Understanding Hodgkin Lymphoma

A guide for people with cancer, their families and friends

For information & support, call 131120
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Understanding Hodgkin Lymphoma is reviewed approximately every two years. Check the publication date above to ensure this copy is up to date.


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We would also like to thank the health professionals and consumers who have worked on previous editions of this title.

Note to reader
Always consult your doctor about matters that affect your health. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for medical, legal or financial advice. You should obtain independent advice relevant to your specific situation from appropriate professionals and you may wish to discuss issues raised in this book with them.

All care is taken to ensure that the information in this booklet is accurate at the time of publication. Please note that information on cancer, including the diagnosis, treatment and prevention of cancer, is constantly being updated and revised by medical professionals and the research community. Cancer Council NSW excludes all liability for any injury, loss or damage incurred by use of or reliance on the information provided in this booklet.

Cancer Council NSW
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 beat cancer, visit cancercouncil.com.au or phone 1300 780 113.

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Introduction

This booklet has been prepared to help you understand more about Hodgkin lymphoma.

Many people feel shocked and upset when told they have Hodgkin lymphoma. We hope this booklet will help you, your family and friends understand how Hodgkin lymphoma is diagnosed and treated. We also include information about support services.

We cannot give advice 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 other questions to ask your treatment team.

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

How this booklet was developed
This information was developed with help from a range of health professionals and people affected by Hodgkin lymphoma. It is based on clinical practice guidelines for Hodgkin lymphoma.¹

If you or your family have any questions, call Cancer Council 13 11 20. We can send you more information and connect you with support services in your area. Turn to the last page of this book for more details.
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What is cancer?

Cancer is a disease of the cells, which are the body’s basic building blocks. The body constantly makes new cells to help us grow, replace worn-out tissue and heal injuries. Normally, cells multiply and die in an orderly way.

Sometimes cells don’t grow, divide and die in the usual way. This may cause blood or lymph fluid in the body to become abnormal, or form a lump called a tumour. A tumour can be benign or malignant.

**Benign tumour** – Cells are confined to one area and are not able to spread to other parts of the body. This is not cancer.

**Malignant tumour** – This is made up of cancerous cells, which have the ability to spread by travelling through the bloodstream or lymphatic system (lymph fluid).

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**How cancer starts**

1. **Normal cells**
2. **Abnormal cells**
3. **Abnormal cells multiply**
4. **Malignant or invasive cancer**

- **Normal cells**: Normal cells are confined to one area and do not multiply or die in an abnormal way.
- **Abnormal cells**: Abnormal cells multiply and die in an unordered way, forming a tumour.
- **Abnormal cells multiply**: The tumour grows and invades surrounding tissue.
- **Malignant or invasive cancer**: The tumour spreads beyond the normal tissue through the bloodstream or lymphatic system.
The cancer that first develops in a tissue or organ is called the primary cancer. A malignant tumour is usually named after the organ or type of cell affected.

A malignant tumour that has not spread to other parts of the body is called localised cancer. A tumour may invade deeper into surrounding tissue and can grow its own blood vessels (angiogenesis).

If cancerous cells grow and form another tumour at a new site, it is called a secondary cancer or metastasis. A metastasis keeps the name of the original cancer. For example, Hodgkin lymphoma that has spread to the lung is called metastatic Hodgkin lymphoma, even though the person may be experiencing symptoms caused by problems in the lung.

**How cancer spreads**

- Primary cancer
- Local invasion
- Angiogenesis – tumours grow their own blood vessels
- Lymph vessel
- Metastasis – cells invade other parts of the body via blood vessels and lymph vessels
Hodgkin lymphoma is a cancer of the lymphatic system. The lymphatic system is part of the immune system, which protects the body against disease and infection.

The lymphatic system includes a large network of thin tubes (lymph vessels) that are found throughout the body and in a number of organs, such as the spleen, liver, thymus gland and bone marrow (see opposite).

Lymph vessels carry a clear fluid called lymph. This fluid travels to and from the tissues before being emptied into the bloodstream. Lymph contains white blood cells called lymphocytes, which help fight infection.

Along the lymph vessels is a network of small, bean-shaped structures called lymph nodes or glands. Lymph nodes are found throughout the body, including the neck, underarms, chest, abdomen and groin.

The lymphocytes in the lymph nodes clean the lymph fluid as it passes through the body by removing and destroying bacteria, viruses and other harmful substances.

When germs become trapped in the lymph nodes, they become swollen, which is a sign that your body is fighting an infection. For example, the glands in your neck may swell when you have a sore throat. The swelling happens because the lymphocytes in the lymph nodes multiply to fight off the virus or bacteria that is causing the infection.
Anatomy of the lymphatic system

- Thymus gland
- Liver
- Tonsils
- Lymph vessels
- Diaphragm
- Spleen

○ Lymph nodes
Other parts of the lymphatic system include:

- **Spleen** – The spleen is found on the left side of the abdomen, under the ribs. It stores lymphocytes, filters waste products from the blood, and destroys old blood cells, abnormal cells and bacteria.

- **Thymus gland** – This is found inside the rib cage, behind the breastbone. The thymus gland helps produce white blood cells.

- **Tonsils** – The tonsils are a collection of lymphatic tissue at the back of the throat that traps inhaled or ingested germs.

- **Bone marrow** – This is the soft, spongy material inside bones. Bone marrow produces three types of blood cells: oxygen-carrying red blood cells; infection-fighting white blood cells, including lymphocytes; and platelets, which help the blood to clot.

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**Different types of lymphoma**

There are two main types of lymphoma: Hodgkin lymphoma and non-Hodgkin lymphoma. Non-Hodgkin lymphoma is more common.

The difference between the lymphomas is how they look under a microscope. A type of cell called a Reed-Sternberg cell is usually seen in Hodgkin lymphoma, but it is not found in non-Hodgkin lymphoma.

**Q: What is Hodgkin lymphoma?**

**A:** Hodgkin lymphoma is a type of lymphoma, which is a general term for cancer of the lymphatic system. It is sometimes called Hodgkin disease. The name Hodgkin comes from the doctor who first described this cancer.

Hodgkin lymphoma develops when lymphocytes become damaged. The lymphocytes grow and multiply uncontrollably, causing enlarged lymph nodes and painless lumps called tumours. As the damaged lymphocytes replace normal lymphocytes, the body’s immune system becomes less able to resist and fight infections.

Hodgkin lymphoma may affect a single lymph node, a group of lymph nodes, or an organ such as the liver, lung, spleen or bone marrow. Sometimes Hodgkin lymphoma can appear in several parts of the body at the same time.

**Q: What types are there?**

**A:** There are two different types of Hodgkin lymphoma: classical Hodgkin lymphoma and nodular lymphocyte-predominant Hodgkin lymphoma (see page 10). These two types differ in how they look under the microscope and how they grow and spread.

