Induction treatment for Acute Lymphoblastic Leukaemia (ALL)

A Guide for Patients

Leukaemia Care
YOUR Blood Cancer Charity

Introduction

Induction treatment is the first phase of treatment after your diagnosis of acute lymphoblastic leukaemia (ALL). You will receive treatment as soon as possible. If you have any questions about this phase of ALL treatment - this booklet covers the basics for you.

The booklet was written and updated by our Patient Information Writer, Isabelle Leach, and peer reviewed by consultant haematologists.

We are also grateful to our patient reviewers, Ross Happell, Meryl Simons and Karen Collier for their contribution.

Throughout this booklet, you will see QR codes that will take you to the relevant webpage for further support. Open the camera app on your phone and hover it over the QR code to open the link (suitable for Android, iPhone 7 and above).

Alternatively, if you are not able to use QR codes and would like to be sent the relevant webpages as URLs, or you would like the list of references used for this booklet, please email **communications@leukaemiacare.org.uk.**

Version 1a
Reviewed: 06/2023
Updated: 04/2024
Review date: 06/2026

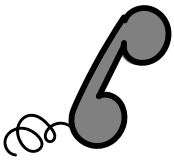
In this booklet

Introduction	2
In this booklet	3
About Leukaemia Care	4
Patient story: Ricky Duggal	6
Glossary of medical terms	8
What is induction treatment for ALL?	10
What is the induction treatment for ALL patients who cannot have intensive therapy?	19
What happens after induction?	22
Supportive care	26
Useful contacts and further support	30

About Leukaemia Care

Leukaemia Care is the UK's leading leukaemia charity. For over 50 years, we have been dedicated to ensuring that everyone affected receives the best possible diagnosis, information, advice, treatment and support.

Our services

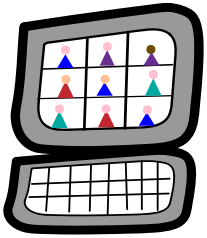


Helpline

Our helpline is available 9am to 5pm Monday to Friday. If you need someone to talk to, call **08088 010 444**.

Alternatively, you can send a message via WhatsApp on **07500 068065** on weekdays 9am to 5pm.

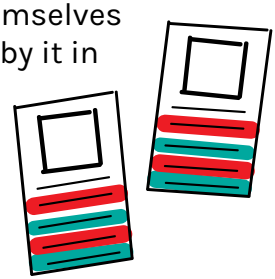
Support groups



Our nationwide support groups are a chance to meet and talk to other people who have been affected by a ALL diagnosis. For more information, scan this QR code:

Buddy support

We offer one-to-one phone support with volunteers who have had ALL 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@leukaemiacare.org.uk



Counselling service

Our counselling service helps ALL patients and their loved ones access up to six sessions of counselling. To apply, scan this QR code:

Advocacy and welfare

Our advocacy and welfare officers are here to help you find the support you need for many issues surrounding a ALL diagnosis. These include insurance, benefits and clinical trials. If you would like support from our advocacy or welfare officer, email **advocacy@leukaemiacare.org.uk** or call **08088 010 444**.

Cost of living fund

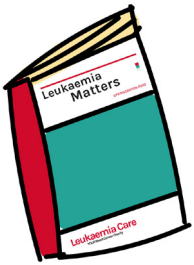
This fund provides grants to patients and families affected by ALL, to help with essential living costs. All applications must be made via the form which can be found by scanning the QR code:

Write a free will

Using our complimentary service, you can write a simple will so you know what happens to your estate when you die. To start writing your free will today, scan this QR code:

Patient magazine

Our magazine includes inspirational patient and carer stories as well as informative articles by medical professionals. To subscribe to our magazine, scan this QR code:



Patient story: Ricky Duggal

Ricky is currently part way through his treatment for ALL. This is his story.

When I was diagnosed with ALL in August 2023, I really didn't know much about leukaemia, but I was aware it was a blood cancer. My wife, parents and mother-in-law were with me to hear the news and my mum was immediately very upset. My wife was incredibly strong and asked lots of questions, but all I remember is that I felt totally numb. The good news was that we were told it was curable and that the doctors would do all they could to get me into remission.

Within an hour I had started chemo. It was a traumatising few days and was hard to take in all that was happening. I was in hospital for four weeks. Luckily my wife could stay with me and my family were amazing in their support, bringing me meals every day. Their lives stopped and they all pulled together for me. I coped reasonably well with the chemo – I felt fatigued and lost my appetite, but I was lucky not to suffer with sickness. I have also been lucky not to have lost my hair either. I responded well to the treatment and only became neutropenic after being discharged.

