklet originally written and subsequently revised by Ken Campbell MSc (Clinical Oncology). Peer reviewed by Manos Nikolouis, Consultant Haematologist at Heart of England NHS Trust. The review was conducted by Lisa Lovelidge and we are also grateful to Cath Owens and Lucy Geering for their valuable contribution as patient reviewers.

If you would like any information on the sources used for this booklet, please email [communications@leukaemiacare.org.uk](mailto:communications@leukaemiacare.org.uk) for a list of references.

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# About Leukaemia Care

**Leukaemia Care is a national charity dedicated to ensuring that people affected by blood cancer have access to the right information, advice and support.**

## Our services

### Helpline

Our helpline is available 9.00am - 10.00pm on weekdays and 9.30am - 12.30pm on Saturdays. If you need someone to talk to, call **08088 010 444**

### Nurse service

We have two trained nurses on hand to answer your questions and offer advice and support, whether it be through emailing **nurse@leukaemicare.org.uk**, over the phone on **08088 010 444** or via LiveChat.

### Patient Information Booklets

We have a number of patient information booklets like this available to anyone who has been affected by a blood cancer. A full list of titles – both disease specific and general information titles – can be

found on our website at **www.leukaemicare.org.uk/support-and-information/help-and-resources/information-booklets/**

### Support Groups

Our nationwide support groups are a chance to meet and talk to other people who are going through a similar experience. For more information about a support group local to your area, go to **www.leukaemicare.org.uk/support-and-information/support-for-you/find-a-support-group/**

### Buddy Support

We offer one-to-one phone support with volunteers who have had blood cancer themselves or been affected by it in some way. You can speak to someone who knows what you are going through. For more information on how to get a buddy call

**08088 010 444** or email  
**support@leukaemicare.org.uk**

### Online Forum

Our online forum, **www.healthunlocked.com/leukaemia-care**, is a place for people to ask questions anonymously or to join in the discussion with other people in a similar situation.

### Patient and carer conferences

Our nationwide conferences provide an opportunity to ask questions and listen to patient speakers and medical professionals who can provide valuable information and support.

### Website

You can access up-to-date information on our website, **www.leukaemicare.org.uk**, as well as speak to one of our care advisers on our online support

service, LiveChat (9am-5pm weekdays).

### Campaigning and Advocacy

Leukaemia Care is involved in campaigning for patient well-being, NHS funding and drug and treatment availability. If you would like an update on any of the work we are currently doing or want to know how to get involved, email **advocacy@leukaemicare.org.uk**

### Patient magazine

Our quarterly magazine includes inspirational patient and carer stories as well as informative articles by medical professionals. To subscribe go to **www.leukaemicare.org.uk/communication-preferences/**

# What is ET?

**ET belongs to a group of conditions called myeloproliferative neoplasms (MPNs), which also includes polycythaemia vera (PV) and myelofibrosis (MF). Essential thrombocythaemia (ET) is a chronic condition that is characterised by too many platelets (blood cells that helps the blood clot) in the blood.**

ET is characterised by uncontrolled cell growth, meaning that most haematologists and cancer organisations do classify them as a blood cancer, and we will speak about it as a blood cancer in this booklet. However, it should be noted that there has been some debate about whether or not MPNs are types of cancer. This is because the word 'neoplasm' (new growth) is a term used both for cancers (malignant neoplasms) and noncancerous tumours (benign neoplasms). Whatever it's called, remember that the symptoms and prognosis can vary widely.

## How common is ET?

ET is considered to be a rare disease. The number of people diagnosed each year is between one and a half and three cases per 100,000. This may explain why you might not have heard of ET or met anyone with the condition.

ET is most common in those aged over 60. It is more common in women than men, particularly in those who are less than 60 years of age.

## What causes ET?

While we don't know the exact causes of ET, research has found that about 50% of people who have ET have a change (more commonly referred to as a mutation) in a protein that regulates blood cell production. This protein is known as JAK2 - short for Janus Kinase 2 - and the mutation is known as JAK2 V617F.

Recently, a further 40% of ET patients have been shown to have a mutation in a gene called calreticulin (CALR). A smaller number of people have other, recently discovered, mutations, such as MPL. People are not born with these mutations but acquire them during their lives.

It is also important to note that ET is not inherited and is not passed on from parent to child, although some families do seem to develop the disease more readily than others. Finally, some researchers believe MPNs may also be triggered by past exposure to ionising radiation (a type of radiation that has very high energy, like medical x-rays or nuclear fallout) or to some chemical substances such as benzene and toluene.