About 95% of all cases of Hodgkin lymphoma are classical Hodgkin lymphoma. The cells of this type of Hodgkin lymphoma are called Reed-Sternberg cells.
There are four subtypes of classical Hodgkin lymphoma. Each one has a unique appearance under a microscope. They grow differently and involve different sites of the body.

- **Nodular sclerosing** – the most common subtype of classical Hodgkin lymphoma. It affects 60–80% of people with Hodgkin lymphoma. This subtype affects more women than men.
- **Mixed cellularity** – affects 25–30% of people.
- **Lymphocyte-rich** – affects 5% of people.
- **Lymphocyte-depleted** – affects fewer than 5% of people.

### Nodular lymphocyte-predominant Hodgkin lymphoma

The cells of nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL) are called ‘popcorn cells’ because of the way they look under a microscope.

NLPHL occurs in fewer than 5% of people with Hodgkin lymphoma. It mostly affects men in their 30s and 40s.

The main symptom of NLPHL is enlarged lymph nodes in the neck, chest or armpit. It is usually diagnosed via biopsy.

Sometimes, an operation to remove the lymph nodes is the only treatment for NLPHL. This is followed by ‘watch and wait’, which involves regular check-ups to make sure the cancer hasn’t returned.

Other treatments for NLPHL include radiotherapy and chemotherapy.
Q: What are the symptoms?
A: The most common symptom of Hodgkin lymphoma is a painless swelling in the neck, under the arm or in the groin. These swellings are enlarged lymph nodes.

Other symptoms may include:
- unexplained fever
- sweating, particularly at night
- weight loss
- persistent tiredness
- rash or itching
- unexplained cough
- shortness of breath.

These symptoms are common to many conditions, such as the flu or a virus. Most people with these symptoms do not have Hodgkin lymphoma. However, if you have these symptoms and there is no obvious cause, such as an infection, see your doctor.

Q: What are the risk factors?
A: The causes of Hodgkin lymphoma are largely unknown. Researchers think a combination of factors relating to a person’s genes and from their environment may cause Hodgkin lymphoma. Risk factors include:

Epstein-Barr virus and HIV – People who have a history of Epstein-Barr virus infection (also called glandular fever
or infectious mononucleosis) or HIV infection have a higher chance of developing classical Hodgkin lymphoma. However, this accounts for few people who have Hodgkin lymphoma.

**Family history** – Having a parent, brother or sister who has had Hodgkin lymphoma slightly increases a person’s risk of developing it. However, this family link is uncommon, as most people with Hodgkin lymphoma do not have a family history.

**Lifestyle factors** – Being overweight or obese increases a person’s risk of developing Hodgkin lymphoma. Smoking is also a risk factor.

Many people with known risk factors don’t develop Hodgkin lymphoma, and some people who do get it have no known risk factors. Hodgkin lymphoma is not contagious.

**Q: How common is it?**

**A:** Hodgkin lymphoma is a rare form of cancer – it makes up only about 0.5% of all cancers diagnosed in Australia.²

About 12% of all lymphomas diagnosed are types of Hodgkin lymphoma.³ The rest are non-Hodgkin lymphomas.

Each year in NSW, about 180 people are diagnosed with Hodgkin lymphoma.⁴ It most commonly develops in younger people aged 14–29 and older people aged over 50, but it can occur at any age. It is more common in men than women.
If your general practitioner (GP) suspects that you have Hodgkin lymphoma, you will have a physical examination. Your doctor will feel the lymph nodes in your neck, underarms and groin for signs of swelling and feel your abdomen to check for swollen organs.

You will also have a blood test to check how well your bone marrow, kidneys and liver are functioning. You may then be referred to hospital to have a biopsy and other tests.

**Biopsy**
Removing some cells and tissue from the enlarged lymph node and examining them under a microscope is the most common way to diagnose Hodgkin lymphoma. This is called a biopsy and it is done in different ways (see table below).

<table>
<thead>
<tr>
<th>Excision biopsy</th>
<th>Core needle biopsy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• The whole lymph node or part of it is removed while you are under a general anaesthetic.</td>
<td>• A needle is inserted into the lymph node to remove some cells and a small piece of tissue.</td>
</tr>
<tr>
<td>• You may be in hospital for a few days.</td>
<td>• The biopsy can be done under a local anaesthetic as an outpatient.</td>
</tr>
<tr>
<td>• This is the most common type of biopsy used to test for Hodgkin lymphoma.</td>
<td>• This type of biopsy is done in only some cases of Hodgkin lymphoma.</td>
</tr>
</tbody>
</table>
With both excision biopsy and core needle biopsy, the sample is sent to the laboratory for examination under a microscope by a specialist doctor called a pathologist. The results will probably be ready in a week. This waiting period can be an anxious time and it may help to talk to a supportive friend, relative or health professional about how you are feeling.

“...My diagnosis was made after the biopsy. I felt relieved to finally have a label for my illness.”

Dee

Further tests
If the biopsy shows you have Hodgkin lymphoma, a number of other tests will be done. You may have one of these tests or a combination of several tests.

The following tests will show if the Hodgkin lymphoma has spread to other parts of your body. The test results will also help the doctor to determine how much cancer is in your body. This is called staging (see page 18).

Chest x-ray
An x-ray of the chest may be taken to check whether the Hodgkin lymphoma has spread to the lymph nodes in your chest or to your lungs.

CT scan
A CT (computerised tomography) scan is a procedure that uses x-ray beams to take a series of three-dimensional pictures of the
inside of your body. To diagnose Hodgkin lymphoma, you will have a CT scan of your neck, chest and abdomen.

You may have a special dye injected into a vein before the scan. This dye helps make the pictures clearer. It may make you feel hot all over and leave a strange taste in your mouth for a few minutes.

The CT scanner is large and round like a doughnut. You will lie on a table that moves in and out of the scanner. The scan is painless and takes 30–60 minutes. Most people are able to go home as soon as the scan is over.

The dye used in a CT scan usually contains iodine. If you know you’re allergic to iodine or dyes, let the person performing the scan know in advance. You should also tell the doctor if you’re diabetic, have kidney disease or are pregnant.

**Blood tests**

Once you have been diagnosed with Hodgkin lymphoma, you will have regular blood tests to check your total number of red blood cells, white blood cells and platelets. Each type of blood cell performs a different function, such as carrying oxygen around your body (red blood cells), fighting infection (white blood cells), and helping your blood to clot (platelets).

If your blood count is low, it may mean that the Hodgkin lymphoma has spread to your bone marrow.
Blood is also taken to see how well your kidneys and liver are working. These organs sometimes do not work properly if Hodgkin lymphoma is present. Further blood tests may be done to help determine if the Hodgkin lymphoma is affecting your other organs.

