



Understanding Testicular Cancer

A guide for men with cancer,
their families and friends

Cancer
information

Cancer Council Helpline

13 11 20



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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 appropriate independent professional advice relevant to your specific situation 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 Australia and its members exclude all liability for any injury, loss or damage incurred by use of or reliance on the information provided in this booklet.

Cancer Council Australia

Cancer Council Australia is the nation's peak non-government cancer control organisation. Together with the eight state and territory Cancer Councils, it coordinates a network of cancer support groups, services and programs to help improve the quality of life of people living with cancer, their families and carers. This booklet is funded through the generosity of the people of Australia. To make a donation and help us beat cancer, visit Cancer Council's website at www.cancer.org.au or call your local Cancer Council.



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Introduction

This booklet has been prepared to help you understand more about testicular cancer.

Many men feel shocked and upset when told they have testicular cancer. We hope this booklet will help you, your family and friends understand how testicular cancer 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 men affected by testicular cancer.

If you're reading this book for someone who doesn't understand English, let them know that Cancer Council Helpline **13 11 20** can arrange telephone support in different languages. They can also call the Translating and Interpreting Service (TIS) direct on **13 14 50**.



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What is cancer?

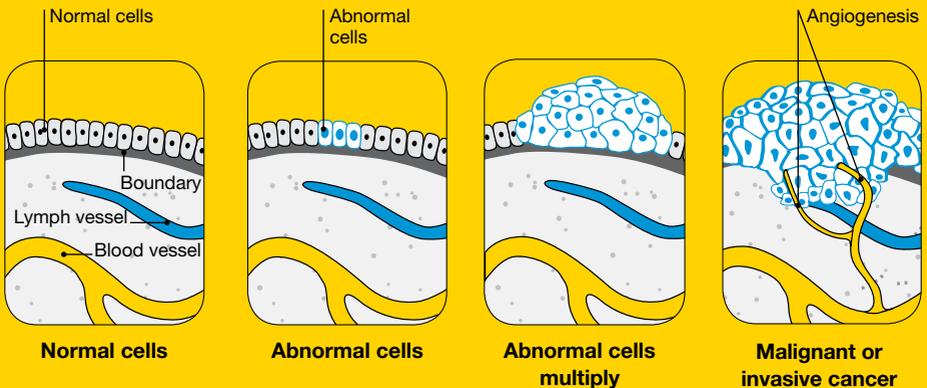
Cancer is a disease of the cells, which are the body's basic building blocks. The body constantly makes new cells to help us grow, replace worn-out tissue and heal injuries. Normally, cells multiply and die in an orderly way.

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).

How cancer starts



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, testicular cancer that has spread to the lungs is called metastatic testicular cancer, even though the person may be experiencing symptoms caused by problems in the lungs.

How cancer spreads

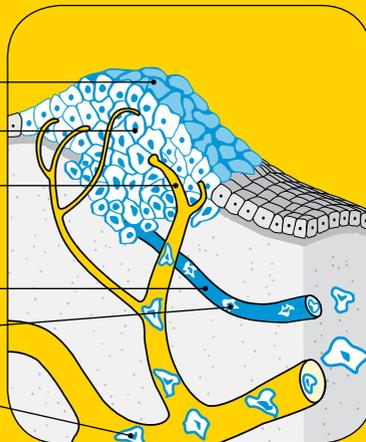
Primary cancer

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





The testicles

The testicles are part of the male reproductive system. They are also called testes (or a testis, if referring to one).

Testicles are two small, egg-shaped glands that sit behind the penis in a pouch of skin known as the scrotum.