If you would like more information about PV or MF, you can order our dedicated booklets by calling the helpline on **0808 010 444** or by emailing Patient Services [support@leukaemiacare.org.uk](mailto:support@leukaemiacare.org.uk)

# Symptoms and diagnosis of ET

Before we discuss the symptoms of ET, it's important to understand how ET affects the body, compared to someone who doesn't have ET.

In someone without ET, bone marrow (the soft, fatty tissue inside your bones) contains blood stem cells that in time develop into mature blood cells – red blood cells (to carry oxygen to the tissues of your body); white blood cells (to fight infection and disease); or platelets (to help prevent bleeding by causing blood clots to form). Production of new blood cells is very closely controlled to balance the loss of worn-out cells or cells lost by bleeding or damage. About one in 5,000 cells in the bone marrow is a blood-forming stem cell; these can divide to produce more stem cells or to develop into working blood cells. An average adult produces about one trillion new blood cells each day. The healthy number of different types of blood cells varies between people but is usually kept within fairly narrow limits.

In someone with ET, the bone marrow makes more platelets

than the body needs. Platelets are needed to help blood clot, but in people with ET, overproduction means they don't work properly. Although it is platelets that are primarily affected, white blood cell levels may also be elevated.

## What are the most common symptoms and complications of ET?

Many patients with ET have no symptoms at the time when they are diagnosed. Typically these patients are identified following abnormal results from a routine full blood test for something else.

Symptoms include:

- Fatigue
- Night sweats
- Headaches
- Bone pain
- Itching
- Fever
- Swollen spleen

- Weight loss
- Dizziness or light headedness
- Easy bruising, nosebleeds or heavy periods
- Clotting problems

Remember, everyone is different, so not everyone has the same combination of symptoms to the same degree or severity. It is also important to understand that the presence of these symptoms do not always indicate ET and could be due to other conditions and illnesses. If you are worried, always visit your GP.

Blood clots or bleeding are a major complication of ET, which can occur in up to a fifth of patients.

Risk factors that can increase your likelihood of blood clots or bleeding include:

- Being older than 60 years
- Having had previous blood clots or bleeding
- A high platelet count
- The JAK2/MPL mutations

- Having a cardiovascular risk factor, such as high blood pressure, diabetes, smoking or high cholesterol

Blood clots can develop anywhere in the body and can be serious, which is why their prevention is a major aim of treatment.

## Diagnosing ET

ET is often suspected if a routine blood test shows that a patient has a high platelet count. ET is diagnosed using laboratory tests. Common tests for diagnosing ET include:

- **Blood tests** - Blood tests can exclude other causes of a high platelet count.
- **Bone marrow biopsy** - A bone marrow biopsy may be done to look for classical signs of ET (e.g., an increase in platelet precursors). During a bone marrow biopsy you may have either a bone marrow aspiration or a bone marrow trephine biopsy. During a bone marrow aspiration, the doctor or nurse takes some bone marrow cells

# Symptoms and diagnosis of ET (cont.)

up into a syringe. A bone marrow trephine is where they remove a one to two centimetres core of bone marrow in one piece. The sample is then sent to the laboratory for testing.

- **Gene mutation analysis of blood cells** - You may also be tested for gene mutations like JAK2, MPL and CALR.

## What happens next?

If you have no symptoms at the time of diagnosis, you may not need to start treatment straightaway. However, if you're experiencing symptoms from ET, you will require treatment.

The disease may remain stable or gradually progress over time. Due to this, you may never experience some of the symptoms mentioned in this booklet, and may live a normal life for many years without experiencing any complications.

When properly monitored and treated, ET patients can have a normal life expectancy, although prognosis can be affected by a variety of things, including your individual situation, health history and the way you respond to treatment. A diagnosis of ET should not stop you leading a normal life, including participating in sports, travel and having children.

ET is a chronic condition, so it is important for you to regularly consult with your hematologist and report any different or new symptoms.

ET can develop into myelofibrosis (MF) or acute myeloid leukaemia (AML), but don't panic, as this is rare. Your consultant will be able to give you more information on this if this applies to you.

# Treating ET

The majority of treatments for ET are aimed at managing symptoms and reducing complications, such as blood clots, so that your quality of life is better. If there are no symptoms when you are first diagnosed, a 'watch and wait' approach is often recommended. This usually involves regular check-ups and blood tests, as well as your haematologist advising on ways to live a healthy lifestyle.