**PET scan**
During a PET (positron emission tomography) scan, you will be injected with a glucose (sugar) solution containing a small amount of radioactive material. Cancer cells show up brighter on the scan because they take up more glucose solution than the normal cells do.

You will be asked to sit for 30–90 minutes while the glucose moves around your body, then you will be scanned. Let your doctor know if you are claustrophobic, as the scanner is a confined space.

**Bone marrow aspiration and biopsy**
Bone marrow aspiration is a procedure performed to take a liquid (aspirate) sample of bone marrow to check whether it contains cancer cells. You will lie still while a local anaesthetic is injected into your pelvis (hip). A needle is inserted into your hipbone to remove a small sample of the liquid.

Sometimes a small sample of bone marrow tissue is taken at the same time with a different needle. This is known as a bone marrow biopsy or bone marrow trephine.

You may feel some pressure or discomfort during the biopsy, and this can last several days. Ask a member of your health care team about pain-relieving medication if you feel uncomfortable.
**Ultrasound**

An ultrasound uses soundwaves to create a picture of the internal organs. This test is most commonly used to help find swollen lymph nodes or other lumps in the body, and to guide the needle during a core needle biopsy (see page 13).

A gel is spread over the skin and a small device called a transducer is passed over the area. The transducer creates soundwaves. When soundwaves meet something dense, such as an organ or tumour, they produce echoes. A computer turns the echoes into a picture on a computer screen. This painless test takes only a few minutes.

**MRI scan**

The MRI (magnetic resonance imaging) scan uses a combination of magnetism and radio waves to create detailed pictures of areas inside the body. MRI scans are not commonly used for people with Hodgkin lymphoma.

As with a CT scan, a special dye may be injected into a vein before the scan to help make the pictures clearer. During the scan, you will lie on a table that slides into a metal cylinder. The machine makes a series of bangs and clicks and can be quite noisy. The test is painless, but some people feel anxious lying in the cylinder. If you feel uncomfortable in confined spaces (claustrophobic), let your doctor or nurse know, as they may be able to give you headphones to make you feel more relaxed.

The scan is painless and is usually complete in about one hour. You will be able to go home when the scan is finished.
Stages of Hodgkin lymphoma

Staging helps your doctors to decide on the appropriate treatment for you. Different stages describe how far Hodgkin lymphoma has spread (see table below).

<table>
<thead>
<tr>
<th>Staging</th>
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<tbody>
<tr>
<td><strong>Stage I</strong></td>
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<tr>
<td><strong>Stage II</strong></td>
</tr>
<tr>
<td><strong>Stage III</strong></td>
</tr>
<tr>
<td><strong>Stage IV</strong></td>
</tr>
</tbody>
</table>

As well as a number, each stage is also assigned a letter according to whether you are experiencing specific symptoms. ‘A’ means you have none of the usual symptoms of Hodgkin lymphoma, such as night sweats and fever; and ‘B’ means you have symptoms such as fever, night sweats or unexplained weight loss. Your doctor can explain your stage to you.

Prognosis

Prognosis means the expected outcome of a disease. You will need to discuss your prognosis and treatment options with
your haematologist (or medical oncologist if they are your main treating specialist), but it is not possible for any doctor to predict the exact course of the disease.

Test results, the type of Hodgkin lymphoma you have and its stage, the rate of cancer growth, how well you respond to treatment, and other factors such as your age, fitness and medical history are all important factors in assessing your prognosis.

Most people who are treated for Hodgkin lymphoma go into remission. Remission occurs when symptoms of Hodgkin lymphoma decrease or disappear. During remission, you will need regular check-ups to ensure that you are still healthy and the cancer hasn’t returned.

Hodgkin lymphoma may come back (relapse) in some cases. See page 39 for more information about treatment for relapse.

Which health professionals will I see?
Your GP will arrange the first tests to assess your symptoms. If these tests do not rule out cancer, you will usually be referred to a haematologist (or medical oncologist), who will arrange further tests and advise you about your treatment options.

You will probably be cared for by a range of health professionals, called a multidisciplinary team (MDT), who will be responsible for different aspects of your treatment. Turn the page for a list of people who make up this MDT.
<table>
<thead>
<tr>
<th>Health professional</th>
<th>Role</th>
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</thead>
<tbody>
<tr>
<td>haematologist</td>
<td>specialises in diagnosing and treating diseases of the blood, the lymphatic system and bone marrow</td>
</tr>
<tr>
<td>medical oncologist</td>
<td>coordinates the course of chemotherapy; in some cases, may be the main treating specialist instead of a haematologist</td>
</tr>
<tr>
<td>surgeon</td>
<td>diagnoses Hodgkin lymphoma by removing an enlarged lymph node or abnormal tissue during a biopsy</td>
</tr>
<tr>
<td>cancer care coordinator or clinical nurse consultant</td>
<td>supports patients and families throughout treatment and liaises with other members of the health care team</td>
</tr>
<tr>
<td>radiation oncologist</td>
<td>prescribes and coordinates the course of radiotherapy</td>
</tr>
<tr>
<td>nurses</td>
<td>help administer drugs, including chemotherapy; and provide care, information and support throughout all stages of cancer treatment</td>
</tr>
<tr>
<td>dietitian</td>
<td>recommends an eating plan to follow during treatment and recovery</td>
</tr>
<tr>
<td>social worker, psychologist</td>
<td>provide emotional support</td>
</tr>
<tr>
<td>physiotherapist, occupational therapist</td>
<td>help with physical or practical issues</td>
</tr>
</tbody>
</table>
Key points

• If your GP suspects that you have Hodgkin lymphoma, you will have a physical examination to check the lymph nodes in your neck, underarms and groin for swelling. The GP will also feel your abdomen to check for swollen organs.

• A blood test will check how well your bone marrow, kidneys and liver are functioning. Once the diagnosis is confirmed, you will have regular blood tests to check your total number of red and white blood cells and platelets.

• A biopsy of the swollen lymph node is the most common way to diagnose Hodgkin lymphoma. All or part of the lymph node will be removed, and the cells will be examined under a microscope. The biopsy is done as either an excision biopsy or a core needle biopsy. Excision biopsy is the most common type of biopsy used to diagnose Hodgkin lymphoma.

• After the diagnosis is confirmed, you will have further tests to work out how far the Hodgkin lymphoma has spread. This is called staging. These tests include a chest x-ray; CT, PET or MRI scan; bone marrow aspiration and biopsy; and ultrasound.

• Your doctor may talk to you about your prognosis. This means the expected outcome of a disease. Most people with Hodgkin lymphoma go into remission after initial treatment.

• Your treatment team will be made up of a range of health professionals. They include your GP, a haematologist or medical oncologist, surgeon, nurses, dietitian and social worker.
Making treatment decisions

Sometimes it is difficult to decide on the type of treatment to have. You may feel that everything is happening too fast. Check with your doctor how soon your treatment should start, and take as much time as you can before making a decision.