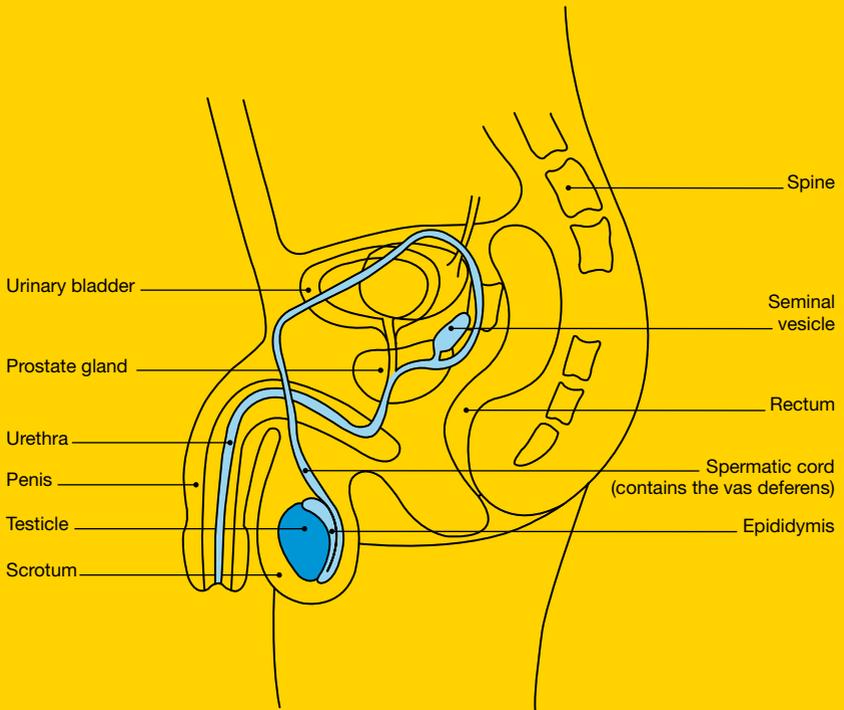
The job of the testicles is to produce and store sperm. They also produce the male hormone called testosterone, which is responsible for the development of male characteristics such as facial hair growth, a deep voice, muscle development, sexual drive (libido), and the ability to have an erection.

A structure called the epididymis is attached to the back of each testis. The epididymis stores immature sperm and is attached to the spermatic cord, a tube which runs from each testicle through the groin region into the abdominal cavity. The spermatic cord contains blood vessels, nerves, lymph vessels and a tube called the vas deferens, which carries sperm to the prostate gland.

The prostate gland produces fluid which, along with sperm from the testicles, makes up a large part of semen. Semen is ejaculated from the penis during sexual climax.

There are many lymph nodes (glands) and lymphatic vessels around the testicles and in the abdomen. These are part of the lymphatic system and are important for resisting and fighting disease (immunity). The nodes and vessels also drain lymphatic fluid (lymph) from the tissues back into the bloodstream.

The male reproductive system





Key questions

Q: What is testicular cancer?

A: Cancer that develops in a testicle is called testicular cancer or cancer of the testis. Usually only one testicle is affected, but in some cases both testicles are affected. Most testicular cancers start in the cells that develop into sperm, which are called germ cells.

Sometimes testicular cancer can spread to lymph nodes in and around the testicles and abdomen, or to other parts of the body.

Q: What types are there?

A: The most common testicular cancers are called germ cell tumours. There are two main groups, which look different under a microscope:

Germ cell tumours

Seminoma

- tends to develop slower than non-seminoma cancers
- usually occurs in men aged 25–50, but also occurs in men over 60

Non-seminoma

- a rarer cancer that tends to develop more quickly than seminoma cancers
- more common in younger men, usually in their 20s
- made up of sub-types that are grouped together, such as teratoma, yolk sac tumour, choriocarcinoma and embryonal-cell carcinoma

Sometimes a testicular cancer can include a mix of seminoma cells and non-seminoma cells, or a combination of the different types of non-seminoma. When there are seminoma and non-seminoma cells mixed together, doctors treat it as a non-seminoma cancer.

A small number of testicular tumours start in cells that make up the supportive (structural) and hormone-producing tissue of the testicles. These are called stromal tumours. The two main types are Sertoli tumours and Leydig cell tumours. They are usually benign and are removed by surgery.

Other types of cancer, such as lymphoma, can also involve the testis. For information, call Cancer Council Helpline 13 11 20.

Intratubular germ cell neoplasia

Some germ cell cancers begin as a condition known as intratubular germ cell neoplasia (ITGCN) or carcinoma in situ (CIS). This is a non-invasive precursor to testicular cancer, because the cells are abnormal, but haven't spread outside of the area where the sperm cells develop.