If you would like more information about Watch and Wait, you can order one of our booklets by calling the helpline on **08088 010 444** or by emailing Patient Services [support@leukaemiacare.org.uk](mailto:support@leukaemiacare.org.uk)

Treatment is based on the individual risk of a person for developing complications, such as blood clots or bleeding. If treatment is successful, the outlook for someone with ET can be very similar to that of someone

of the same age who doesn't have the condition. If you're considered low risk (e.g. young people with no other cardiovascular risk factors), you may need only periodic medical check-ups. On the other hand, if you have had previous bleeding or clotting episodes, haematologists may use medications to reduce a high platelet count.

If you are considering pregnancy, you should discuss this with your haematologist as well as your GP, as they will be able to offer you guidance depending on your treatment.

## Treatment options

### Aspirin

If you are at low risk of clotting you may be observed without any therapy, or low-dose aspirin may be considered. This is often used as it can reduce the ability of platelets to 'stick' together. This doesn't affect the platelet count, but can help lower the risk of blood clots. Aspirin is a drug that acts on platelets in your body. It blocks a platelet enzyme which

# Treating ET (cont.)

reduces the ability of platelets to form clumps or clots so that they are less likely to stick together. Research shows that aspirin is very effective at reducing risks of heart attacks and strokes in many people with different levels of risk. If a painkiller is needed when you're taking aspirin, ask your haematologist what they advise. Some types of painkillers called NSAIDs (non-steroidal anti-inflammatory drugs), such as ibuprofen, may not be suitable for you. If you have a lower risk of developing complications such as blood clots, you may not need treatment other than aspirin. You will be seen by your haematologist who will monitor your condition with regular blood tests.

If you are at high risk of blood clots, you'll usually be started on treatment to reduce the number of platelets in your blood. This is called cytoreductive therapy.

## Common side effects of aspirin

### Minor side effects

Low-dose aspirin does have some side effects. The most common side effects of this drug are bleeding and indigestion. You may find that you bruise more easily and that you bleed for a long time if you cut yourself. It can help to keep a supply of sterile bandages on hand so that you can apply pressure to any small cuts or wounds. If you develop indigestion or worsening indigestion on aspirin it is important to inform your haematologist.

### More serious side effects

Aspirin can have more serious side effects. Some people are allergic to aspirin. Aspirin can also cause gastric irritation and bleeding in the stomach and contribute to ulcers. You may also need to be checked if you develop stomach pain or bleeding. Aspirin can also make the symptoms of asthma worse for those who suffer with it. Your haematologist will tell you if aspirin is safe for

your particular situation. They may suggest similar medications such as dipyridamole and clopidogrel if you suffer from side effects when taking this drug. If you are planning on having any surgery, your doctor may advise that you stop aspirin therapy temporarily to prevent bleeding problems.

## Chemotherapy

This is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. It may be given to try to reduce your platelet count. Chemotherapy drugs include:

### Hydroxycarbamide (also known as hydroxyurea)

This is the most commonly used chemotherapy drug to treat ET and is taken as a tablet. It can cause side effects, but generally these are mild. Side effects can include lowered resistance to infection, mouth and leg ulcers, reduced red blood cells (anaemia), diarrhoea or constipation. Hydroxycarbamide may also affect fertility. If you are taking it, you will be advised not to get pregnant or father a child, as

there may be a risk of harming the developing baby. It's advisable to use effective contraception while taking the drug and also for a few months afterwards. If hydroxycarbamide is used either alone or in combination with other chemotherapy drugs over a long period of time, it may increase the chance of the ET developing into a leukaemia.

### Busulfan

The chemotherapy drug busulfan, may also be used. Busulfan is usually given as a tablet, but it can be given as an injection into a vein. It can cause similar side effects to hydroxycarbamide. Your haematologist can advise you if these drugs are suitable for you, and they will monitor your progress carefully while you take them

It can reduce the blood count very dramatically and for this reason patients should be closely supervised whilst taking this drug. It is thought to increase the risk of leukaemia and can cause lung scarring.