Understanding the disease, the available treatments and possible side effects can help you weigh up the pros and cons of different treatments and make a well-informed decision that’s based on your personal values. You may also want to discuss the options with your doctor, friends and family.

You have the right to accept or refuse any treatment offered. Some people with more advanced cancer choose treatment even if it offers only a small benefit for a short period of time. Others want to make sure the benefits outweigh the side effects so they have the best possible quality of life.

Talking with doctors

When your doctor first tells you that you have cancer, you may not remember the details about what you are told. Taking notes or recording the discussion may 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.

If you are confused or want clarification, you can ask questions – see page 44 for a list of suggested questions. If you have several questions, you may want to talk to a nurse or ask the office manager if it is possible to book a longer appointment.
A second opinion

You may want to get a second opinion from another specialist to confirm or clarify your doctor’s recommendations or reassure you that you have explored all of your options. Specialists are used to people doing this.

Your doctor can refer you to another specialist and send your initial results to that person. You can get a second opinion even if you have started treatment or still want to be treated by your first doctor. You might decide you would prefer to be treated by the doctor who provided the second opinion.

Taking part in a clinical trial

Your doctor or nurse may suggest you take part in a clinical trial. Doctors run clinical trials to test new or modified treatments and ways of diagnosing disease to see if they are better than current methods. For example, if you join a randomised trial for a new treatment, you will be chosen at random to receive either the best existing treatment or the modified new treatment.

Over the years, trials have improved treatments and led to better outcomes for people diagnosed with cancer.

It may be helpful to talk to your specialist or clinical trials nurse, or get a second opinion. If you decide to take part, you can withdraw at any time. To find out more, call 13 11 20 and ask for a free copy of Understanding Clinical Trials and Research, or visit australiancancertrials.gov.au.
The most important factor in planning treatment for Hodgkin lymphoma is the stage of the disease. Your treatment will also depend on your age, symptoms and general health.

Chemotherapy and radiotherapy are the main treatments for Hodgkin lymphoma. These are often combined to improve treatment outcomes. People with more advanced Hodgkin lymphoma, or Hodgkin lymphoma that has come back after initial treatment, may have a stem cell transplant (see pages 31–34).

**Chemotherapy**

Chemotherapy is the use of drugs to kill or slow the growth of cancer cells. It is used to treat most cases of Hodgkin lymphoma.

Chemotherapy is usually given by inserting a needle into a vein (intravenously). Less commonly, chemotherapy is given as tablets or capsules.

The chemotherapy drugs you receive depend on the stage of the cancer and your general health. For Hodgkin lymphoma, a combination of several drugs is usually given over a few days, followed by a rest period of a few weeks. Your treatments will be spread over 3–6 months.

During treatment, you will have regular blood tests. If your white cell count is low, you may be given a medication known as granulocyte-colony stimulating factor (G-CSF), which can help to increase your white cell count and help protect you from infection.
Otherwise, you may need to have your chemotherapy delayed until your white cell count has improved.

**Side effects**

Chemotherapy drugs affect both cancer cells and healthy cells in your body. This causes side effects. Some people will have no side effects, while others will experience a range. Most side effects are temporary and can be managed.

Before treatment, your health care team will discuss with you the potential side effects and how to manage them. Your doctor may give you medication to relieve any symptoms you have.

Some side effects can impact on your appearance and self-esteem. For example, infertility can make people feel a sense of loss. If you have a partner, talking can help. Discussing your situation with a counsellor can also be beneficial. For more information on sexuality, intimacy and fertility, see page 37.

Turn the page for a list of some of the side effects experienced by people who have chemotherapy for Hodgkin lymphoma.

To learn more about chemotherapy and for further information about other side effects you may experience, call Cancer Council 13 11 20 for free copies of *Understanding Chemotherapy, Nutrition and Cancer* and *Fertility and Cancer*, or download them from Cancer Council’s website at cancercouncil.com.au.
## Side effects of chemotherapy

<table>
<thead>
<tr>
<th>Side effects</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nausea and vomiting</strong></td>
<td>- Nausea (feeling sick) and vomiting are common.</td>
</tr>
<tr>
<td></td>
<td>- Anti-nausea medications can prevent or reduce these side effects.</td>
</tr>
<tr>
<td><strong>Increased risk of infections</strong></td>
<td>- If white blood cell numbers drop during treatment, you may be more likely to catch colds and flu.</td>
</tr>
<tr>
<td></td>
<td>- See page 28 for ways to reduce your risk of infection.</td>
</tr>
<tr>
<td><strong>Heavy bleeding from minor cuts, or bruising easily</strong></td>
<td>- A drop in your platelet count can cause heavy bleeding from small cuts and cause you to bruise more easily.</td>
</tr>
<tr>
<td></td>
<td>- A blood transfusion will increase your platelet count.</td>
</tr>
<tr>
<td><strong>Fatigue</strong></td>
<td>- Fatigue may make you feel drowsy, exhausted or confused.</td>
</tr>
<tr>
<td></td>
<td>- These feelings can last for several weeks or months after having chemotherapy.</td>
</tr>
<tr>
<td></td>
<td>- Check with your doctor whether your fatigue is related to a low red blood cell count (anaemia). This can be treated by blood transfusions.</td>
</tr>
</tbody>
</table>
### Hair thinning/hair loss
- Your hair will grow back after treatment, but it may look or feel different.
- Talk to your treatment team about options for wigs and other head coverings.

### Dental problems
- Use a soft toothbrush to help prevent bleeding gums.
- See your dentist for regular check-ups. Tell them you’re having chemotherapy.
- Check with your treatment team before having major dental work.

### Menopause
- Menopause is when periods stop completely, causing infertility (see below).
- Menopause can increase the risk of osteoporosis, which is when bones become weaker and break more easily.

### Infertility
- Most people who are treated for Hodgkin lymphoma do not become infertile.
- In men, chemotherapy may lower the number of sperm produced, and reduce their ability to fertilise a woman’s egg. This can cause infertility, which may be temporary or permanent.
- Talk to your doctor before treatment starts about your risk of becoming infertile.
Taking care with infections

When you are having chemotherapy, colds and flu may be easier to catch and harder to shake off, and scratches and cuts may get infected more easily. This is because chemotherapy reduces your white blood cell count, making it harder to fight infections.

You may want to ask people close to you to have a flu shot, if they are able and willing to do so. You should also ask family or friends with a cold or the flu to wait until they are well before visiting.

Of course, this is not practical for people you live with, so use common sense and try to avoid close contact if they are unwell.