There is about a 50% risk that ITGCN will progress

into testicular cancer within a five-year period.

ITGCN is difficult to diagnose because there are no symptoms and it can only be found by biopsy. However, about 5–10% of men diagnosed with testicular cancer had ITGCN.

ITGCN has similar risk factors to testicular cancer – see pages 10–11.

Q: What are the risk factors?

A: The causes of testicular cancer are unknown, but certain factors may increase a man's risk of developing it:

Personal history – Men who have previously had testicular cancer in one testicle are about 25 times more likely to develop cancer in the other testicle. ITGCN is also a risk factor (see box on page 9).

Family history – Sometimes gene mutations are passed on in families. A man with a father or brother who has had testicular cancer is slightly more at risk. However, family history is only a factor for about 2% of patients.

If you are concerned about your family history of testicular cancer, you may choose to ask your doctor for a referral to a family cancer clinic, genetic counsellor and/or urologist. They can provide information on the most suitable screening for you and your family members.

Undescended testicles – Before birth, testicles develop inside a male baby's abdomen. By birth, or within the first year of life, the testicles usually move down into the scrotum.

If the testicles don't descend by themselves, doctors perform an operation to bring them down. Although this reduces the risk of developing testicular cancer, men born with undescended testicles are still about 16 times more likely to develop testicular cancer than men born with descended testicles.

Infertility – Having difficulty conceiving a baby (infertility) is associated with ITGCN (see page 9), undescended testes and genetic abnormalities. Due to the shared risk factors with testicular cancer, infertility is also considered a risk factor for testicular cancer.

Human Immunodeficiency Virus (HIV) – There is some evidence that men with HIV have an increased risk of testicular cancer. This is thought to be associated with the body's impaired immune system and not being able to monitor for cancer cells.

Some congenital defects – Some men are born with an abnormality of the penis called hypospadias. This causes the urethra to open on the underside of the penis, rather than at the end. Men with this condition are about twice as likely to develop testicular cancer.

There is no known link between testicular cancer and injury to the testicles, sporting strains, hot baths, wearing tight clothes, sexual activity or having a vasectomy.



Q: How common is it?

A: About 740 men are diagnosed with testicular cancer each year, accounting for about 1% of all cancers in Australian men. It occurs most often in men aged 20–40 years, and the average age at diagnosis is 35.

Q: What are the symptoms?

A: In some men, testicular cancer does not cause any noticeable symptoms. Other men may notice one or more of these symptoms:

- swelling or a lump in the testicle (usually painless)
- a feeling of heaviness in the scrotum
- change in the size or shape of the testicle (e.g. hardness or swelling)
- a feeling of unevenness
- aches or pain in the lower abdomen, testicle or scrotum
- enlargement or tenderness of the breast tissue
- back pain
- stomach-aches.

These symptoms don't necessarily mean you have testicular cancer. They are common to other conditions, such as cysts, which are harmless lumps. However, if you have any of these symptoms, you should have them checked by your doctor without delay.



Diagnosis

You will usually begin by seeing your general practitioner (GP), who will examine your testicles and scrotum for lumps or swelling. You may find the consultation embarrassing, particularly if you have never had a doctor perform this type of examination before, but doctors are used to it and it only takes a few minutes.

If the GP feels a lump, you will probably be referred to a urologist, who specialises in the urinary and male reproductive systems. In most cases, the urologist will arrange some tests, such as an ultrasound and blood test. If the tests show there is a tumour, you may need to have your testicle removed.

Ultrasound

An ultrasound scan uses soundwaves to create a picture of an area of your body. A gel will be spread over your scrotum to conduct the soundwaves and a small device called a transducer is pressed into the area. This sends out soundwaves, which echo when they encounter something dense like a tumour. The ultrasound images are then projected onto a computer screen.

An ultrasound is painless, and takes about 15 minutes.

Blood tests

Blood tests will be taken to check your general health and how well your organs (such as your kidneys) are working. The results of these tests will also help you and your doctors make decisions about your treatment.

Tumour markers

Some types of testicular cancer produce chemicals – also known as hormones or proteins – that are released into the blood. These chemicals can be used as tumour markers, which show that cancer may be present.