I was delighted to come home on 4th September. But it was a shock to my system. I had imagined that everything would be pretty much back to normal once I was out of hospital. But I was totally shattered. My calves were painful just from walking up the stairs. I needed a lie-down after taking a shower. Everything was exhausting – it was hard to adjust and accept that life was not like it had been before. It was debilitating and I struggled with having to rely on my wife and my family.

After a few weeks, I started to feel normal again. But then it was time for my next round of chemo. This time, I was treated as an outpatient, but had to travel to and from hospital 5 days a week for 4 weeks. During that time, I also had several blood and platelet transfusions. In November, I was allowed a break from chemo and a bone marrow biopsy confirmed that I was in remission. I had previously been warned that a bone marrow transplant might be necessary, but this is now looking less likely, providing I don't relapse. I have two or three more rounds of consolidation chemo ahead of me and hope to be finished in the spring of 2024.

I have tried to keep positive from the beginning of my diagnosis and have done my best to stay strong. It is nerve-wracking waiting for biopsy results, but things seem to be moving in the right direction so I have much to be grateful for.

Since my job as a dentist involves seeing patients face-to-face, I have not been able to go back to work and this has been really tough. I am usually a get-up-and-go person, so not being able to do the job that I love has been hard. I keep myself busy by getting involved in the management side of the practice, reading books, going on walks, exercising. I am also sharing my story on my Instagram page **@rickydentist**. All these things help to make the time pass.

Things are starting to get to me now because my treatment just seems to be taking so long. It's difficult to see everyone around you making new year resolutions, when all I want is to get to the end of my treatment. Despite that, I continue to be optimistic. It's the least I can do when things are moving in the right direction and everyone around me is being so supportive.

Glossary of medical terms

Acute leukaemia

Leukaemia which progresses rapidly and is generally aggressive. There are two types: acute lymphoblastic leukaemia and acute myeloid leukaemia.

Acute lymphoblastic leukaemia (ALL)

Leukaemia in which lymphocytes start multiplying uncontrollably in the bone marrow, resulting in high numbers of abnormal, immature lymphocytes. Lymphocytes are a type of white blood cell involved in the immune response.

Blast cell

An abnormal (dysplastic), immature blood cell found in the bone marrow or peripheral blood. As they are not mature, these cells are unable to fulfil their intended function. AML develops from these blast cells.

Bone marrow

The soft blood-forming tissue that fills the cavities of bones and contains fat, immature and mature blood cells, including white blood cells, red blood cells, and platelets.

Chemotherapy

Therapy for cancer using chemicals that stop the growth of cells.

Clinical trial

A medical research study involving patients with the aim of improving treatments and their side effects. You will always be informed if your treatment is part of a trial.

Consolidation (phase)

Treatment following remission intended to kill any cancer cells that may be left in the body (also called intensification phase).

Fatigue

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

Induction (phase)

First treatment after diagnosis intended to kill the majority of the leukaemia cells and stimulate remission.

Intrathecal therapy

Injection of chemotherapy into the cerebrospinal fluid that surrounds and protects the brain and spinal cord.

Maintenance

Treatment given to prevent cancer from coming back after it has disappeared following the first-line treatment.

Monoclonal antibody

Man-made antibodies created from identical cloned immune cells so that they all bind to the same protein commonly found on the leukaemia cells such as CD20.

Palliative care

Also known as supportive care, this is a type of care that focusses on improving the quality of life for a patient with a life threatening illness and their loved ones.

Summary: What is induction treatment for ALL?

- Acute lymphoblastic leukaemia (ALL) is an acute leukaemia that progresses in a rapid way.

To understand more about the biology of ALL, we recommend you read the first booklets in this series: Newly diagnosed B-cell ALL and Newly diagnosed T-cell ALL. Scan the QR code to order or download our booklets:

- Haematologists divide the treatment of acute lymphoblastic leukaemia (ALL) into three separate phases:
  1. Induction of remission
  2. Consolidation
  3. Maintenance
- In this booklet, we concentrate on the induction phase of treatment.

We have several booklets on the treatment of ALL, including consolidation and maintenance. Scan the QR code to order or download our booklets:

What is induction treatment for ALL?

Induction treatment is the first phase of treatment after your diagnosis of acute lymphoblastic leukaemia (ALL). You will receive treatment as soon as possible. This is because ALL will progress rapidly without treatment.