Contact your doctor or go to the nearest hospital emergency department immediately if you experience one or more of the following symptoms:

- a fever of 38 °C or higher
- chills or shivering
- sweating, especially at night
- burning or stinging when urinating
- a severe cough or sore throat
- vomiting that lasts more than a few hours
- unusual bruising or bleeding, such as nosebleeds, blood in your urine or black bowel motions
- severe abdominal pain, constipation or diarrhoea
- tenderness, redness or swelling around the site of the intravenous chemotherapy device
- prolonged faintness and a rapid heartbeat.
Radiotherapy
Radiotherapy uses high-energy gamma rays or x-rays to kill or damage cancer cells. Your treatment will be carefully planned to do as little harm as possible to your healthy cells.

The treatment is usually given as multiple small doses over several days or weeks to maximise the effect of the radiotherapy and reduce side effects. The length of treatment will depend on the size and stage of the Hodgkin lymphoma and your general health.

During treatment, you will lie under a large machine that directs radiation at the area affected by cancer. Each treatment session takes only a few minutes, but it can take longer to set up the equipment. Your first radiotherapy appointment will take 1–3 hours, as you will see the radiation oncologist, have extra tests and have your treatment carefully planned.

Side effects
The most common side effects of radiotherapy are tiredness and lethargy. Other side effects will depend on the part of the body being treated: radiotherapy to the abdomen may cause an upset stomach and diarrhoea; and radiotherapy to the neck can make your mouth and throat sore and dry, cause difficulty swallowing and affect your sense of taste. Treatment can also lead to skin changes such as red, dry and itchy skin at the treatment area.

For suggestions on managing these and other side effects, call 13 11 20 and ask for a free copy of Understanding Radiotherapy, or download a copy from cancercouncil.com.au.
Kim’s story

A few months before my wedding in 2005, I saw my GP as I’d been feeling tired and had lost weight, but I was mostly worried about a lump in my neck. The doctor didn’t have time to check it out properly and wasn’t too worried, so I didn’t think anything else of it.

Six months after my wedding, I noticed that the lump in my neck seemed to be getting bigger. My new GP referred me for an ultrasound and blood tests. I then saw a specialist, who did a core needle biopsy on the spot. A few days later he called me and said, “Well, I think it’s Hodgkin lymphoma.” We’d discussed that possibility, so it wasn’t a huge shock to me.

After an excision biopsy confirmed the diagnosis, I had chemotherapy one day a fortnight for six months. The main side effect I had was nausea, but medication helped. I had at least a week between treatments where I felt fine. I even managed to finish all my uni assignments.

When my treatment ended, scans showed I was in remission, but I relapsed a year later. I’ve relapsed a few times and had chemotherapy, radiotherapy and an autologous stem cell transplant. After a bone marrow transplant with my brother as the donor, I went into remission. I’ve now been in remission for six years.

Once I went into remission, I had a PET scan every year for five years. Now I visit my haematologist every year for blood tests and a general check-up.

It’s taken me a number of years to get my stamina back to where I can work more hours and feel like I’m not constantly lacking energy. That’s something I’ll have to deal with for a while, but at least I’m healthy now.
Late effects of treatment
Some side effects from treatment may not show up until many years later. These are called late effects. Your doctor will talk to you about these before your treatment starts.

Chemotherapy – Some chemotherapy drugs may increase the chance of developing a second cancer later in life. Chemotherapy can also increase your risk of heart disease.

Radiotherapy – In some cases, radiotherapy can increase the risk of developing cancer near the area where radiotherapy was given. Radiotherapy to the neck area increases the risk of having a stroke, while radiotherapy to the chest can lead to heart disease.

Ongoing research continues to find ways to improve treatments and reduce the late effects of treatment while maintaining the high remission rate of Hodgkin lymphoma.

Stem cell transplant
Stem cells are primitive (immature) cells from which all blood cells develop. When you have chemotherapy and/or radiotherapy, the healthy stem cells in the bone marrow are destroyed along with the cells that contain cancer. These stem cells need to be replaced to help rebuild your immune system. The process of replacing the stem cells is called a stem cell transplant.

There are two main types of stem cell transplants, which are described on pages 32–33.
**Autologous transplant** – You will have this type of treatment if Hodgkin lymphoma comes back (relapses) or doesn’t respond completely to initial treatment.

An autologous transplant is when your own stem cells (or bone marrow – see box opposite) are removed from your body and later transplanted (reinfused) back into your body.

Before your stem cells are collected, you will be given a drug called a granulocyte-colony stimulating factor (G-CSF) to help the stem cells multiply and be released from the bone marrow into the blood. You will receive an injection of G-CSF every day for a few days. Some people have chemotherapy at this stage as well as the injections.

You will have regular blood tests to check when there are enough stems cells in your blood. Once there are enough cells, they are collected from your body using a cell separator device (apheresis machine), which spins the blood and separates it into its different layers. The stem cells are collected from the white blood cell layer.

You will be connected to the apheresis machine for 3–4 hours and the blood will be removed and returned to your body in a continuous process. Only a small amount of your blood will be out of your body at any one time.

The stem cells are then frozen and stored until you’ve had high-dose chemotherapy. After chemotherapy, the stem cells will be defrosted in warm water and put back into your body (reinfused) using a drip. This process is similar to having a blood transfusion.
Allogeneic transplant – This type of transplant is less common, as most people with Hodgkin lymphoma respond to treatment with either chemotherapy, radiotherapy or an autologous transplant.

In an allogeneic transplant, the stem cells are collected from another person (a donor). The donor may be a family member or someone from a donor registry.

Once the stem cells have been collected from the donor, they will be infused into your body after high-dose chemotherapy and, sometimes, radiotherapy.

Bone marrow transplant

Sometimes the stem cells are taken directly from the bone marrow, either from you or a donor. Under a general anaesthetic, the bone marrow is collected using a needle and syringe. It is processed to remove the fat cells, and the stem cells that are left over are stored and frozen until you need a transplant.

Recovery and side effects

After the stem cell transplant, you will be in hospital for about 1–4 weeks, depending on the type of transplant you have, whether it is done as an outpatient or inpatient procedure, whether you have any other health problems, and the side effects that you experience. You will be able to leave hospital once your blood counts have returned to safe levels.
Your blood counts and general health will be monitored regularly by your doctor after the transplant. You may need occasional blood and platelet transfusions for a short period after the transplant.

Many transplant side effects are similar to the side effects of chemotherapy, but can be more severe. They include:

- nausea and vomiting
- hair loss
- infection
- bruising and bleeding
- fatigue.

Your doctor and nurses will help you manage any side effects you experience after a stem cell transplant.

**Palliative treatment**

Palliative treatment helps to improve quality of life by alleviating symptoms of cancer without trying to cure the disease. It is particularly important for people with advanced cancer, but it can also help with pain and symptom management at any stage of cancer.

Often palliative treatment is concerned with pain relief and stopping the spread of cancer, but it also involves the management of other physical and emotional problems. Treatment may include radiotherapy, chemotherapy or other medication.