If your blood test results show an increase in the levels of tumour markers, you may have testicular cancer. Raised levels are more common in mixed tumours and non-seminoma cancers. However, it is possible to have raised tumour markers due to other factors, such as liver diseases or blood diseases.

The three most common tumour markers are:

- **alpha-fetoprotein (AFP)** – raised in non-seminoma cancers
- **beta human chorionic gonadotrophin (beta-hCG)** – raised in some seminoma and non-seminoma cancers
- **lactate dehydrogenase (LDH)** – raised in non-seminoma and seminoma cancers and used to help determine the extent of the cancer and how it is responding to treatment.

You will have regular blood tests to monitor levels of tumour markers in your blood throughout your treatment and afterwards when you have check-ups. Tumour marker levels will decrease if your treatment is successful but will increase if the cancer is active.



Some men who have testicular cancer do not have raised tumour marker levels in their blood.

Removing the testicle

None of the tests described on pages 13–14 can definitely diagnose testicular cancer. The only way this can be done is by surgically removing and examining the affected testicle.

For other types of cancer, a doctor can usually make a diagnosis by removing and examining some tissue from the tumour. This is called a biopsy.

However, doctors don't usually biopsy the testicle because there is a small risk that a cut through the scrotum can make any cancer cells more likely to spread. Instead, the urologist will usually remove the whole testicle and spermatic cord through a cut in the lower abdomen. This is called an orchidectomy or inguinal orchidectomy.

Tissue that is removed during the orchidectomy is sent to a specialist called a pathologist, who examines the cells under a microscope and provides information about the cancer.

Most men only have one testicle removed, but if both of your testicles are affected, your doctor may remove them both (bilateral orchidectomy). It is rare for both testicles to be affected.

If the cancer has not spread, an orchidectomy may be the only treatment you need. However, after the operation, you will need to have regular check-ups to ensure there is no recurrence of the disease. This is called surveillance – see pages 28–29.

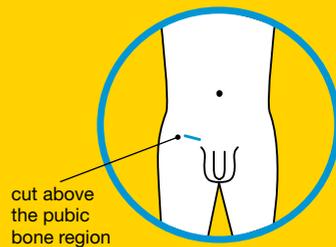
What happens during an orchidectomy

You will be given a general anaesthetic before the orchidectomy.

The surgeon will make a cut above the pubic bone in the groin. The testicle is then pulled up and out of the scrotum by the spermatic cord through the surgical incision. The spermatic cord is also removed because it contains blood and lymph vessels that may act as a pathway for the testicular cancer to spread to other areas of the body.

The operation usually takes about an hour; however you may have to stay a day or more in hospital to recover.

You will have a few stitches above the pubic bone in your groin.



Recovery after surgery

After the orchidectomy, you may stay in hospital for 1–2 days. However, many men are able to return home the same day.

When you return home, you should be able to return to work when you feel ready and drive after 2–4 weeks. You should wait about six weeks to do strenuous activities, such as heavy lifting.

Your surgeon will probably recommend that you wear scrotal support or athletic-type underwear to increase your comfort and protect your scrotum while you recover. This can also

reduce swelling. Scrotal supports can be purchased at most pharmacies. This is just like underwear and is not noticeable under regular clothing.

Because of the way the muscles in the groin are cut, you may experience some discomfort sitting down after surgery. This can last for some time, but will ease as the muscles heal.

Surgery side effects

You may experience some of the following side effects.

Pain – Your doctor can give you medication to control any pain you have after the operation. Be sure to tell the doctor or nurses if the pain is severe.

Bruising – You may have some bruising around the wound and scrotum. Blood may collect inside the scrotum (intrascrotal haematomas). If this develops, the swelling may make it feel like the testicle hasn't been removed.

The supportive scrotal support underwear helps reduce the risk of intrascrotal haematomas. Both the bruising and the haematoma will disappear over time.

Erection difficulties – The removal of one testicle doesn't affect your ability to have an erection. If both testicles are removed, your testosterone levels will drop, so you may be given hormones to increase your sex drive and ability to get erections. For more information, see pages 42–45.

