Understanding Acute Leukaemia

A guide for people with cancer, their families and friends.
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Understanding Acute Leukaemia is reviewed approximately every two years. Check the publication date above to ensure this copy of the booklet is up to date. To obtain a more recent copy, phone the Cancer Council Helpline on 13 11 20.

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Cancer Council New South Wales
Cancer Council is the leading cancer charity in NSW. It plays a unique and important role in the fight against cancer through undertaking high-quality research, advocating on cancer issues, providing information and services to the public and people with cancer, and raising funds for cancer programs.

This booklet is funded through the generosity of the people of NSW. To make a donation to help defeat cancer, phone 1300 780 113 visit Cancer Council’s website at www.cancercouncil.com.au.

Before commencing any health treatment, always consult your doctor. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for your own doctor’s or health professional’s advice. All care is taken to ensure that the information contained here is accurate at the time of publication.

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Introduction

This booklet has been written to help you understand more about acute leukaemia.

Many people feel understandably shocked and upset when told they have acute leukaemia. We hope this booklet will help you understand how acute leukaemia is diagnosed and treated. We also include information about support services.

We cannot advise you about the best treatment for you. You need to discuss this with your doctors. However, we hope this information will answer some of your questions and help you think about questions you want to ask your doctors or other health carers.

You may like to pass this booklet to your family and friends for their information.

This booklet does not need to be read from cover to cover – just read the parts that are useful to you.

Some medical terms that may be unfamiliar are explained in the glossary.
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What is cancer?

Cancer is a disease of the body’s cells, which are the body’s basic building blocks. Our bodies constantly make new cells: to help us to grow, to replace worn-out cells, or to heal damaged cells after an injury.

Normally, cells grow and multiply in an orderly way, but sometimes something goes wrong with this process and cells grow in an uncontrolled way. Depending on where in the body the uncontrolled growth occurs, this may result in abnormal blood cells or may develop into a lump called a tumour.

With cancers that affect the blood and bone marrow (where blood cells are produced), cells grow abnormally and multiply in such a way that they crowd the bone marrow. This reduces the bone marrow’s ability to produce normal levels of other blood cells, which impacts on the way the rest of the body functions.

Acute leukaemia is a cancer of the bone marrow and affects the growth of certain types of white blood cells.
The blood

To understand more about acute leukaemia, it is useful to know a bit about blood, what it does in the body and where it is made.

Blood is made up of three main types of blood cells, which are carried along in a clear fluid called plasma. Blood is pumped around your body to provide oxygen and nutrients to your cells, and to remove waste products.

- **Red blood cells**: Carry oxygen from your lungs to the rest of your body. If you don’t have enough red blood cells, your body may not get enough oxygen. This condition is called anaemia, which may cause you to be pale, tired and breathless.

- **White blood cells**: Play an important role in fighting infection. Low numbers of white blood cells increase your risk of developing infections and lower your ability to fight infections. There are many types of white blood cells.

- **Platelets**: Stop internal and external bleeding by helping blood to clot. If you do not have enough platelets, you may bruise easily, have frequent nosebleeds, or experience prolonged bleeding from cuts or lesions.
Blood cell production

All blood cells are made in the bone marrow, which is a soft, spongy material found in the centre of bones. The bone marrow makes early-stage blood cells (stem cells), which go through a series of steps to become red blood cells, white blood cells or platelets. When stem cells have matured into one of these cell types, they are usually released into the bloodstream.

Stem cells become either myeloid stem cells or lymphoid stem cells. They then develop into immature blood cells called blast cells. The types of blast cells affected in acute leukaemia are myeloblast cells and lymphoblast cells.

The diagram below shows white blood cell production from stem cell to maturity. In acute leukaemia, the blast cells never develop into mature white blood cells. These abnormal blast cells are also called leukaemia cells.
What is acute leukaemia?

Acute leukaemia appears suddenly and develops quickly. It occurs when immature white blood cells (blast cells) grow out of control and continue to divide but never mature. These abnormal blast cells are known as leukaemia cells. Because they are immature and abnormal, they do not carry out the usual function of white blood cells. They also crowd out the normal white blood cells, which leads to an increased risk of infection.

When the bone marrow fills with leukaemia cells, there is little room for healthy red cells and platelets to be produced. This causes a variety of health problems.

Types of acute leukaemia

There are two types of acute leukaemia, depending on what type of white blood cell is involved:
- acute lymphoblastic leukaemia (ALL)
- acute myeloid leukaemia (AML).

ALL is a leukaemia involving lymphoid blast cells, which are known as lymphoblasts. ALL is also sometimes called acute lymphatic leukaemia.

AML is a leukaemia involving myeloid blast cells, also called myeloblasts.
Acute leukaemia and chronic leukaemia

While all leukaemias start in the bone marrow and affect white blood cell production, there are several different types. They are grouped depending on how quickly the disease develops and which type of white blood cell is affected (lymphoid or myeloid).

- Acute leukaemia affects immature blood cells, occurs suddenly and develops quickly.
- Chronic leukaemia usually affects older cells, appears gradually and develops slowly over months to years.

All leukaemia types have their own subgroups and characteristics. They require different treatments.

For further information about chronic leukaemia, call the Cancer Council Helpline on 13 11 20 for a free copy of *Understanding Chronic Leukaemia*.

How common is it?

Acute leukaemia is rare, accounting for 1.1% of all cancer cases in NSW.

In 2005 in NSW, 39 adults and 68 children (aged 19 or under) were diagnosed with acute lymphoid leukaemia (ALL). ALL is most common in children aged between one and four. It becomes less common after 10 years of age but increases again after the age of 40.

Acute myeloid leukaemia (AML) occurs more often than ALL. AML is more common in adults than in children, and becomes more common with age. In 2005, there were 267 adults and 16 children diagnosed with the disease.
What is acute leukaemia?

The definite causes of acute leukaemia are not known, but some factors may increase the chance of developing the illness, including:

• exposure to x-rays and other forms of radiation
• previous treatment with chemotherapy or radiation for other forms of cancer
• continued exposure to some chemicals, such as benzene, petroleum products, paints, certain pesticides and heavy metals
• viral infections.

It is important to remember that acute leukaemia is not caused by anything you have done or anything you have eaten.

Children with acute leukaemia

Children who are diagnosed with acute leukaemia will have the same types of tests and treatments as adults with the disease. Many of the side effects and emotional issues surrounding body image will also be similar. The information in this booklet applies to children, but as no two cases of acute leukaemia are the same, you will need to discuss your child’s case in detail with their doctors. For more information, see the section Caring for a child with acute leukaemia on page 46.
What are the symptoms?

The main symptoms of acute leukaemia are caused by the continually increasing number of leukaemia cells in the bone marrow, which reduces the number of normal blood cells.