Call Cancer Council 13 11 20 for more information on palliative treatment, or visit cancercouncil.com.au.
Key points

- The main factor that your treatment will be based on is the stage of the Hodgkin lymphoma. Other factors include your age, symptoms and general health.

- The main treatments for Hodgkin lymphoma are chemotherapy and radiotherapy.

- Chemotherapy is the use of drugs to kill or slow the growth of cancer cells. Most people with Hodgkin lymphoma will receive chemotherapy. Side effects of chemotherapy include nausea, fatigue, increased risk of infections and hair loss.

- Radiotherapy uses x-rays to kill or injure cancer cells so they cannot multiply. Side effects depend on the area of your body that is treated. For example, radiotherapy to the neck can make your mouth and throat sore and dry.

- Some people have late side effects of chemotherapy or radiotherapy. These side effects include an increased risk of heart disease. Your treatment team will discuss these late effects with you.

- A stem cell transplant may be an option if the Hodgkin lymphoma returns or does not respond to other treatments. An autologous stem cell transplant is when your own stem cells are used; an allogeneic transplant is when stem cells are collected from another person (donor).

- Stem cell transplants can cause several side effects. These depend on the type of transplant you have. Your doctor will discuss the side effects you may experience.

- Palliative treatment may be given to relieve the symptoms of Hodgkin lymphoma without trying to cure it.
Looking after yourself

Cancer can cause physical and emotional strain. It’s important to try to look after your wellbeing as much as possible.

**Nutrition** – Eating healthy food can help you cope with treatment and side effects. A dietitian can help you manage special dietary needs or eating problems, and choose the best foods for your situation. Call Cancer Council 13 11 20 for a free copy of the *Nutrition and Cancer* booklet.

**Staying active** – Physical activity may help to reduce tiredness, improve circulation and elevate mood. The amount and type of exercise you do depends on what you are used to, how you feel, and your doctor’s advice. Cancer Council’s *Exercise for People Living with Cancer* booklet provides more information about the benefits of exercise, and outlines simple exercises that you may want to try.

**Complementary therapies** – These therapies are used with conventional medical treatments. You may have therapies such as massage, relaxation and acupuncture to increase your sense of control, decrease stress and anxiety, and improve your mood. Let your doctor know about any therapies you are using or thinking about trying, as some may not be safe or evidence-based.

Alternative therapies are used instead of conventional medical treatments. These therapies, such as coffee enemas and magnet therapy, can be harmful. For more information, call 13 11 20 for a free copy of the *Understanding Complementary Therapies* booklet or visit cancercouncil.com.au.
Relationships with others
Having cancer can affect your relationships with family, friends and colleagues. This may be because cancer is stressful, tiring and upsetting, or as a result of more positive changes to your values, priorities, or outlook on life.

Give yourself time to adjust to what’s happening, and do the same for others. People may deal with the cancer in different ways, for example, by being overly positive, playing down fears, or keeping a distance. It may be helpful to discuss your feelings with each other.

Sexuality, intimacy and fertility
Cancer can affect your sexuality in physical and emotional ways. The impact of these changes depends on many factors, such as treatment and side effects, your self-confidence, and if you have a partner. Although sexual intercourse may not always be possible, closeness and sharing can still be part of your relationship.

If you are able to have sex, you may be advised to use certain types of contraception to protect your partner or avoid pregnancy for a certain period of time. Your doctor will talk to you about the precautions to take. They will also tell you if treatment will affect your fertility permanently or temporarily. If having children is important to you, talk to your doctor before starting treatment.

Call 13 11 20 for free copies of Sexuality, Intimacy and Cancer, Emotions and Cancer and Fertility and Cancer, or download the booklets from cancercouncil.com.au.
Life after treatment

For most people, the cancer experience doesn’t end on the last day of treatment. Life after cancer treatment can present its own challenges. You may have mixed feelings when treatment ends, and worry if every ache and pain means the cancer is coming back.

Some people say they feel pressure to return to ‘normal life’, but they don’t want life to return to how it was before cancer. Take some time to adjust to the physical and emotional changes, and re-establish a new daily routine at your own pace.

Cancer Council 13 11 20 can help you connect with other people who have had cancer, and provide you with information about the emotional and practical aspects of living well after cancer.

Dealing with feelings of sadness

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, you may be experiencing depression. This is quite common among people who have had cancer.

Talk to your GP, as counselling or medication – even for a short time – may help. Some people are able to get a Medicare rebate for sessions with a psychologist. Ask your doctor if you are eligible.

The organisation beyondblue has information about coping with depression and anxiety. Go to beyondblue.org.au or call 1300 22 4636 to order a fact sheet.
After treatment: follow-up

After your treatment, you will need regular check-ups to confirm that the cancer hasn’t come back. Your doctor may want to see you twice a year for the first year. This will gradually decrease to once a year after a few years. Your doctor will talk to you about the best follow-up schedule for you.

During these regular check-ups, you will have a physical examination, blood tests and, possibly, chest x-rays and scans. If these examinations and tests show that there are no further problems, your appointments will become less frequent. Tell your doctor immediately if you have any health problems or notice new symptoms between check-ups.

What if Hodgkin lymphoma returns?

For some people, Hodgkin lymphoma does come back after treatment. This is known as a relapse or recurrence.

Hodgkin lymphoma that has relapsed can still be treated. Most people who relapse will go into remission again.

Further chemotherapy (and, sometimes, radiotherapy) will usually be given to people with relapsed Hodgkin lymphoma. In many cases, people with relapsed Hodgkin lymphoma receive a stem cell transplant to increase the chance of remission (see pages 31–34).
Seeking support

Cancer may cause you to experience a range of emotions, such as fear, sadness, anxiety, anger or frustration. It can also cause practical and financial problems.

Practical and financial help
There are many services that can help deal with practical or financial problems caused by the cancer. Benefits, pensions and programs can help pay for prescription medicines, transport costs or utility bills. Home care services, aids and appliances can also be arranged to help make life easier.

Ask the hospital social worker which services are available in your local area and if you are eligible to receive them.

If you need legal or financial advice, you should talk to a qualified professional about your situation. Cancer Council offers free legal and financial services in NSW for people who can’t afford to pay – call 13 11 20 to ask if you are eligible.

Talk to someone who’s been there
Coming into contact with other people who have had similar experiences to you can be beneficial. You may feel supported and relieved to know that others understand what you are going through and that you are not alone.

People often feel they can speak openly and share tips with others who have gone through a similar experience.
In a support group, you may find that you are comfortable talking about your diagnosis and treatment, relationships with friends and family, and hopes and fears for the future. Some people say they can be even more open and honest in these support settings because they aren’t trying to protect their loved ones.