The role of induction treatment is to kill your immature leukaemia lymphocyte cells. These are also known as blast cells. Induction treatment should enable you to achieve complete remission. Induction treatment generally lasts one month.

Drugs used for the treatment of B-cell and T-cell ALL are similar chemotherapies. This booklet applies to both types of ALL unless indicated otherwise.

The most common drugs used for B-cell ALL and T-cell ALL are:

- Vincristine
- An anthracycline drug such as daunorubicin, doxorubicin or idarubicin
- Cyclophosphamide or cytarabine
- Asparaginase or pegaspargase (a derived version of asparaginase)

Other drugs that may be beneficial for you include:

- A tyrosine kinase inhibitor (TKI) for patients who have the Philadelphia chromosome. Imatinib is an effective TKI, although there are newer ones. TKI drugs inhibit the tyrosine kinase enzyme that control the function of a cell. They stop the cell growing and dividing.
- A target therapy drug such as a monoclonal antibody. A target therapy drug is a drug developed to target specific components of the leukaemia cell.

These drugs are administered with or without cranial radiotherapy.

You will also receive intrathecal therapy. This is used both as prophylaxis and treatment of your leukaemia cells in your central nervous system (CNS). Prophylaxis means the prevention of a disease.

This booklet is only a guide of what you might experience. Your haematology team will give you a copy of your specific treatment plan.

What induction treatments are used in ALL?

Drugs used as induction treatments for ALL include:

- Chemotherapy
- TKIs for patients with Philadelphia-positive ALL (Ph+ ALL)
- CNS prophylaxis or treatment with intrathecal chemotherapy

Induction treatment is usually a combination of chemotherapy drugs. You will receive induction treatment in hospital in case you have any reactions during treatment.

The aim of induction treatment is to reduce the number of abnormal leukaemia cells to as low as possible.

First, you may receive pre-induction treatment to prevent tumour lysis syndrome.

Pre-induction treatment

Your haematology team will check you for signs of tumour lysis syndrome, especially if you have a high white blood cell count.

Tumour lysis syndrome is a result of the destruction of your leukaemia cells. It happens when the leukaemia cells are destroyed at a higher rate than your body can dispose of their waste products. On destruction, leukaemia cells release uric acid, potassium and phosphorus into the blood. The levels of these waste products can get higher than the kidney can cope with. This may result in damage to the kidney, and also the heart and liver.

Despite being a life-threatening cancer emergency, tumour lysis syndrome can be prevented if faced early on. Prevention includes:

- Early identification of patients at risk of tumour lysis syndrome
- Starting on appropriate preventive management
- Steroids
- Allopurinol with intravenous fluids

Allopurinol is a drug used to lower levels of uric acid in your blood.

If your levels of white blood cells are very high, you may also receive the enzyme rasburicase. This enzyme breaks down the uric acid in your blood. Rasburicase is often given before and during chemotherapy.

You may also receive a mild course of chemotherapy and even leukapheresis. Leukapheresis is the removal of the excess of anormal white blood cells from the blood. The steps in leukapheresis are:

1. Collection of blood from a vein in one of your arms.
2. Running this blood through a leukapheresis machine. This filters out the excess white blood cells.
3. Reinserting the filtered blood back through a vein in your other arm.

On the rare occasion that tumour lysis syndrome develops, you will receive:

- Aggressive infusion of intravenous fluids
- Correction of the metabolic disturbances (removing waste products)
- Kidney dialysis might also happen if you have increasing levels of renal failure despite treatment

Pre-induction treatment response will determine the sensitivity of your ALL to chemotherapy.

Chemotherapies used for induction

You will begin induction treatment once you have had pre-induction or been told it is not needed. Common combinations of chemotherapies for ALL induction include:

- Vincristine
- An anthracycline drug such as daunorubicin, doxorubicin or idarubicin
- A steroid such as dexamethasone or prednisolone
- Asparaginase or pegaspargase (a derived version of asparaginase)

Your haematology team will add other drugs to this combination if it would be helpful for you:

- Cyclophosphamide or cytarabine
- A TKI. This is a targeted treatment for patients with B-cell ALL with the Philadelphia chromosome. It works by stopping the cell producing the BCR-ABL1 protein. The BCR-ABL1 protein usually helps the leukaemia cell stay alive.
- Nelarabine for patients with T-cell ALL. This anticancer drug interferes with the growth of leukaemia cells and in time destroys them.