The main signs include:

- **Anaemia**: The lack of red blood cells can cause a pale complexion, weakness, tiredness and breathlessness at the slightest effort.

- **Repeated or persistent infections**: The lack of normal white blood cells can cause mouth sores, sore throat, fevers, sweats, coughing, frequent passing of urine with irritation, boils and infected cuts or scratches.

- **Increased bruising and bleeding**: The lack of platelets can cause bruising without being bumped or knocked, frequent nosebleeds or bleeding gums, and heavy periods in women.

Other less common symptoms include: bone pain, swollen, tender or bleeding gums, skin rashes, headaches, vision problems, vomiting, enlarged lymph glands and chest pains. You may also have an enlarged spleen (an organ that filters and stores blood cells), which causes pain or discomfort.

As acute leukaemia develops quickly, people are usually diagnosed soon after these symptoms appear. Occasionally, a person will have none of these symptoms or vague symptoms such as an ongoing cold, and the leukaemia is discovered during a routine blood test.

“Within days of noticing odd bruising and cuts that wouldn’t heal, I was having three-hour afternoon sleeps.”
Diagnosis

An initial blood test will show if leukaemia cells are present in the blood or if the levels of blood cells are different to what would be expected in a healthy person. Other tests will confirm a diagnosis of leukaemia and will determine what type of leukaemia you have.

Bone marrow biopsy

This test is usually done to confirm the presence of leukaemia cells and to work out the type of leukaemia you have. The bone marrow sample may also be examined for chromosome and molecular changes, as leukaemia cells are different to normal cells. The results of this test may influence the type of treatment your doctor recommends.

When you have a bone marrow biopsy, a small amount of bone marrow is removed from the hipbone using a thin needle. It can be uncomfortable and at times painful. You will be given a local anaesthetic to numb the area. You may be given some pain-killers and a drug to relax you so you are more comfortable.

Although it can take up to 30 minutes to prepare for the biopsy, the actual procedure only lasts a few minutes.

The pain feels strange, like a falling sensation. For my first bone marrow biopsy I took no pain relief and it hurt!

Organise with a family member or a friend to drive you home after the biopsy as the pain relief medication may make you feel drowsy.
Chest x-ray and other imaging

An x-ray of the chest is taken to check the heart and lungs, and to see whether there are enlarged lymph nodes in the chest, which can be seen in certain types of ALL.

The following tests may be done to check the health and function of your body before treatment:

- Magnetic resonance imaging (MRI): Uses magnetism and radio waves to build up a detailed cross-section of pictures of your body.
- Computerised tomography (CT scan): Uses x-rays to take several pictures of the inside of your body.
- Gated heart pool scan: A small amount of your blood is taken, mixed with some radioactive material and reinjected into you to assess your heart’s pumping ability.

Lumbar puncture

A lumbar puncture allows doctors to examine the fluid around your spine to see whether any leukaemia cells have travelled to the spinal cord through the blood. Using a thin needle, a little fluid is taken from your lower back. The fluid is tested in a laboratory to check if it contains any leukaemia cells.

Everyone with ALL has a lumbar puncture, while only some people with AML have one.

A lumbar puncture only takes a few minutes, but it can be uncomfortable, so your doctor can give you pain-killers. In some people, this test can cause the back of the legs to tingle when the needle goes in. This feeling is harmless and doesn’t last long. You will need to lie flat for a few hours after the lumbar puncture to reduce the chance of developing a headache.

In cases of spinal bone degeneration, a lumbar puncture can be performed under x-ray guidance.
Prognosis

Prognosis means the expected outcome of a disease. You will need to discuss your prognosis with your doctor, but it is not possible for any doctor to predict the exact course of your illness. Test results, the rate and extent of leukaemia cell growth, how well you respond to treatment, and other factors such as age, fitness and medical history are all important factors in assessing your prognosis for acute leukaemia.

For many people, treatment can control leukaemia for years, allowing them to lead a normal life. This is known as remission.

Most children and many adults who go into remission have a good chance of being cured with chemotherapy and a peripheral blood stem cell or bone marrow transplant.

Which health professionals will I see?

The health professionals who may care for you while you are being treated for acute leukaemia include:

- haematologist: a doctor who treats people with blood diseases
- radiation oncologist: a doctor who prescribes and coordinates the course of radiotherapy
- nurses: give the course of treatment, and support and assist you through all stages of your treatment
- dietitian: recommends the best eating plans to follow while you are having treatment and during your recovery
- social worker, physiotherapist and occupational therapist: link you to support services such as transport or financial assistance, and help you to resume your normal activities.

See *Seeking support* on page 40 for more information.
Treatment

Treatment usually begins as soon as you have been diagnosed and will depend on what type of acute leukaemia you have. You will probably have chemotherapy and radiotherapy. You may also have steroid therapy or a peripheral blood stem cell or bone marrow transplant.

If you have a transplant, this will usually be planned prior to starting chemotherapy.

Chemotherapy

Chemotherapy uses drugs to kill or slow the growth of leukaemia cells. These drugs are also called cytotoxics, which means they are poisonous to cells. The drugs work by disrupting the way leukaemia cells grow and divide.

Chemotherapy kills mainly fast-growing cells such as leukaemia cells. Other fast-growing cells, such as the cells involved in hair growth and cells in the mouth, can also be affected. This can cause mouth ulcers or can make your hair fall out.

Chemotherapy for acute leukaemia is given in two or three stages – induction, consolidation and maintenance. Only people with ALL and a rare type of AML are given maintenance treatment.

Chemotherapy is usually given intravenously (injected into your veins). Sometimes it is given as tablets or as an injection into the spine.

For detailed information about chemotherapy, see Cancer Council’s booklet Understanding Chemotherapy, available from the Helpline or www.cancercouncil.com.au.
Treatment

**Induction chemotherapy**

Induction treatment is an intensive course of chemotherapy, which lasts between four and six weeks. It aims to kill as many leukaemia cells as possible. The chemotherapy usually consists of a combination of three or four drugs given intravenously.

To avoid the discomfort of regular injections, a plastic tube called a catheter can be placed into a vein in your chest or arm. Blood for testing can also be taken through the catheter. The catheter is put in under a general or local anaesthetic and should be painless. It remains in the vein throughout your treatment. Your nurses will show you how to care for the catheter to prevent infections or blockages.

The chemotherapy is given as one or several cycles of treatment in hospital, each usually lasting a few days, followed by a rest period. Most patients remain in hospital until their blood counts (levels of blood cells) recover, usually after three to four weeks.

You will have bone marrow biopsies (see page 11) to see if this treatment is working. If it is successful, your blood and bone marrow will contain no leukaemia cells. This means your leukaemia is in remission.
Consolidation chemotherapy

If your leukaemia is in remission, you will be given several more courses of chemotherapy to kill any cells that may have survived the first treatment. This is called consolidation chemotherapy.