**Types of support**
There are many ways to connect with others for mutual support and to share information. These include:
- **face-to-face support groups** – often held in community centres or hospitals
- **telephone support groups** – facilitated by trained counsellors
- **peer support programs** – match you with someone who has had a similar cancer experience, e.g. Cancer Connect
- **online forums** – such as cancerconnections.com.au.

Talk to your nurse, social worker or Cancer Council 13 11 20 about what is available in your area.

I found that my support group was a useful, safe place to express my emotions and experiences without having to censor myself to protect the feelings of other people.

Jan
You may be reading this booklet because you are caring for someone with cancer. Being a carer can be stressful and cause you much anxiety. Try to look after yourself – 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 and cancer education programs are open to carers, as well as people with cancer. Support groups and programs can offer valuable opportunities to share experiences and ways of coping.

Support services such as Home Help, Meals on Wheels or visiting nurses can help you in your caring role. There are also many groups and organisations that can provide you with information and support, such as Carers NSW. Phone 1800 242 636 or visit carersnsw.com.au for more information and resources.

You can also call Cancer Council 13 11 20 to find out more about carers’ services and to get a free copy of the *Caring for Someone with Cancer* booklet.
Useful websites

The internet has many useful resources, although not all websites are reliable. The websites listed below are good sources of support and information.

**Australian – all cancer types**

- Cancer Council Australia........................................[cancer.org.au](http://cancer.org.au)
- Cancer Australia....................................................[canceraustralia.gov.au](http://canceraustralia.gov.au)
- Department of Health...........................................[health.gov.au](http://health.gov.au)
- healthdirect Australia...........................................[healthdirect.gov.au](http://healthdirect.gov.au)
- beyondblue............................................................[beyondblue.org.au](http://beyondblue.org.au)

**Australian – Hodgkin lymphoma**

- Arrow Bone Marrow Transplant Foundation.........................[arrow.org.au](http://arrow.org.au)
- Australasian Leukaemia & Lymphoma Group ...................[allg.org.au](http://allg.org.au)
- Australian Bone Marrow Donor Registry.........................[abmdr.org.au](http://abmdr.org.au)
- Leukaemia Foundation...........................................[leukaemia.org.au](http://leukaemia.org.au)
- Lymphoma Australia................................................[lymphoma.org.au](http://lymphoma.org.au)
- Talk Blood Cancer...............................................[talkbloodcancer.com](http://talkbloodcancer.com)

**International – all cancer types**

- Macmillan Cancer Support......................................[macmillan.org.uk](http://macmillan.org.uk)
- Cancer Research UK...............................................[cancerresearch.org.uk](http://cancerresearch.org.uk)
- American Cancer Society.........................................[cancer.org](http://cancer.org)
- Memorial Sloan Kettering Cancer Center.........................[mskcc.org](http://mskcc.org)
- National Cancer Institute.........................................[cancer.gov](http://cancer.gov)
Question checklist

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

- What type of Hodgkin lymphoma do I have?
- Where is my Hodgkin lymphoma?
- What stage Hodgkin lymphoma do I have?
- What treatment do you recommend and why?
- Are there other treatment choices for me?
- What are the risks and possible side effects of each treatment?
- How long will treatment take? Will I have to stay in hospital?
- How much will treatment cost?
- Will the treatment cause any pain? How will it be managed?
- Will the treatment affect my sex life and fertility?
- Are the latest tests and treatments for Hodgkin lymphoma available in this hospital?
- Are there any clinical trials or research studies I could join?
- How frequently will I need check-ups after treatment?
- Who should I go to for my check-up appointments?
- Are there any complementary therapies that might help me?
- Should I change my diet during or after treatment?
- If the Hodgkin lymphoma comes back, how will I know?
- What are my treatment options if the Hodgkin lymphoma comes back?
abdomen
The part of the body between the chest and hips, which contains the stomach, spleen, pancreas, liver, gall bladder, bowel, bladder and kidneys.

advanced cancer
Cancer that has spread into the surrounding tissues or away from the original site (metastasised).

allogeneic transplant
A type of transplant where stem cells or bone marrow are taken from a person (donor) and given to the person with cancer.

alternative therapies
Therapies that are used in place of conventional treatment, often in the hope they will provide a cure.

anaemia
A reduction in the number or quality of red blood cells in the body.

anaesthetic
A drug that stops a person feeling pain during a medical procedure. A local anaesthetic numbs a part of the body; a general anaesthetic causes a person to lose consciousness for a period of time.

angiogenesis
The formation of new blood vessels. This enables tumours to develop their own blood supply, which helps them survive and grow.

apheresis machine
A machine that is used to collect blood from a person and separate the blood into different parts. Also called a cell separator device.

autologous transplant
A type of transplant where stem cells or bone marrow are taken from the person with cancer and returned to them following high-dose chemotherapy.

benign
Not cancerous or malignant. Benign lumps are not able to spread to other parts of the body.

biopsy
The removal of a small sample of cells or tissue from the body for examination under a microscope to help diagnose a disease.

blood count
A test that counts the number of red blood cells, white blood cells and platelets in the blood.

bone marrow
The soft, spongy material found inside bones, which produces red blood cells, white blood cells and platelets.

bone marrow aspiration
The removal of a small amount of bone marrow liquid (aspirate) with a needle for examination under a microscope. Also called a bone marrow trephine.

bone marrow biopsy
The removal of a small piece of bone marrow tissue with a needle for examination under a microscope.

bone marrow transplant
A procedure to replace bone marrow destroyed by high doses of chemotherapy and/or radiotherapy with healthy bone marrow. Can be autologous or allogeneic.
cells
The basic building blocks of the body. A human is made of billions of cells that are adapted for different functions.

chemotherapy
The use of cytotoxic drugs to treat cancer by killing cancer cells or slowing their growth.

complementary therapies
Treatments that are used in conjunction with conventional treatment. They might improve general health, wellbeing and quality of life, and help people cope with side effects of conventional cancer treatment.

core needle biopsy
A type of biopsy where a tissue sample is removed with a wide needle for examination under a microscope. Also called core needle aspiration.

CT scan
A computerised tomography scan. This scan uses x-rays to create a picture of the inside of the body.

diagnosis
The identification and naming of a person’s disease.

diaphragm
A dome-like sheet of muscle that divides the chest cavity from the abdomen and is used in breathing.

Epstein-Barr virus
A common human virus in the herpes family that may increase a person’s risk of developing some types of cancer. Also called glandular fever or infectious mononucleosis.

excision biopsy
A type of biopsy where a lump is surgically removed (excised) so it can be looked at under a microscope.

fertility
The ability to conceive a child.

granulocyte-colony stimulating factor (G-CSF)
A protein used to stimulate the growth of stem cells before collection or to increase the number of white blood cells. It is given as either an injection or through a drip into the bloodstream (intravenously).

haematologist
A doctor who specialises in studying and treating diseases of the blood, bone marrow and lymphatic system.