There are three types of side effects with chemotherapies:

1. **Short-term side effects:** these side effects can last for a few days or weeks, but for some, they can last for the duration of treatment.
2. **Long-term side effects:** these are side effects that last for a long period of time (six to 12 months).

3. **Late effects:** these are side effects that develop months or years after treatment has stopped.

Common late side effects of chemotherapy

Common side effects in patients receiving chemotherapy for the treatment of leukaemia include:

- Increased risk of infection
- Anaemia
- Bleeding
- Fatigue
- Gastrointestinal (nausea, vomiting, diarrhoea and constipation)
- Sore mouth
- Hair loss
- Fertility
- Cognitive or thinking effects
- Heart and lung toxicity

Late and long-term side effects of chemotherapy

Possible late and long-term side effects in patients receiving cancer treatment include:

- Fatigue
- Eye, hearing and mouth changes
- Skin and nail side effects
- Bone and joint issues
- Endocrine and thyroid changes
- Cognitive or thinking effects

- Lung toxicity
- Heart toxicity
- Nerve side effects
- Kidney and urinary toxicity
- Secondary cancers

For more information about side effects, we have dedicated booklets on the common side effects of treatment and late effects of treatment. Scan the QR code to order or download our booklets:

Target drugs for induction

Targeted drugs focus on specific proteins found on the leukaemia cells. They target just the leukaemia cells to kill them. This is different to chemotherapy. Chemotherapies are drugs that kill all growing cells. This explains the side effects.

A common targeted drug used to treat Ph+ ALL is the TKI imatinib. This drug targets the BCR-ABL1 protein present on leukaemia cells as a result of the Philadelphia chromosome.

For more information on genetics in ALL we have a dedicated booklet. Scan the QR code to order or download the booklet:

Imatinib is often combined with standard chemotherapy regimens. If imatinib is not suitable for you, there are other TKIs available.

Central nervous system prophylaxis and treatment

The CNS is made up of the brain and spinal cord. Leukaemia cells can spread into all areas of the CNS. Sometimes this has already happened before your diagnosis. Leukaemia cells can already be within the cerebral spinal fluid in around 10% of patients with ALL.

If this is not the case for you, it is also possible that the spread of ALL cells into the CNS will occur later on. There is great variability in the presence of leukaemia cells in the CNS.

If not discovered and treated at diagnosis, leukaemia cells in the CNS can cause a relapse of your ALL. Relapse is when ALL returns in patients who have already reached complete remission. Relapse related to CNS leukaemia cells occurs in 30% of patients with ALL. Therefore, you are likely to have treatment injected into your CNS regardless of if your ALL is currently present there.

Your haematology team will look for, and treat, leukaemia cells in your cerebral spinal fluid using a lumbar puncture. They insert a thin needle into the lower part of your back. A lumbar puncture enables the collection of a sample of cerebral spinal fluid or an injection of treatment.

Oral or intravenous chemotherapy cannot penetrate the CNS very well. This is why treatment must be directly injected. Treatment takes place throughout the whole induction treatment period. It may include methotrexate, cytarabine and a steroid. Methotrexate and cytarabine are anticancer chemotherapy drugs.

Intrathecal chemotherapy is the best treatment to prevent the ALL affecting your CNS. It is usually not painful but it is an unusual sensation.

If a lumbar puncture cannot be carried out, alternatives to intrathecal chemotherapy include:

- Intravenous high-dose methotrexate or cytarabine. This regimen may be toxic for the kidneys, bladder and liver. It also

causes suppression of the bone marrow, diarrhoea, fatigue and nausea/vomiting.

- Radiation therapy to the brain and spinal cord. This can cause fatigue, irritability, nausea/vomiting, skin reactions, headaches and hair loss.

Both these alternatives are effective but carry high levels of side effects.

Summary: What is the induction treatment for patients ALL who cannot have intensive therapy?

- Not everyone can withstand intensive chemotherapy treatment. As you get older, you are less likely to be fit enough for treatment. You should be assessed to determine what type of treatment is right for you.
- Intensive chemotherapy induction leads to complete remission in around 80% of elderly patients. But, 30% of these patients are known to die from bone marrow suppression and side effects. This is why less intensive treatment is considered.
- Less intensive treatments are generally less likely to be effective. However, they are improving all the time.
- Up to 50% of older adults (55-60 years) with a new diagnosis of ALL have the Philadelphia chromosome.
- Less intensive chemotherapy in combination with imatinib is given to these patients. They show good responses initially.
- Your haematology team should explain why a treatment has been chosen for you.