This treatment will be milder than your induction chemotherapy and will give you fewer side effects.

The drugs will be given intravenously or as tablets. Depending on the types of drugs used, you will either visit the hospital for treatment as an outpatient or stay one or more nights.

Maintenance chemotherapy

If you have ALL or a rare type of AML, you may have a final stage of less intensive maintenance chemotherapy. This is usually given over two years, as tablets or intravenously. You will need regular hospital visits so your doctor can check that the drugs are working properly.

Injections into the spine

Some people with ALL, and less commonly AML, have leukaemia cells in their spine at the time of diagnosis. In some people, the leukaemia cells spread to the spine after remission. Chemotherapy drugs given intravenously or by tablet cannot get into the fluid around the spine so they need to be injected directly into this area using a lumbar puncture. See page 12 for information about lumbar punctures.
Side effects

Chemotherapy drugs affect both cancerous cells and the healthy fast-dividing cells in your body. This causes side effects such as digestive problems, mouth ulcers, headaches, hair loss and fatigue. Side effects vary depending on the types of drugs given, but most are temporary and there are ways to prevent or reduce them.

Before treatment, discuss potential side effects and how to manage them with your doctor. Tell your doctor or nurse about any side effects or anything unusual you experience. They may change or prescribe a break in your treatment, or give you medication to relieve your side effects.

The following side effects are common in people who are having treatment for acute leukaemia:

- **Increased risk of infections:** Chemotherapy drugs lower your normal white blood cell count, increasing the risk of infection. Colds and flu may be harder to shake off and scratches and cuts may get infected easily. See page 19.

- **Easy bruising or heavy bleeding from minor cuts or scrapes:** Chemotherapy can also lower the number of platelets in your blood, which means you will bruise and bleed more easily. Your doctor may recommend you have a transfusion of platelets during your treatment to temporarily replace the missing platelets. Women who are menstruating will be given drugs to stop monthly periods and any unnecessary blood loss while platelet counts are low.

- **Fatigue:** The level of red blood cells may drop, causing you to feel tired and breathless. You may be given blood transfusions for this. Many people may feel weak for several weeks or even months.
• Dental problems: Lowered immunity can cause tooth or gum problems. See your dentist if this occurs, and have regular checkups.

• Infertility: Some women’s periods become irregular but return to normal after treatment. For other women, chemotherapy may cause periods to stop completely (menopause). Early menopause may cause bones to become weaker and break more easily. This is called osteoporosis. In men, chemotherapy may lower the number of sperm produced and reduce their ability to move. This can cause infertility, which may be temporary or permanent. Talk to your doctor about these issues before treatment starts. For information on sexuality and intimacy, see page 37.

For information on managing other side effects such as nausea, sore mouth, hair loss, change in hearing and cognitive impairment, see Cancer Council’s booklets *Understanding Chemotherapy* and *Food and Cancer*, available free from Helpline on 13 11 20.

“After the chemotherapy started I had very little strength. Even walking from the bed to the toilet was an effort.”
Taking care with infections

Infections in people with acute leukaemia need immediate attention. Contact your doctor or hospital urgently if any of these problems occur:

- fever over 38°C
- chills or constant shivering
- sweating, especially at night
- burning feeling when urinating
- severe cough or sore throat
- vomiting that lasts more than a few hours
- severe constipation, diarrhoea or abdominal pain
- unusual bleeding or bruising, such as nosebleeds, blood in your urine or black bowel motions
- prolonged faintness and a rapid heartbeat
- any sudden deterioration in your health.

See the booklet *Understanding Chemotherapy* or talk to your nurse for tips on reducing the risk of picking up infections.
Radiotherapy

Radiotherapy uses x-rays to destroy cancer cells or injure them so they cannot multiply. The procedure is painless. Radiotherapy is part of the treatment for people with ALL and, less commonly, AML. It is usually given to the brain and also the spine, and may sometimes be given to the whole body in preparation for a transplant.

Your radiation oncologist and haematologist will discuss with you the type of radiotherapy and the number of treatments you will need.

Side effects

Radiotherapy can cause side effects, but most are temporary and there are ways to reduce any discomfort. The most common side effects of radiotherapy are tiredness, dry or itchy skin, and some hair loss from your body and head.

For more information about radiotherapy, its side effects and how to manage them, call the Cancer Council Helpline on 13 11 20 for a free copy of Understanding Radiotherapy.
Steroid therapy

Steroids are made naturally in the body, but they can also be produced artificially and used as drugs. Steroid therapy is often given with chemotherapy to help destroy leukaemia cells. It is usually given for a short period of a few weeks, but can be given for several months.

Side effects

Side effects will vary depending on how long you have to take steroids. Most side effects are temporary and will gradually disappear when you stop taking the drugs.

Steroids given for a short time cause few side effects. However, you may find your appetite increases, you feel more energetic or have trouble getting to sleep.

Steroids taken for several months may cause fluid retention and increase your blood pressure. This can make your eyelids, face, hands, fingers and feet puffy. The fluid retention may blur your vision and you will be more likely to get infections.

Your medical team will monitor these treatments, but if you’re worried about side effects, talk to your doctor.
Peripheral blood stem cell and bone marrow transplantation

This treatment may be offered to some people with certain types of acute leukaemia to try to improve the outcome achieved with normal chemotherapy alone. Your doctor will tell you if they think a transplant will be helpful for your type of leukaemia.

The general transplant process is detailed here, but your health care team will explain the procedures for your individual transplant because they vary from person to person.

There are several stages of treatment, and the entire process, including recovery, may take many months.

Collecting stem cells

Transplants require blood-forming stem cells to be collected, either from your own body (autologous transplant) or from a donor (allogeneic transplant). Stem cells can be taken from the bloodstream (peripheral blood stem cells) or from the bone marrow (bone marrow stem cells).

**Autologous transplant:** Stem cells are usually collected from your own blood, but may sometimes be taken from your bone marrow. You may be given a special drug called granulocyte-colony stimulating factor (G-CSF) to help the stem cells multiply quickly and move into the blood. When enough stem cells have been produced, they will be collected from a vein with a needle or small tube.

The stem cells are then separated from the other blood cells by pumping the blood through a cell-separating device called an apheresis machine. This usually takes about four hours. Once separated, your other blood cells are returned to you.

For detailed information on transplants for acute leukaemia, contact the Leukaemia Foundation on 1800 620 420.
Allogeneic transplant: Stem cells are collected from another person’s bone marrow, or, less commonly, blood. Donors are given a general anaesthetic and a needle is inserted into the pelvic bone to remove the marrow. If stem cells are collected from the blood, the donor undergoes the same procedure as the stem cell collection in an autologous transplant. This procedure is not suitable for many people due to the risks involved and the difficulty in finding a compatible donor.