HIV (human immunodeficiency virus)
The virus that causes AIDS (acquired immune deficiency syndrome).

Hodgkin lymphoma
Cancer of the lymphatic system. Also called Hodgkin disease.

hormones
Chemicals in the body that send information between cells to bring about changes in the body.

hormone treatment
A treatment that blocks the body’s natural hormones that sometimes help cancer cells grow.

immune cells
White blood cells.
**immune system**
A network of cells and organs that protects the body against disease and infection.

**late effects**
Side effects of cancer treatment that occur several months or years after treatment has been completed.

**lifestyle factors**
Factors that help give a holistic (well-rounded) picture of your health and wellbeing. Include what you eat and drink, how much you exercise, your occupation and its risks, your relationships, stress and pressures in your life, and whether you smoke.

**liver**
A large organ in the top right side of the abdomen. The liver plays an important role in metabolism, digestion, detoxification and removal of substances from the body.

**lung**
One of two spongy organs in the chest cavity, made up of large numbers of tiny air sacs. The lungs are used for respiration (breathing).

**lymph**
A clear fluid that circulates around the body through the lymphatic system, carrying white blood cells that help fight infection (lymphocytes).

**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.

**lymph nodes**
Small, bean-shaped structures that form part of the lymphatic system. Lymph nodes collect and destroy bacteria and viruses. Also called lymph glands.

**lymphocyte**
A type of white blood cell that helps fight infection. Lymphocytes destroy bacteria, viruses and other harmful substances.

**lymphoma**
A type of cancer affecting the lymphatic system. There are two main types of lymphoma: Hodgkin lymphoma and non-Hodgkin lymphoma.

**lymph vessels**
Thin tubes that carry the body’s tissue fluid (lymph). They are found throughout the body and in a number of organs.

**malignant**
Cancer. Malignant cells can spread (metastasise) and eventually cause death if they can’t be treated.

**menopause**
When a woman stops having periods (menstruating) and is no longer able to become pregnant.

**metastasis**
A cancer that has spread from another part of the body. Also known as secondary cancer.

**MRI scan**
A magnetic resonance imaging scan. A scan that uses magnetism and radio waves to take detailed cross-sectional pictures of the body.
oncologist
A doctor who specialises in the study and treatment of cancer.

osteoporosis
Thinning and weakening of the bones that can lead to bone pain and fractures.

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

pathologist
A specialist doctor who interprets the results of tests, such as blood tests and biopsies.

PET scan
A positron emission tomography scan. A scan in which a person is injected with a small amount of radioactive glucose solution. Cancerous areas show up brighter in the scan because they take up more of the glucose.

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

primary cancer
The original cancer. Cells from the primary cancer may break away and be carried to other parts of the body, where secondary cancers may form.

prognosis
The expected outcome of a person’s disease.

radiotherapy
The use of radiation, usually x-rays or gamma rays, to kill or injure cancer cells so they cannot grow and multiply.

recurrence
Cancer that has returned after treatment of the primary cancer. A recurrence may be local (in the same place as the primary cancer) or distant (in another part of the body).

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

relapse
The return of a disease, or the signs and symptoms of a disease, after a period of improvement (remission).

remission
When the symptoms and signs of the cancer reduce or disappear. A partial remission is when there has been a significant reduction in symptoms but some cancer is still present. A complete remission is when there is no evidence of active cancer.

spleen
An organ in the lymphatic system that produces lymphocytes, filters the blood, and destroys old blood cells, abnormal cells and bacteria.

staging
Performing tests to determine how far a cancer has spread.

stem cells
Primitive (immature) cells found in the bone marrow from which red blood cells, white blood cells and platelets develop.
**stem cell transplant**
A treatment in which cancerous stem cells are destroyed by high-dose chemotherapy or radiotherapy before being replaced by healthy stem cells. These stem cells will help the bone marrow, blood and immune system to work properly. Stem cells are obtained from the bone marrow or blood of either the patient (autologous transplant) or a donor (allogeneic transplant).

**thymus gland**
A part of the lymphatic system. The thymus gland contains lymphocytes and filters blood.

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

**tonsils**
Small masses of lymphatic tissue on either side of the back of the mouth that help to fight infection.

**transducer**
A small device that is passed over the surface of the body in an ultrasound.

**transfusion**
The process of transferring body fluid (such as blood) from one person into another.

**tumour**
A new or abnormal growth of tissue on or in the body. A tumour may be benign (not cancer) or malignant (cancer).

**ultrasound**
A non-invasive scan that uses soundwaves to create a picture of part of the body. An ultrasound scan can be used to measure the size and position of a tumour.

**white blood cells**
one of three types of cells found in the blood. They help fight infection.

**References**

**Can’t find a word here?**
*For more cancer-related words, visit cancercouncil.com.au/words.*
At Cancer Council, we’re dedicated to improving cancer control. As well as funding millions of dollars in cancer research every year, we advocate for the highest quality care for cancer patients and their families. We create cancer-smart communities by educating people about cancer, its prevention and early detection. We offer a range of practical and support services for people and families affected by cancer. All these programs would not be possible without community support, great and small.

**Join a Cancer Council event:** Join one of our community fundraising events such as 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 gift, large or small, makes a meaningful contribution to our work in supporting people with cancer and their families now and in the future.

**Buy Cancer Council sun protection products:** Every purchase helps you prevent cancer and contribute financially to our goals.

**Help us speak out for a cancer-smart community:** We are a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us improve cancer awareness by living and promoting a cancer-smart lifestyle.

**Join a research study:** Cancer Council funds and carries out research investigating the causes, management, outcomes and impacts of different cancers. You may be able to join a study.

To find out more about how you, your family and friends can help, please call Cancer Council 13 11 20.
Being diagnosed with cancer can be overwhelming. At Cancer Council, we understand it isn’t just about the treatment or prognosis. Having cancer affects the way you live, work and think. It can also affect our most important relationships.

When disruption and change happen in our lives, talking to someone who understands can make a big difference. Cancer Council has been providing information and support to people affected by cancer for over 50 years.

Calling 13 11 20 gives you access to trustworthy information that is relevant to you. Our cancer nurses are available to answer your questions and link you to services in your area, such as transport, accommodation and home help. We can also help with other matters, such as legal and financial advice.

If you are finding it hard to navigate through the health care system, or just need someone to listen to your immediate concerns, call 13 11 20 and find out how we can support you, your family and friends.

Cancer Council services and programs vary in each area. 13 11 20 is charged at a local call rate throughout NSW (except from mobiles).

If you need information in a language other than English, an interpreting service is available. Call 13 14 50.

If you are deaf, or have a hearing or speech impairment, contact us through the National Relay Service. www.relayservice.gov.au
For information and support on cancer-related issues, call Cancer Council 13 11 20. This is a confidential service.

For further information and details, visit our website, cancercouncil.com.au.

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