What is the induction treatment for patients ALL who cannot have intensive therapy?

It is important that you are able to tolerate induction treatment. While chemotherapy achieves remission in around 80% of elderly patients, 30% will die from:

- Suppression of their bone marrow
- Side effects

Increasing age is not the only concern in the factors considered for the need of less intensive treatment. Other factors include:

- Other medical illnesses you have
- Poor functional status
- Intellectual and mental decline
- Malnutrition

Functional status is the physical ability to perform activities such as:

- Self-care
- Being mobile
- Independence at home or in the community

Intensive treatment can leave you very unwell. It may be impossible to have intensive treatment if you are not well enough to tolerate it. Less intensive treatments are generally less likely to be effective. However, they are improving all the time.

Effective drug combinations with less intensive induction doses are available. These include low doses of vincristine, corticosteroids and asparaginase.

Up to 50% of older adults have the Philadelphia chromosome. Adding a TKI to less intensive treatments in these patients brings

about a greater survival. This is relative to their survival with intensive treatments alone.

The five-year survival rate in Philadelphia-positive ALL patients is:

- 20% with chemotherapy alone
- 50% with conventional chemotherapy and a first or second generation TKI
- Up to 75% with conventional chemotherapy and the third generation TKI ponatinib

Summary: What happens after induction?

- After induction treatment, you may have one of the following outcomes:
  - Complete haematological remission (also called complete remission) that occurs when:
    - Blood cell counts have returned within normal limits AND
    - Less than 5% of leukaemia cells are still present in the bone marrow
  - Complete molecular remission that occurs when:
    - You have no evidence of leukaemia cells anywhere in the body even at a molecular level.
- Your haematology team will discuss your next treatment option if you:
  - Reach complete remission
  - You are MRD negative when expected

What happens after induction?

The aim of induction is to remove as many leukaemia cells as possible. Doing this is described as achieving remission. There are different types of remission, depending on how your haematology team choose to measure the remaining cells.

You could achieve the remissions below following your induction treatment:

- Complete haematological remission (also called complete remission) that occurs when:
  - Blood cell counts have returned within normal limits AND
  - Less than 5% of leukaemia cells are still present in the bone marrow
- Complete molecular remission that occurs when:
  - There is no evidence of leukaemia cells anywhere in the body even at a molecular level. This is described as having negative measurable residual disease (MRD)

MRD is a very sensitive assessment of remission. It looks for cells that might be missed by standard methods using microscopes. Therefore, it often helps with early detection of relapse.

Tests for measuring MRD

Your haematology team can measure your MRD using either a blood or bone marrow sample. The following tests that are conducted in a laboratory can measure using your MRD:

- Flow cytometry
- Polymerase chain reaction tests

Your MRD should be assessed:

- After induction
- In early consolidation

A MRD test is positive if leukaemia cells are still present in the body. If MRD is negative it indicates that no leukaemia cells were present.

Flow cytometry

Flow cytometry is a laboratory test that can identify particular cells based on the proteins seen on their surface. The flow cytometer produces scattered or fluorescent-light signals to count cells of interest. The haematology specialist conducting the flow cytometry adds a fluorescent dye that marks the cells.

Flow cytometry can analyse and process up to 10,000 cells in less than one minute. The flow cytometer will count the different types of white blood cells.

This flow cytometer can help find out if you have any leukaemia cells left.

Polymerase chain reaction test (PCR)

PCR tests analyse genetic information to identify the cells that are present in a sample. The first step in a PCR test is to break open the cells in the blood sample, so they release their DNA. Then they make millions of copies of the small pieces of the DNA from your sample. This is because large amounts of a DNA sample are needed for the genetic analyses. The DNA is then analysed to work out where it has come from (e.g. normal or leukaemia cells). This tells you if you have any leukaemia cells present. PCR tests are inexpensive and quick.

One of the genetic changes in leukaemia that a PCR test can detect is the Philadelphia chromosome. Normal cells do not have this, so it is a quick way of finding leukaemia cells.

Your haematology team will adjust your treatment in line with your results. They will talk to you about your next treatment options if you have reached complete remission or your MRD is negative.

Summary: Supportive care

Supportive care is available at any time. It is a term that means any medication or medical care that is not intended to treat your leukaemia. The aim of supportive care is to improve your quality of life.