# Treating ET (cont.)

## Non chemotherapy drugs

### Anagrelide

This is a drug that reduces the number of platelets in the blood. It's taken as a capsule. Side effects can include headaches, diarrhoea and palpitations (the sensation of a fast heartbeat). It doesn't seem to affect fertility, but anagrelide should never be taken during pregnancy or if you are thinking of getting pregnant. It's important to use effective contraception when taking anagrelide. Anagrelide is usually given when other treatments have already been tried. Some studies suggest it may increase the chance of changes in the bone marrow that may develop into myelofibrosis, but do not panic as this is rare.

### Interferon alpha

A protein that occurs naturally in the body, interferon alpha has also now been developed as a medicine to treat a wide range of conditions including ET as it slows down the production of blood cells, including platelets.

It's most often used to treat ET in younger people (under 40), although it can be used at any age, and is given as an injection under the skin. Possible side effects include flu-like symptoms, headaches, depression, liver and thyroid disease, dizziness and tiredness.

### Radioactive phosphorus (32P)

This may be used to treat ET and is given as an injection into a vein. It irradiates the bone marrow by exposing it to radiation and can lower the number of platelets being produced. The effects of a single injection can last from months to years. Treatment with radioactive phosphorus over many years can cause an increased risk of leukaemia, but do not panic as this is rare. If you are concerned, talk to your haematologist.

### Plateletpheresis

Sometimes a patient's platelet level may become so high it can require emergency treatment to quickly reduce it. To do so, haematologists use a process called plateletpheresis. During this process, the haematologist

uses a special machine to skim platelets from the blood and then returns the plasma (the liquid part of blood) and red cells to the patient. It's only used in emergencies such as acute clotting complications. The platelet reducing effect of this therapy is temporary.

### Allopurinol

This can be used to help prevent gout (a complication of ET). It may be given before treatments for ET that work by destroying blood cells, such as chemotherapy. If you do have an episode of gout you may be prescribed allopurinol to take long-term to help prevent further episodes occurring.

If you have any questions about your treatment or side effects you are experiencing, please speak to your clinical nurse specialist (CNS) or haematologist.

## New treatments and treatments on the horizon

Potential new treatments for ET are currently being developed and tested as a result of the

discovery of the link between the JAK2 mutation and incidence of ET. These drugs, referred to as JAK2 Inhibitors, are currently in early stages of testing for ET. There is however, emerging data supporting the ability of JAK inhibitors, such as imetelstat and ruxolitinib, to control both myeloproliferation and symptoms in patients with ET.

Pegylated interferon is also being considered as a treatment in those with high risk disease (pegylation may reduce the risk of side effects, and increases the time the drug can remain in the body). Interest in histone deacetylase inhibitors such as panobinostat, vorinostat, and givinostat in patients with ET is growing as a single therapy or in combination with other therapies.

# Living with ET

**After a diagnosis of ET, you may find that it affects you both physically and emotionally. This chapter will talk about both of these aspects.**

## Emotional impact of ET

Being told you have cancer can be very upsetting. Although the outlook for many ET patients is a positive one, it is a blood cancer and a rare condition and, because of this, you may need emotional, as well as practical support. Being diagnosed with a rare disease can affect the whole of you, not just your body, and can impact you emotionally at any point of your journey. It is likely that you will experience a range of complex thoughts and emotions, some of which may feel strange or unfamiliar to you. It is important to know that these feelings are all valid and a normal response to your illness.

It is important to remember that, with current treatments, you can expect a good response and live a long, normal life.

## Looking after you

You can live a long and normal life with ET, but you may want to make changes to your lifestyle to try to stay as well as possible after your diagnosis and during treatment. Don't try to change too much at once. Adopting a healthy way of living is about making small, manageable changes to your lifestyle.

A healthy lifestyle includes having a well-balanced diet and being physically active. With some of the side effects you may be experiencing, the idea of getting out and being active may be the last thing you want to do, but it is important to try and stay as active as possible to make you feel better and reduce some of the symptoms or side effects you may be experiencing.

One of the most commonly reported side effects of the treatment of ET is fatigue. This isn't normal tiredness and doesn't

improve with sleep.

Some general tips how to deal with fatigue include:

- Have a regular lifestyle – try going to bed and waking up approximately the same time every day and try to avoid lying in.
- Take part in regular, gentle exercise to maintain your fitness levels as much as possible.
- Reserve your energy for what you find important and build rest periods around those times.
- Before going to bed avoid stimulants such as alcohol, coffee, tea or chocolate, or using laptops, tablets or mobile phones.
- Keep your bedroom quiet and at a comfortable temperature.
- Talk about your worries with family, friends or your doctor or nurse, or patient support groups.