Umbilical cord blood: The umbilical cord and placenta are usually thrown away after a baby is born, but this tissue can also contain stem cells. These stem cells are collected, frozen and stored in tissue banks. Stem cells from cord blood are mostly used in children but may sometimes be considered in adults if a more suitable related or unrelated donor cannot be found.

Storing the stem cells

The stem cells are processed and frozen using liquid nitrogen (cryopreserved). These cells can be stored for many years.

Once the stem cells are collected, you will have a rest period at home for around a month before the next stage of treatment, which usually requires a stay in hospital for a few weeks.
Chemotherapy or radiotherapy

You will return to hospital when you’re ready to begin high-dose chemotherapy or whole-body radiotherapy, which aim to destroy any remaining cancer cells in your body. These treatments will also kill off your own blood-forming cells in the bone marrow. You will probably experience side effects from the treatments, such as nausea, mouth sores or hair loss. Your blood counts will also be low, making you more at risk of infections.

Transplanting the stem cells

A day or so after high-dose chemotherapy or whole-body radiotherapy, the stem cells are thawed and returned to you through an injection or intravenous drip (via the veins). This takes around an hour and you may have side effects such as nausea or abdominal cramps.

Allogeneic transplants

Stem cell transplants from other people fall into two categories. If the stem cells are from another person related to you, such as your brother or sister, or more rarely, another family member, it is called a related allogeneic transplant. If the volunteer donor has been found through a national or international donor registry and is unrelated to you, it is called an unrelated allogeneic transplant. Many countries have transplant registries, which collect information about bone marrow from donors. All donors are registered on a database that can later be searched for a compatible donor. See page 45 for more information on bone marrow donations.
Side effects

After the transplant, your blood count will be low and you may continue to experience side effects. Short-term side effects include increased risk of infections, bruising and bleeding more easily, and tiredness. You may also develop mouth sores, feel like vomiting or have diarrhoea. These side effects are temporary and can be treated.

If you’ve had an allogeneic transplant, you’ll be watched carefully for any signs of graft-versus-host disease (GVHD). In GVHD, the donor’s cells in the transplanted tissue (the graft) attack your own body tissue (the host), which can cause problems in many of your organs. After the transplant, your doctor will give you drugs to reduce the risk of GVHD and to treat the problem if it occurs.

Recovery

When your blood count has risen, your general health improves, and there are no signs of GVHD, you can go home. You will need to return as an outpatient for regular follow-up care to check your blood counts and progress.

The time it takes to recover varies depending on your situation, and at times it can be challenging. Your nurse will be able to discuss with you what you might expect during your convalescence.

You can also talk to someone from the Cancer Council Helpline (13 11 20) or the Leukaemia Foundation (1800 620 420).
Palliative treatment

Palliative treatment is particularly important for people whose disease isn’t responding to treatment or is no longer effective. It helps improve people’s quality of life by alleviating symptoms of cancer without trying to cure the disease. Often treatment is concerned with pain relief and controlling the leukaemia, but it can also involve the management of other physical and emotional problems. Treatment may include radiotherapy, chemotherapy or other medication.

For more information on palliative treatment or advanced cancer, call the Helpline for free copies of Understanding Palliative Care or Living with Advanced Cancer, or view them online at www.cancercouncil.com.au.

Ongoing checkups

After your treatment is over, you will need regular checkups with your doctor or at your cancer treatment centre. Blood tests will be done to check your general health and blood counts. Regular checkups can help find a recurrence early, and this gives you the best chance of getting the disease under control.

Checkups will continue for several years but will become less frequent if you have no further problems.

Between checkups, let your doctor know immediately of any health problems.
Making treatment decisions

Sometimes it is difficult to decide on the right treatment for you. You may feel everything is happening so fast you don’t have time to think things through.

Waiting for test results and for treatment to begin can be difficult. While some people feel overwhelmed with information, others feel they don’t have enough. If you are unclear about the information you have received, call the Cancer Council Helpline on 13 11 20.

Learning more about your illness, different treatments and any side effects will help you decide what type of treatment to have. Talk to your doctor and nurses, and consider getting a second opinion from another doctor. Share your thoughts with family or friends, or other people who have received the recommended treatments, and look at the Internet sites on page 49.

If you are offered a choice of treatments, you will need to weigh the advantages and disadvantages of each treatment. If only one type of treatment is recommended, ask your doctor to explain why other treatment choices have not been offered.

Some people choose treatment even if it only offers a small chance of cure. Others want to make sure the benefits of treatment outweigh any side effects. Still others will choose the treatment they consider offers them the best quality of life. Some may choose not to have treatment but to have symptoms managed to maintain the best possible quality of life.

You always have the right to find out what a suggested treatment means for you, and the right to accept or refuse it.
Decision-making steps

1. Take the time to consider all treatment options.
2. Weigh up the advantages and disadvantages of each treatment.
3. Consider how important each side effect is to you – particularly those that affect your lifestyle. If you have a partner, it may be helpful to discuss this with them.
4. If only one type of treatment is recommended, ask your doctor if other treatment choices are available.
5. Find out more about the treatment choices available to you – speak to your doctor, consider getting a second opinion, look at the recommended Internet sites on page 49, and talk to your family and friends and to people who have received these treatments.
6. If you are not happy with the information you are given – or how it is given – tell the doctor about your concerns, or seek a second opinion.
Talking with doctors

When your doctor first tells you that you have acute leukaemia it may be very distressing and you may not remember very much. It is often difficult to take everything in, so you may want to see the doctor a few times before deciding on treatment. Your doctor may use medical terms you don’t understand; it’s okay to ask your doctor to explain something again. You can also check a word’s meaning in the glossary at the end of this booklet.

Before you see the doctor, it may help to write down your questions – see the list of suggested questions on page 51. Taking notes during the session or recording the discussion can also help. Many people like to have a family member or friend go with them, to take part in the discussion, take notes or simply listen.

“I took a friend with me for support to the second appointment. It was like a dream where I just said ‘yes, yes, yes’ and luckily my friend wrote down all the information.”
Talking with others

Once you have discussed treatment options with your doctor, you may want to talk them over with family or friends, nursing staff, the hospital social worker or chaplain, your own religious or spiritual adviser, a cancer support group or the Cancer Council Helpline on 13 11 20. Talking it over can help sort out the right course of action for you.

A second opinion

You may want to get a second opinion from another haematologist. Some people feel uncomfortable asking their doctor for a second opinion, but specialists are used to patients doing this.