As well as your ALL treatment you are likely to need treatment for side effects (e.g. nausea). Medication used for the induction phase is very strong to induce remission. You might be offered medication or different treatment strategies like counselling or physiotherapy. It depends on your situation.

Concerning side effects that you could have are:

- Fatigue
- Infection risk
- Sore mouth
- Diarrhoea or constipation
- Sickness
- Nerve damage
- Insomnia
- Weight gain
- Mood change
- Diabetes

Make sure you talk to your healthcare professionals regularly. They will be able to help you if you have physical symptoms or treatment side effects.

Supportive care

ALL is an aggressive illness and requires relatively intensive treatments to deal with it. During your treatment and afterwards supportive care will help prevent, or even treat, the symptoms of ALL.

Supportive care is a term that means any medication or medical care that is not intended to treat your leukaemia. The aim of supportive care is to lessen the impact of your ALL symptoms and improve your quality of life.

Supportive care can also reduce the side effects caused by your treatment. In this booklet, we focus on the immediate effects of diagnosis and treatment.

Supportive care is not only limited to the physical impact of your ALL. It will provide support for matters that are:

- Psychological
- Social
- Spiritual

For more information about side effects, we have dedicated booklets on the common side effects of treatment and late effects of treatment. Scan the QR code to order or download our booklets:

What are the side effects with chemotherapy treatment?

Chemotherapy treats the leukaemia cells and normal cells in the same manner. The effect of the chemotherapy on the normal cells is the cause of side effects. Chemotherapy causes more side effects than targeted treatment. You are unlikely to experience every side effect. It is difficult to predict which side effects you

will have. This is because people react to treatment in different ways.

Common side effects with chemotherapy include fatigue and infections.

Fatigue

Fatigue is a very common side effect of your treatment for ALL and affects most people with cancer. It can be caused directly by the drugs but it can also have other causes such as anaemia, poor sleep or depression. It can interfere with your usual functioning as it is distressing, persistent or exhausting. Fatigue is often frustrating as it cannot be treated with medications.

Solutions to decrease your level of fatigue are available. This includes pacing yourself or improving the quality of your sleep.

Make sure you discuss your fatigue throughout your treatment with your haematology team. You can also raise it after treatment. It is very common for it to continue after treatment. There are fatigue services to help if it affects you long term or particularly severely, but waiting lists can be long.

Infections

You should be aware that you are vulnerable to infections whilst on treatment. This is because most treatments have an effect on your immune system. You should be able to recognise symptoms of infections. Common symptoms of infection include:

- Fever – a raised temperature (38°C or higher)
- Aching muscles
- Diarrhoea
- Headaches
- Excessive tiredness

You should seek help as soon as possible if you experience any of these symptoms. Infections can progress more quickly if you are receiving active cancer treatment. Your haematology team have to give you a specific phone number and instructions on what to do if you are aware of symptoms of infection.

Prevention of infections

Simple precautions can help you reduce your risk of infection. These include:

- Washing your hands.
- Limiting your time in crowds, especially if there is an epidemic of flu or other illness.
- Following food safety advice and not keeping food after use-by dates. Cleanliness in the kitchen is important.

Specific advice on how to protect yourself from COVID-19 infection is available on our website. It is constantly updated. Scan the QR code to take you there:

Antibiotics, antivirals and antifungals can be used to treat or prevent infections.