- Discuss your fatigue with your doctor or nurse.

## **Practical support Work and finances**

Being diagnosed with ET can sometimes lead to difficulties relating to your work life. Your diagnosis may lead to temporary sick leave or a reduction in working hours but it can also mean that you have to stop work altogether. You may need to make an arrangement with your employer for times when you may need to go into hospital or for those times when you may not be well enough to go into work.

Your consultant or your GP can arrange letters to confirm your diagnosis and the effects it may have on your work life to your employer. It is often worth taking time to explain ET to your employer, as it is likely they will never have heard of the disease.

It is important for you to know that people with any form of cancer are covered by law by

# Living with ET (cont.)

the Equality Act. This means that legally your employer cannot discriminate against you and must make reasonable arrangements and adjustments relating to your disease.

Macmillan has published a booklet about financial support following a diagnosis of cancer. They can also give you personal advice over the phone via their helpline and you can discuss which benefits you are eligible for. Some Macmillan centres can arrange face-to-face meetings with a benefits advisor. They can also provide financial assistance in the form of grants – ask your nurse in the hospital how to apply.

As ET is regarded as a cancer, you will also be entitled to apply for a medical exemption certificate which means that you are entitled to free NHS prescriptions. Your GP or specialist nurse at the hospital can provide you with the details how to apply for this.

# Talking about ET

## Talking to your haematologist

ET is a rare condition. It is important for you to develop a good working relationship with your haematologist so you are given the best treatment possible for you.

The following gives advice on working well with your haematologist:

- If it's an initial consultation, take along a list of your current medications and doses, and a list of any allergies you may have.
- If you have a complicated medical history, take a list of diagnoses, previous procedures and/or complications.
- Make a list of questions to take to your appointment. This will help the discussion with your haematologist.
- It can be useful to repeat back what you have heard so that you can be sure that you fully understood.
- Note information down to help

you remember what was said.

- Be open when you discuss your symptoms and how you are coping. Good patient-doctor communication tends to improve outcomes for patients.

Other tips:

- Bring someone along to your appointment. They can provide support, ask questions and take notes.
- Don't be afraid to ask for a second opinion – most haematologists are happy for you to ask.

## You need to tell your haematologist if...

You're having any medical treatment or taking any products such as prescribed medicines, over the counter treatments or vitamins. It is important to understand that treatments, including complementary therapies, which are perfectly safe for most people, may not be safe if you are being treated for ET. Remember, if you choose to start any form of complementary therapy outside of your

# Talking about ET (cont.)

medical treatment, consult your haematology consultant or CNS, prior to beginning it. It is important to understand the difference between complementary therapies, used alongside standard treatment, and alternative therapies, used instead of standard treatment. There is no evidence that any form of alternative therapy can treat ET.

For help with talking to your haematologist, you can find out more at [www.leukaemiacare.org.uk/support-and-information/information-about-leukaemia/blood-cancer-information/about-myeloproliferative-neoplasms-mpn/essential-thrombocythaemia/](http://www.leukaemiacare.org.uk/support-and-information/information-about-leukaemia/blood-cancer-information/about-myeloproliferative-neoplasms-mpn/essential-thrombocythaemia/) which features a list of questions which you may want to ask.

## Talking to other people

Telling people you have a rare condition like ET can be hard to explain. You might find it useful to let your close family and friends, as well as your employer know about your health condition. It might be easier to provide people with basic information and give them information leaflets about ET if they want to know more in-

depth details.

It is probably best to focus conversations on the symptoms that you are experiencing, how the condition affects you and how you feel about it. Often people misunderstand and, unfortunately, it will mostly fall to you to educate them as best as you can. Where possible, it's advisable to let people know what you find helpful and unhelpful, in terms of what others say and do. Often people make assumptions and do what they think helps. For example, saying you look well, recounting stories of others they know with a similar diagnosis or encouraging you to look ahead and stay positive, isn't always what people really want to hear. In many ways, the more you communicate with them the better.

These points may help you:

- Explain that you have a condition that means your bone marrow does not function properly, and this affects the number of blood cells it produces.
- Explain your symptoms (maybe

you are tired, or have a lot of pain).

- Explain what you need (maybe more help day-to-day, or someone to talk to).