A second opinion can be a valuable part of your decision-making process. It can confirm or clarify your doctor’s recommended treatment plan and reassure you that you have explored all of your options. A second specialist can also answer any questions you may still have.

Your original haematologist or family doctor can refer you to another haematologist, and you can ask for your initial results to be sent to the haematologist giving the second opinion.

You may later decide you would prefer to be treated by the other haematologist, and you are within your rights to make this choice.

You can ask for a second opinion even if you have already started treatment or still want to be treated by your first haematologist.
Taking part in a clinical trial

Your doctor may suggest you consider taking part in a clinical trial. Doctors conduct clinical trials to test new or modified treatments and see if they are better than current treatments.

Before deciding whether or not to join the trial, you may wish to ask your doctor:

- What treatments are being tested and why?
- What tests are involved?
- What are the possible risks or side effects?
- How long will the trial last?
- Will I need to go into hospital for treatment?
- What will I do if problems occur while I am in the trial?
- Has an independent ethics committee approved the trial?

If you are unsure about joining a clinical trial, ask for a second opinion from an independent specialist.

If you decide to join a randomised clinical trial, you will be given either the best existing treatment or a promising new treatment. You will be chosen at random to receive one treatment or the other.

Being part of a trial gives you important rights. You have the right to withdraw at any time. Doing so will not jeopardise your treatment for cancer.

For more information about clinical trials – and how to find a trial that may be suitable for you – call the Helpline for a free copy of *Understanding Clinical Trials*. 
Looking after yourself

When you find out you have acute leukaemia and while you are having treatment, your body is put through a great deal of physical and emotional strain. It is crucial that you take steps to enhance your well-being to help you adapt to the stress that you are facing. The following sections may be relevant to you during your treatment and convalescence, and after your recovery.

Healthy eating

Eating nutritious food will help you keep as well as possible and cope with the cancer and treatment side effects. Depending on your treatment, you may have special dietary needs. A dietitian can help to plan the best foods for your situation – ones that you find tempting, easy to eat and nutritious.

The Cancer Council Helpline can send you information on nutrition during and after cancer treatment. Call the Helpline for free copies of *Food and Cancer* and *After Your Cancer Treatment: a guide for eating well and being active*. 
Being active

You will probably find it helpful to stay active and to exercise regularly if you can. Physical activity – even if gentle or for a short duration – helps to improve circulation, reduce tiredness, decrease joint or muscle pain, and elevate mood. The amount and type of exercise you do will depend on what you are used to, how well you feel and what your doctor advises.

Start by making small changes to your daily activities, such as walking to the shops. Even gardening can be beneficial. If you want to do more vigorous exercise or weight-bearing exercise, ask your doctor what is best for you.

Relaxation techniques

Some people find relaxation or meditation helps them feel better by releasing tension and anxiety. Relaxation exercises can also help reduce pain and increase energy levels. The hospital social worker or nurse will know whether the hospital or a community health centre runs any programs.

You may also enjoy exploring relaxation techniques in the comfort of your own home using audiovisual material such as CDs or DVDs. Contact your local library or the Cancer Council Library to access these resources.
Complementary therapies

Complementary therapies may help you enhance your general well-being and cope better with side effects such as pain. They may also increase your sense of control over what is happening to you, decrease your stress and anxiety, and improve your mood.

There are many types of complementary therapies, including acupuncture, massage, hypnotherapy, relaxation, yoga, herbal medicine and nutrition. While some cancer treatment centres offer complementary therapies as part of their services, you may have to go to a private practitioner. Ask what’s available at your hospital.

Be sure to let your doctor know about any complementary therapies you are using or thinking about trying. This is important, as some therapies may not be appropriate, depending on the type of cancer you have and your conventional treatment plan. For example, some herbs and nutritional supplements may interact with your medication, resulting in harmful side effects. Massage and exercise therapies may also need to be modified to accommodate the changes in your body.

For further information, call the Helpline for a copy of Cancer Council’s Understanding Complementary Therapies booklet.
Strengthening your relationships

The strong emotions you experience as a result of cancer may affect your relationships with people close to you. Your experiences can cause you to develop a new outlook on your values, priorities and life in general. It may help to share those thoughts and feelings with your family, friends and work colleagues.

It may be uncomfortable to talk about your feelings; take your time and approach others when you are ready. You may feel relieved when you have talked to them. People usually appreciate insight into how you are feeling and guidance on how they can best support you during and after treatment. This open and honest approach can strengthen your relationships.

While you are giving yourself time to adjust to life after cancer, remember to do the same for your friends and family. Everyone will react in a different way – by putting on a happy face, playing down your anxiety, or even ignoring you. They are also adjusting to changes in their own way. If someone’s behaviour upsets you, it will probably help to have a discussion about how you both feel about the situation.
Changing body image

Cancer treatment can change the way you feel about yourself (your self-esteem). You may feel less confident about who you are and what you can do. This is more common if your body has changed physically, but even if it has not, you may still be affected by lowered self-esteem.

Give yourself time to adapt to these changes and try not to focus solely on the parts of you that have changed. Seeing yourself as a whole person (your body, mind and personality) can help to increase your self-esteem. You may eventually adjust to and come to accept any physical changes.

Look Good…Feel Better is a program that helps people restore their self-esteem by managing appearance-related side effects. Call 1800 650 960 or visit www.lgfb.org.au.
Sexuality, intimacy and cancer

The role that sexuality and intimacy play in people’s lives changes at different stages of life. It depends on your age, environment, health, relationships, culture, beliefs and interest. As individuals, people not only have different ways of expressing and defining sexuality and intimacy, but they also place their own importance on these needs.

Having acute leukaemia can affect your sexuality in both physical and emotional ways. The impact of these changes depends on many factors, such as your treatment and its side effects, the way you and your partner communicate, and your self-confidence. Knowing the potential challenges, such as a change in libido, and addressing them if they affect you will help you overcome or adjust to these changes.

Sexual intercourse may not always be possible during or after treatment for leukaemia, but closeness and sharing are vital to a healthy relationship.

More information about sexuality for men and women is available. Call 13 11 20 for a copy of Cancer Council’s sexuality booklets.

Contraception

If you are having chemotherapy and you have sexual intercourse within 48 hours of treatment, you should use a condom or a female condom as a precaution against transferring any chemicals to your partner. It is also important to avoid pregnancy, as the chemicals could harm the unborn baby. Some form of contraception must be used.

Talk to your doctor about how these issues affect you and for advice on contraception. See also the Cancer Council’s booklet Understanding Chemotherapy for further information.
Life after treatment

Many people are surprised to discover that life after treatment presents its own challenges. Although you might feel pressure to get back to your ‘normal life’, it’s important to remember that your life may not return to how it was before cancer.