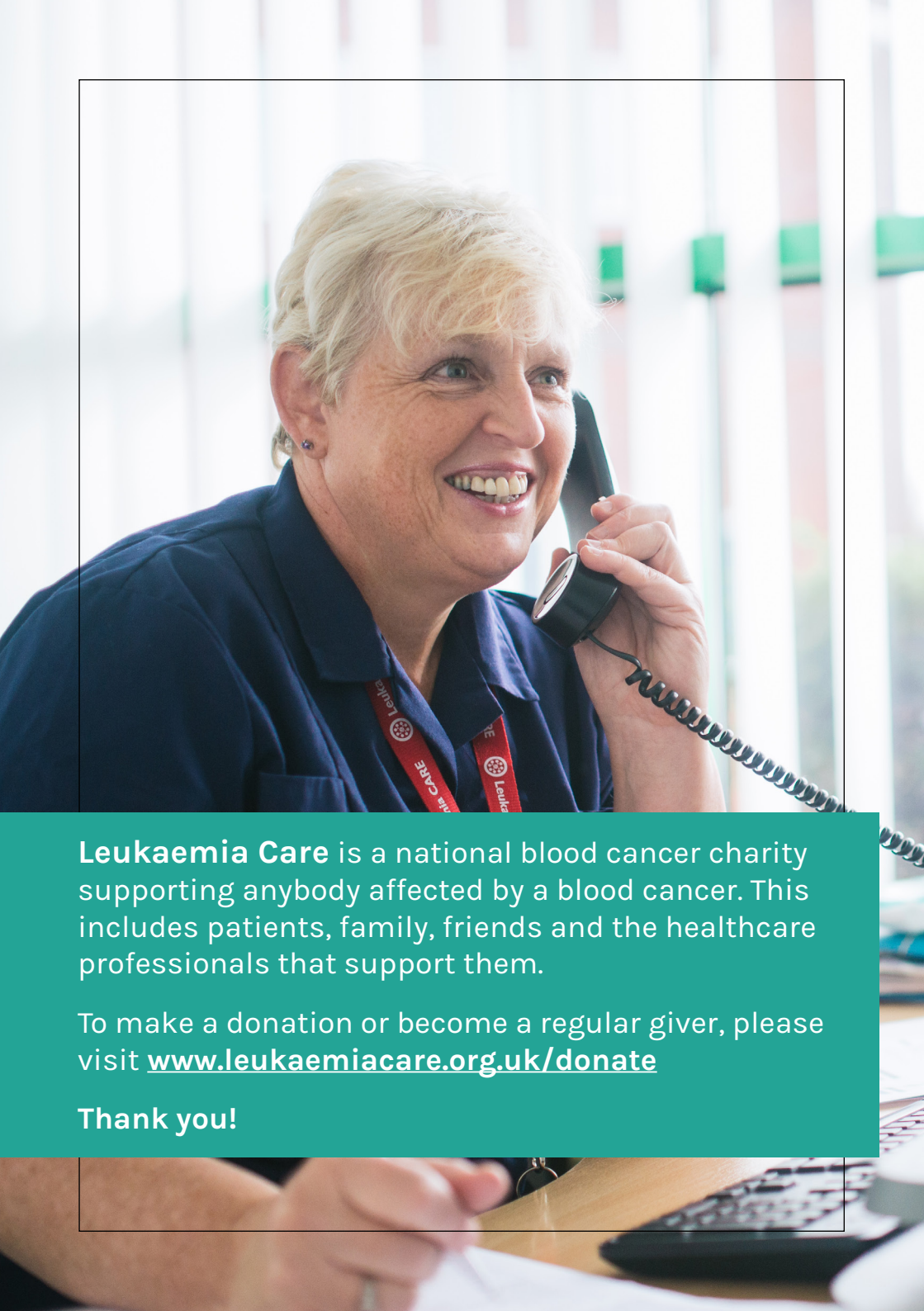
Supportive care is not only limited to physical impact of your ALL. It will provide you with support for concerns such as an initial bad response.

They include:

- Emotional health
- Mental health
- General wellbeing

- Home life
- Work and money
- Support with transfusions

Information on the supportive care for the topics listed above are available in our newly diagnosed booklets for B-cell ALL and T-cell ALL. Scan the QR code to order or download our booklets:



Leukaemia Care is a national blood cancer charity supporting anybody affected by a blood cancer. This includes patients, family, friends and the healthcare professionals that support them.

To make a donation or become a regular giver, please visit **www.leukaemiacare.org.uk/donate**

Thank you!

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

Leukaemia Care

Leukaemia Care is the UK's leading leukaemia charity. For over 50 years, we have been dedicated to ensuring that everyone affected receives the best possible diagnosis, information, advice, treatment and support. We are here for everyone affected by leukaemia and related blood cancer types – such as myelodysplastic syndromes (MDS) and myeloproliferative neoplasms (MPN). We believe in improving lives and being a force for change. To do this, we have to challenge the status quo and do things differently.

Helpline: **08088 010 444**
www.leukaemiacare.org.uk
support@leukaemiacare.org.uk

Blood Cancer UK

Leading charity into the research of blood cancers.

0808 2080 888
www.bloodcancer.org.uk

Cancer Research UK

Leading charity dedicated to cancer research.

0808 800 4040
www.cancerresearchuk.org

Macmillan

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

0808 808 0000
www.macmillan.org.uk

Maggie's Centres

Offers free practical, emotional and social support to people with cancer and their loved ones.

0300 123 1801
www.maggiescentres.org

Citizens Advice Bureau (CAB)

Offers advice on benefits and financial assistance.