You could also consider the following when telling people about your diagnosis:

- **Find out more** - Try to find out as much as you can about your condition, from reliable internet sources, charitable organisations or your consultant haematologist. The more you know, the more you can share.
- **Have a print-out to hand** - It may help to have a factsheet to hand to share with family and friends. This will take the pressure off you having to remember everything they may want to know.
- **Explain your needs** - Try and be clear about what your needs may be. Perhaps you need help with the weekly food shop, help with cooking dinner, or someone to drive you to and from appointments. You may find that friends and family are pleased that they can do

something to help you.

- **Be open about how you feel** - Don't be afraid of opening up about how you feel, as people who care will want to help you as best they can. Talk as and

If you're struggling to come to terms with your diagnosis and prognosis, you can speak to us on our helpline. Call us on **08088 010 444**

# Glossary

## Anaemia

A medical condition in which the red blood cell count or haemoglobin is less than normal.

## Fatigue

Extreme tiredness, which is not alleviated by sleep or rest. Fatigue can be acute and come on suddenly or chronic and persist.

## Full blood count or FBC

A blood test that counts the number of different blood cells.

## Neutropenia

A condition in which the number of neutrophils (a type of white blood cell) in the bloodstream is decreased.

## Pancytopenia

Deficiency of red cells, white cells, and platelets in the blood.

## Platelet

A disc-shaped element in the blood that assists in blood clotting. During normal blood clotting, the platelets clump together (aggregate).

## Red blood cell

The blood cell that carries oxygen. Red cells contain haemoglobin, which permits them to transport oxygen (carbon dioxide).

## Thrombocytopenia

Deficiency of platelets in the blood.

## White blood cell

One of the cells the body makes to help fight infections. There are several types of white blood cells. The two most common types are the lymphocytes and neutrophils.

## Tell us what you think!

If you would like to give us some feedback about this patient information booklet, please hover over the code to the right using your phone or tablet's camera. Click the link as it appears and this will take you to a short web form to fill in.

Suitable for Android, iPhone 7 and above.



# Useful contacts and further support

There are a number of helpful sources to support you during your diagnosis, treatment and beyond, including:

- Your haematologist and healthcare team
- Your family and friends
- Your psychologist (ask your haematologist or CNS for a referral)
- Reliable online sources, such as Leukaemia Care
- Charitable organisations

There are a number of organisations, including ourselves, who provide expert advice and information.

## Leukaemia Care

We are a charity dedicated to supporting anyone affected by the diagnosis of any blood cancer.

We provide emotional support through a range of support services including a helpline, patient and carer conferences, support group, informative website, one-to-one buddy service and high-quality patient information. We also have a nurse on our help line for any medical queries relating to your diagnosis.

Helpline: **08088 010 444**  
**[www.leukaemiacare.org.uk](http://www.leukaemiacare.org.uk)**  
**[support@leukaemiacare.org.uk](mailto:support@leukaemiacare.org.uk)**

## Bloodwise

Bloodwise is the leading charity into the research of blood cancers. They offer support to patients, their family and friends through patient services.

**020 7504 2200**  
**[www.bloodwise.org.uk](http://www.bloodwise.org.uk)**

## Cancer Research UK

Cancer Research UK is a leading charity dedicated to cancer research.

**0808 800 4040**  
**[www.cancerresearchuk.org](http://www.cancerresearchuk.org)**

## Macmillan

Macmillan provides free practical, medical and financial support for people facing cancer.

**0808 808 0000**  
**[www.macmillan.org.uk](http://www.macmillan.org.uk)**

## Maggie's Centres

Maggie's offers free practical, emotional and social support to people with cancer and their families and friends.

**0300 123 1801**  
**[www.maggiescentres.org](http://www.maggiescentres.org)**

## Citizens Advice Bureau (CAB)

Offers advice on benefits and financial assistance.

**08444 111 444**  
**[www.adviceguide.org.uk](http://www.adviceguide.org.uk)**

Leukaemia Care is a national charity dedicated to providing information, advice and support to anyone affected by a blood cancer.

Around 34,000 new cases of blood cancer are diagnosed in the UK each year. We are here to support you, whether you're a patient, carer or family member.

## Want to talk?

Helpline: **08088 010 444**

(free from landlines and all major mobile networks)

Office Line: **01905 755977**

**[www.leukaemicare.org.uk](http://www.leukaemicare.org.uk)**

**[support@leukaemicare.org.uk](mailto:support@leukaemicare.org.uk)**

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Registered charity  
259483 and SC039207

**Leukaemia Care**  
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