Give yourself time to adjust to physical and emotional changes you have experienced. You may not be fit enough to do your usual activities around the house. If you are returning to work, you should ease back into it slowly, rather than rushing back the week after leaving hospital.

After treatment, it is common to feel anxious rather than more secure. Beforehand, you were busy with appointments and focused on treatment, but now you may feel you are facing an uncertain future.

For some people, fear of cancer returning can feel like a shadow on their life. You might worry about every ache and pain and wonder if it is the cancer coming back. Making sure you have regular checkups, and talking to your doctor about what to expect if the cancer comes back, may reassure you.
Many people report that after cancer they have a new perspective on life and see things with new clarity. Your priorities may change. For example, you may decide to spend more time with family, start a new hobby, travel or get involved in advocacy or volunteer work.

Everyone will eventually re-establish a daily routine, but it will be at their own pace and may be different to how things were in the past. It may take some time to balance the need to have regular checkups with resuming day-to-day activities and making plans for the future. Talking to someone who has had acute leukaemia may help you deal with the uncertainties or challenges you encounter. For more information see page 42.

If you have continued feelings of sadness, have trouble getting up in the morning or have lost motivation to do things that previously gave you pleasure, it is important to talk to your doctor, as you may be clinically depressed. Counselling or prescribed medication may help you.

**What if the leukaemia returns?**

For some people, leukaemia does come back after treatment, which is known as a relapse. This is why it is important to have regular checkups. The disease may be found in the bone marrow again, or for those with acute lymphoblastic leukaemia (ALL), in the fluid around the brain and the spinal cord. Men also may have leukaemia cells in their testicles.

If you have a relapse, further treatment can be given – usually using a different combination of chemotherapy drugs to those you had before. Often this can lead to a second remission. If you have not had a transplant before, your doctors may recommend a bone marrow or stem cell transplantation.
Seeking support

When you are first diagnosed with cancer, it is normal to experience a range of emotions, such as fear, sadness, depression, anger or frustration. If anxiety or depression is ongoing or severe, tell your doctor about it as counselling or medication can help.

It may help to talk about your feelings with others. Your partner, family members and friends are a good source of support or you might prefer to talk to:

- members of your treatment team
- a hospital counsellor, social worker or psychologist
- your religious or spiritual adviser
- a support group – see page 42
- the Cancer Council Helpline.

If you have children, the prospect of telling them you have cancer can be frightening and unsettling. Cancer Council’s booklet *When a Parent Has Cancer: how to talk to your kids* can help you prepare for this difficult conversation.

You may find that your friends and family don’t know what to say to you. In time, you may feel able to approach your friends directly and tell them what you need. Some people prefer to ask a family member or a friend to talk with others and coordinate any offers of help.

Some people may feel so uncomfortable that they avoid you. They may expect you to ‘lead the way’ and tell them what you need. This can be difficult to handle or make you feel lonely.

Cancer Council’s booklet *Emotions and Cancer* may help at this stressful time. Call 13 11 20 for a copy or download it from www.cancercouncil.com.au.
Practical and financial help

A serious illness often causes practical and financial difficulties. You don’t need to face these alone.

Many services are available to help:

- Financial assistance, through benefits and pensions, can help pay for the cost of prescription medicines and for travel to medical appointments.
- Home nursing care is available through community nursing services or through the local palliative care services.
- Meals on Wheels, home care services, aids and appliances can make life easier.

To find out more, contact the hospital social worker, occupational therapist or physiotherapist, or the Cancer Council Helpline.

Understanding Cancer program

If you want to find out more about cancer and how to cope with it, you may find Cancer Council’s Understanding Cancer program helpful. The program offers practical information and discussions about many of the issues people experience after a diagnosis of cancer. Topics covered include: what cancer is, cancer symptoms and side effects, treatment, palliative care, diet, exercise and complementary therapies. Courses are held frequently at hospitals and community organisations throughout NSW. Call the Helpline to find out more.
Talk to someone who’s been there

Getting in touch with other people who have been through a similar experience to you can be very beneficial. There are many ways you can get in contact with others for mutual support and to share information.

In these support settings, most people feel they can speak openly, share tips with others, and just be themselves. You will probably find that you feel comfortable talking about your diagnosis and treatment, your relationships with friends and family, and your hopes and fears about the future.

Support services are available for patients, carers and family members. They include:

- face-to-face support groups, which are often held in community centres or hospitals
- online discussion forums where people can connect with each other any time.

Ask your nurse or social worker to tell you about support groups in your area. You can also visit Cancer Council’s website, www.cancercouncil.com.au, to access the Cancer Services Directory or join the online discussion.

For the Leukaemia Foundation’s online support and information forum, visit www.talkbloodcancer.com.
Cancer Council Helpline 13 11 20
Monday to Friday 9am to 5pm

The Cancer Council Helpline is a telephone information service provided by Cancer Council NSW for people affected by cancer.

For the cost of a local call, you can talk about your concerns and needs confidentially with oncology health professionals. Helpline consultants can send you written information and put you in touch with appropriate services in your area. You can also request services in languages other than English.

You can call the Cancer Council Helpline, Monday to Friday, 9am to 5pm. If calling outside business hours, you can leave a message and your call will be returned the next business day.

If you have difficulty communicating over the phone, contact the National Relay Service, a Government initiative to assist people who are hearing and/or speech impaired (www.relayservice.com.au). This service will help you to communicate with a Cancer Council Helpline consultant.
Caring for someone with cancer

You may be reading this booklet because you are caring for someone with cancer. Being a carer can be very stressful, especially when the person you are looking after is someone you love very much. Look after yourself during this time. Give yourself some time out, and share your worries and concerns with somebody neutral such as a counsellor or your doctor.

Many cancer support groups are open to carers as well as people with cancer. A support group can offer a valuable opportunity to share experiences and ways of coping.

There are several support services that can help you in your caring role, such as Home Help, Meals on Wheels or visiting nurses. There are also many organisations and groups that can provide you with information and support, such as Carers NSW. Phone 1800 242 636 to talk about your needs, or visit www.carersnsw.asn.au.

Call the Cancer Council Helpline to find out more about different services or to obtain a free copy of the Caring for Someone with Cancer booklet.
**Bone marrow and blood donations**

One way people can offer indirect support to someone with acute leukaemia is by considering becoming a bone marrow donor or a blood donor.

**Bone marrow donations:** Because of the difficulty of finding a match between donors and recipients, allogeneic bone marrow transplants from unrelated people is rare. As a donor, you cannot choose who your bone marrow is given to. Currently, each year only around one out of 1,000 potential donors in Australia is able to give their bone marrow. However, the more donors who are on the registry, the better the chance that a patient will have the opportunity to receive a bone marrow transplant. For more information see the Australian Bone Marrow Donor Registry website, www.abmdr.org.au.