08444 111 444
www.adviceguide.org.uk

How you can help us

If you've been affected by ALL, sharing your story can help others going through a similar situation and help the public to better understand.

Scan the QR to share your story:

Alternatively, you can email our Communications Team at communications@leukaemiacare.org.uk.

We are continually working to make sure our information is up to date and includes everything you need to help feel supported and empowered to advocate for yourself. With this, it is important for us to listen to any feedback you might have about our consolidation treatment for ALL booklet.

Scan the QR to take you to our shop to leave a review of our booklet:

Alternatively, you can email our Information Team at information@leukaemiacare.org.uk, call our office line on **01905 755 977** or write a letter to our Head Office at **Leukaemia Care, One Birch Court, Blackpole East, Worcester, WR3 8SG**.

Take on a challenge for Leukaemia Care

We have a range of fundraising challenges that you can get involved in to help us continue to provide care and support to those affected by a leukaemia, MDS or an MPN.

Running, swimming, cycling and adrenaline challenges are available to take part in, both in the UK and abroad. There really is something for everyone.

If you're interested in taking part in a challenge, speak to a member of our Fundraising Team by emailing fundraising@leukaemiacare.org.uk or calling **01905 755977**.

Alternatively, scan this QR code to find out all the ways you can get involved with Leukaemia Care:

"It was a pleasure to meet you and to take part in my first half marathon together with the Leukaemia Care team! I'm a scientist and work in immunology research. A dear family member passed away from leukaemia seven years ago this month, so I did this in his memory. I smashed my goal of under two hours with a final time of 1:53! I'm extremely happy, thank you so much for all your hard work and it was great to see you cheering us on along the track. I loved the look of the vests too! See you again, next year maybe!" **- Alexandru Bacita ran London Landmarks for Leukaemia Care in 2022**

Your gift today will ensure that Leukaemia Care can continue to offer support to leukaemia patients and those who love them

Yes, I want to make a regular gift to Leukaemia Care of £5 or £ ☐ a month starting on the 1st ☐ or the 15th ☐ of each month (please tick one).

Please note: the minimum for a direct debit is £2 a month.

Title: .....

First name or initial(s): ..... Surname: .....

Full home address: .....

.....

Postcode: ..... Phone: .....

Email: .....

☐ **Gift Aid Declaration: Please tick here if you want Leukaemia Care to reclaim the tax that you have paid on all your donations you make in the future or have made in the past four years.**

Instruction to your Bank or Building Society to pay by Direct Debit

Name of Account Holder(s): ..... / .....

Bank/Building Society account number: ☐

Branch sort code: ☐

Name and full postal address of you Bank or Building Society: .....

.....

Instruction to your Bank or Building Society: Please pay Leukaemia Care from the account detailed in this instruction subject to the safeguards assured by the Direct Debit Guarantee. I understand that this instruction may remain with Leukaemia Care and, if so, details will be passed electronically to my Bank/Building Society.

Signature(s): ..... / .....

Date: ☐

This guarantee should be detached and retained by the payee.

The Direct Debit Guarantee

DIRECT Debit

This Guarantee is offered by all banks and building societies that accept instructions to pay Direct Debits.

The efficiency and security of the scheme is mentioned and protected by your own Bank or Building Society.

If the amounts to be paid or the payment dates change, Leukaemia Care will notify you 10 working days in advance of your account being debited or as otherwise agreed.

If an error is made by Leukaemia Care or your Bank or Building Society, you are guaranteed a full and immediate refund from your branch of the amount paid.

You can cancel a Direct Debit at any time by writing to your Bank or Building Society. Please also send a copy of your letter to us.

Leukaemia Care is the UK's leading leukaemia charity. For over 50 years, we have been dedicated to ensuring that everyone affected receives the best possible diagnosis, information, advice, treatment and support.

Every year, 10,000 people are diagnosed with leukaemia in the UK. 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.leukaemiacare.org.uk

support@leukaemiacare.org.uk

Leukaemia Care,
One Birch Court,
Blackpole East,
Worcester,
WR3 8SG

Leukaemia Care is registered as a charity in England and Wales (no. 1183890) and Scotland (no. SC049802).

Company number: 11911752 (England and Wales).

Registered office address: One Birch Court, Blackpole East, Worcester, WR3 8SG

Leukaemia Care
YOUR Blood Cancer Charity

Trusted Information Creator
Patient Information Forum