**Blood donations:** Many people are able to donate blood throughout the year at the Australian Red Cross Blood Service. Donated blood helps people with cancer who need blood transfusions. Visit www.donateblood.com.au or call 13 14 95 for more information on how you can help.
Caring for a child with acute leukaemia

You may be reading this booklet because your child has been diagnosed with acute leukaemia. The following sections may help you, your child and your other family members communicate with each other and cope during this difficult time.

Further information on issues surrounding a child’s diagnosis of cancer can be found in the Leukaemia Foundation booklet *Coping with Childhood Leukaemia* and the Cancer Council book *Cancer in the School Community*, both available free from the Cancer Council Helpline (13 11 20).

Should I tell my child?

It is natural to want to protect your child from the news of the diagnosis, but children quickly pick up that something is wrong. Your child may not be feeling well or may be seeing the doctor often. Talking openly and honestly about the leukaemia will help your child to be less anxious and to feel a little more in control of the situation. What you tell your child will depend on how old they are and how much they understand.

**Newborns, infants and toddlers:**

Children this young do not understand illness but will react to being separated from you and changes in routine. They may not be able to talk about it but they often pick up on physical and emotional changes. Toddlers like to have control over their environment.

- Create a familiar environment that can travel with the child such as their travel cot and favourite blanket and toys.
- Be honest about hospital trips and explain tests that may hurt.
- Give your toddler choices where possible – would you like to wear the red or blue T-shirt to hospital?
Preschool children, 3-5 years:

Children in this age group are beginning to understand the difference between being well and being sick. They often believe their actions can make things happen.

- Assure your child they have not caused the illness by their behaviour or thoughts.
- Be honest when you explain tests and treatments.

School-age children, 6-12 years:

By this age, some children know about cancer, but may not know what causes it. They may fill in the gaps with their own theories. They can understand what cancer cells are.

- Be open and truthful so they don’t fill in the gaps with their own interpretations.
- Tell the school about your child’s cancer.

Teenagers, 13-18 years:

Many teenagers have an adult understanding of cancer and often want detailed information about their illness. Teenagers are at a stage when they are starting to separate from the family. This is also a vulnerable time for them, as they don’t want to appear different to their peers. Their friends are very important, and they may confide in an adult who is not a parent.

- Encourage teenagers to talk about their feelings, but realise they may find it easier to confide in friends, teachers or other trusted people.
- Provide resources for learning more about the disease and getting support.
- Make contact with CanTeen, the cancer charity for adolescents living with cancer, at www.canteen.org.au or 1800 226 833.
Try to keep things normal

One of your child’s main needs will be for as many things as possible to stay normal and consistent. It is important to continue to show your love and support. It may help to keep rules and discipline as normal as possible. Although you may be tempted to spoil your child or relax your usual discipline, this can lead to confusion in the long run.

A cancer diagnosis can also be difficult for other children in the family. They may feel left out, as parents are constantly caring for the sick child. Their home routines are disturbed and often other relatives or friends are caring for them whilst their parents are at the hospital. Try to make time to talk to all your children – ask them how they’re coping and thank them for their patience during this difficult time.

Who is available to help?

The hospital staff who work with your child will often be people who specialise in working with children. Some hospitals and cancer treatment centres employ play therapists, music therapists or art therapists who can help children cope with the challenges of treatment, and work through their thoughts and feelings, such as fear, sadness or anxiety.

A number of organisations and parents’ support groups, such as CanTeen, Redkite and the Leukaemia Foundation offer practical and emotional support for families and children, camps for children and other services. See the next page for contact details, and ask your hospital social worker or the Cancer Council Helpline for further information.
Information on the Internet

The Internet can be a useful source of information, although not all websites are reliable. The websites listed below are good sources of reliable information.

**Australian**

Cancer Council NSW .............................. www.cancercouncil.com.au
Cancer Council Australia .......................... www.cancer.org.au
Cancer Institute NSW ............................ www.cancerinstitute.org.au
Leukaemia Foundation.......................... www.leukaemia.com
CanTeen ............................................ www.canteen.org.au
Redkite ............................................. www.redkite.org.au
Arrow Bone Marrow Transplant Foundation .......................... www.arrow.org.au
Bone Marrow Transplant Network NSW .......................... www.bmttnsw.com.au

**International**

Leukemia & Lymphoma Society of America .......................... www.leukemia-lymphoma.org
American Cancer Society .......................... www.cancer.org
National Cancer Institute (US) .......................... www.cancer.gov/cancer_information
Macmillan Cancer Support .......................... www.cancerbackup.org.uk
Cancer information library

Following a cancer diagnosis, many people would like to access information about new types of treatment, the latest research findings, and stories about how other people have coped.

The Cancer Council Library has a wealth of information on these topics. There are more than 3,000 resources in the collection, including books, videos, DVDs and a large range of current cancer medical journals.

You can visit the library at 153 Dowling Street, Woolloomooloo (9am-5pm Monday-Friday), borrow by post or ask your local librarian to organise an inter-library loan. Contact the librarian on 13 11 20 or email library@nswcc.org.au.

Related publications

You might also find the following Cancer Council publications relevant. Call the Helpline for free copies, or download them from www.cancercouncil.com.au/cancerinformation:

- Emotions and Cancer
- Food and Cancer
- Sexuality for Men with Cancer
- Sexuality for Women with Cancer
- Understanding Chemotherapy
- Understanding Radiotherapy.
Question checklist

You may find this checklist helpful when thinking about the questions you want to ask your doctor about your illness and treatment. If your doctor gives you answers that you don’t understand, it is okay to ask for clarification.

1. What type of acute leukaemia do I have?
2. What tests do I need?
3. What treatment do you recommend and why?
4. What are the risks and possible side effects of each treatment? Will I have a lot of pain with the treatment? What side effects should I report?
5. Will the treatment affect my sex life and fertility?
6. How long will treatment take? How much will it affect what I can do?
7. What happens if I do nothing?
8. What happens if the leukaemia comes back?
9. How frequently will I have checkups?
10. Are there any clinical trials of new treatments?
11. Are there any complementary therapies that might help me?
12. How much will treatment cost?
Glossary

**acute leukaemia**
A fast-growing cancer that causes large numbers of immature white blood cells, known as blast cells, to be produced abnormally.

**acute lymphoblastic leukaemia (ALL)**
A fast-growing leukaemia in which too many immature white blood cells from the lymphoid family (called lymphoblasts) are found in the blood and bone marrow. Also called acute lymphatic leukaemia.

**acute myeloid leukaemia (AML)**
A fast-growing leukaemia in which too many immature white blood cells from the myeloid family (called myeloblasts) are found in the blood and bone marrow.

**allogeneic transplant**
A transplant that uses stem cells donated by another person from their bone marrow or, less commonly, their blood.

**anaemia**
A drop in red blood cells. Anaemia decreases the amount of oxygen in the body and may cause tiredness, breathlessness, paleness and a poor resistance to infection.

**autologous transplant**
A transplant that uses the patient’s own blood stem cells or, occasionally, bone marrow stem cells.

**biopsy**
The removal of a small amount of tissue from the body, for examination under a microscope, to help diagnose a disease.

**blast cells**
Immature white blood cells belonging to two families – myeloid and lymphoid. Blast cells are called ‘myeloblasts’ in the myeloid family and ‘lymphoblasts’ in the lymphoid family.
**bone marrow**
The soft, spongy material inside bones. Bone marrow contains stem cells that produce red blood cells, white blood cells and platelets.

**bone marrow biopsy**
The removal of a small amount of bone marrow with a needle for examination under a microscope.

**bone marrow transplantation**
A procedure to replace diseased bone marrow with healthy bone marrow stem cells after intensive treatment destroys leukaemia cells and the remaining stem cells.

**cells**
The building blocks of the body. A human is made of millions of cells, which are adapted for different functions. Cells can reproduce themselves exactly, unless they are abnormal, as are cancer cells.

**chemotherapy**
Cytotoxic drugs that kill or slow cell growth to treat cancer.

**graft-versus-host disease (GVHD)**
A side effect of an allogeneic stem cell or bone marrow transplant. The transplanted cells (the graft) react against the recipient’s tissue (the host).

**granulocyte-colony stimulating factor (G-CSF)**
A protein that helps increase the number and function of certain white blood cells called neutrophils. These help fight infection in the bone marrow. You may be given an injection of G-CSF to help stem cells multiply in preparation for a transplant.

**haematologist**
A doctor who specialises in treating diseases of the blood and performs bone marrow or peripheral blood stem cell transplants.

**leukaemia**
A cancer of the white blood cells.
**lumbar puncture**
A test in which a needle is inserted into the base of the spine. It is used to collect fluid for testing and sometimes to inject drugs.

**lymph nodes**
Also called lymph glands. Small, bean-shaped structures that form part of the lymphatic system.

**lymphatic system**
A network of tissues, capillaries, vessels, ducts and nodes that removes excess fluid from tissues, absorbs fatty acids and transports fat, and produces immune cells.

**lymphocyte**
A type of white blood cell that helps fight infection.

**lymphoid**
One of the two groups of white blood cells. The lymphoid family only produces white blood cells.

**myeloid**
One of the two groups of white blood cells. The myeloid family produces some white blood cells, red blood cells and platelets.

**palliative treatment**
Medical treatment for people with advanced cancer to help them manage pain and other physical and emotional symptoms of cancer.

**plasma**
The clear fluid part of the blood that carries blood cells.

**platelets**
Also called thrombocytes. One of three types of cells found in the blood. These help the blood to clot and stop bleeding.

**prognosis**
The likely outcome of a person’s disease.
**radiotherapy**
The use of radiation, usually x-rays or gamma rays, to kill cancer cells or injure them so they cannot grow and multiply.

**radiation oncologist**
A doctor who specialises in treating cancer with radiotherapy.

**recurrent cancer**
A cancer that has resisted treatment, or has spread to another part of the body.

**red blood cells**
Also called erythrocytes. One of three types of cells found in the blood. They carry oxygen around the body.

**relapse**
The return of a disease after a period of improvement.

**remission**
When the symptoms of cancer reduce or disappear. A partial remission is when there has been a significant improvement in the cancer. A complete remission is when there is no evidence of active disease. This does not necessarily mean that the cancer is cured.

**spleen**
An organ located on the left side of the abdomen under the ribs. It is part of the lymphatic system.

**stem cells**
Early-stage blood cells from which other cells develop. Stem cells are found in the bone marrow.

**tissue**
A collection of cells that make up part of the body.

**white blood cells**
Also called leucocytes. One of three types of cells found in the blood. They help the body fight infection.
How you can help

At Cancer Council NSW we’re dedicated to defeating cancer. As well as funding more cancer research than any other charity in the state, we advocate for the highest quality of care for cancer patients and their families, and create cancer-smart communities by empowering people with knowledge about cancer, its prevention and early detection. We also offer direct financial assistance for those people in hardship as a result of having cancer. These achievements would not be possible without community support, great and small.

Join a Cancer Council event: join one of our community fundraising events like Daffodil Day, Australia’s Biggest Morning Tea, Relay For Life, Girls Night In and Pink Ribbon Day, or hold your own fundraiser or become a volunteer.

Make a donation: any donation whether large or small will make a meaningful contribution to our fight to defeat cancer.

Buy your sun protection products from our website or our retail stores: every purchase helps you prevent cancer and contributes financially to our work.

Help us speak out and create a cancer-smart community: Cancer Council is a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us defeat cancer by living and promoting a cancer-smart lifestyle.

To find out more about how you or your family and friends can help, please call 1300 780 113.
Regional offices

Central and Southern Sydney Region
153 Dowling Street
Woolloomooloo NSW 2011
(PO Box 572
Kings Cross NSW 1340)
Ph: (02) 9334 1900
Fax: (02) 9334 1739

Far North Coast Region
101-103 Main Street
Alstonville NSW 2477
Ph: (02) 6627 0300
Fax: (02) 6628 8659

Hunter Region
22 Lambton Road
Broadmeadow NSW 2292
Ph: (02) 4961 0988
Fax: (02) 4961 0955

Mid North Coast Region
121 High Street
Coffs Harbour NSW 2450
Ph: (02) 6651 5732
Fax: (02) 6652 1530

North West Region
Shop 2
218 Peel Street
Tamworth NSW 2340
Ph: (02) 6766 1164
Fax: (02) 6766 7053

Northern Sydney and Central Coast Region
The Hive, Erina Fair
622-650 Terrigal Drive
Erina NSW 2250
Ph: (02) 4367 5895
Fax: (02) 8302 3500

South West Region
1/37 Tompison Street
Wagga Wagga NSW 2650
Ph: (02) 6937 2600
Fax: (02) 6921 3680

Southern Region
1 Lowden Square
Wollongong NSW 2500
Ph: (02) 4225 3660
Fax: (02) 4225 1700

Western Region
84 Byng Street
Orange NSW 2800
Ph: (02) 6361 1333
Fax: (02) 6361 1863

Western Sydney Region
43 Hunter Street
Parramatta NSW 2150
Ph: (02) 9687 1399
Fax: (02) 9687 1118
Cancer Council Helpline 13 11 20

For support and information on cancer and cancer-related issues, call the Cancer Council Helpline. This is a free and confidential service.

For further information and details please visit our website:

www.cancercouncil.com.au