Effect on fertility – Losing one testicle shouldn't affect your ability to have children (fertility), providing the remaining testicle is healthy. This is because the other testicle makes up for the missing one by making more testosterone and sperm.

If both testicles are removed, men are no longer able to produce sperm, making them unable to conceive (infertile).

It is important to discuss this risk with your doctor to determine if you want to bank some sperm for later use. For more information about fertility, see pages 44–45.

Emotional effects – Losing a testicle may cause some men to feel embarrassed, depressed or suffer from low self-esteem.

It may help to talk about how you are feeling with someone you trust, such as a partner or counsellor. See pages 50–51 for information about support services.

Body image issues – Some men choose to replace the removed testicle with an artificial testicle, called a prosthesis. See the box opposite for more information.

“ I had a testicle removed nine years ago and felt okay about it. After nine years of remission, I lost my second testicle to testicular cancer. I've decided to have two new ones put in, for aesthetic reasons. ” *Bill*

Having a prosthesis

You may be given the option of replacing the removed testicle with an artificial testicle, called a prosthesis. This is a silicone implant intended to have the weight and feel of a normal testicle.

Whether or not you have a prosthesis (or two prostheses) is a personal decision. Most men don't have a prosthesis.

However, you may decide to do so if you're concerned or anxious about the appearance of having one or no testicles. If you choose to have a prosthesis, you can have the operation at the same time as the orchidectomy or separately. Your urologist can give you more detailed information about your options and the procedure.

CT scan

If the removal of your testicle and other tests show you have cancer, you may have a computerised tomography (CT) scan to see whether the cancer has spread to other parts of the body. Sometimes this is done before the orchidectomy.

The CT scan is a type of x-ray procedure. It takes pictures of the inside of your body, which can help determine if the cancer has spread to your lymph nodes, lungs, liver or other organs.

Before the scan, a dye may be injected into one of your veins. This dye will help create clearer pictures. For a few minutes, this injection may make you feel hot all over. You may also have a strange taste in your mouth from the dye.



The contrast solution used in CT scans may occasionally cause an allergic reaction. If you have any allergies, let the person performing the scan know in advance.

You will lie on a table and pass through the CT scanner, which is large and round. This machine takes pictures of your body and displays them on a screen.

Preparing for the scan and having it takes about 30–40 minutes. Most men are able to go home as soon as their scan is done.

Chest x-ray

If the CT scan doesn't provide enough information, an x-ray of the chest is taken to check if the cancer has spread to the lungs or the lymph nodes in the chest.

Further tests

You may have some other tests, such as MRI or PET scans, if the doctor is not sure of the full extent of the cancer, or if your tumour markers are elevated. These scans may also be used during or after treatment.

There are a limited number of facilities that deliver these scans, so they may not be available at your local hospital. Some men have to travel to a treatment centre where a PET or MRI scanner is located.

MRI scan

- A magnetic resonance imaging scan.
- Uses a powerful magnet linked to a computer to take detailed pictures of areas inside your body.
- You will lie on a table that slides into a metal cylinder.
- The scan is painless, but some people feel anxious in the confined space (claustrophobic). The machine can also be quite noisy.
- If this makes you feel anxious, your medical team can talk to you about ways to relax or may be able to give you medication to ease your anxiety.
- The scan takes about an hour.

PET scan

- A positron emission tomography scan.
- Highlights areas in the body where there are lots of actively dividing cells, such as cancer cells.
- You will be injected with a glucose solution containing a small amount of radioactive material, then you will have a full body scan.
- Actively dividing cells, such as cancer cells, absorb the radioactive material.
- The radiation will leave your body within a few hours and is generally not harmful, but talk to your doctor beforehand if you are concerned.
- The scan takes about 2–3 hours.

Staging

The removal of the testicle and the results of the other tests will help to determine how far the cancer has spread (the stage). The most common staging system uses numbers – see below.

Your doctor will determine your treatment based on the stage of the cancer and your personal preferences.

Staging testicular cancer

Stage 1	Cancer is found only in the testicle.
Stage 2	Cancer has spread to the lymph nodes in the abdomen or pelvis.
Stage 3	Cancer has spread beyond the lymph nodes to other areas of the body, such as the lungs, liver or brain.

Prognosis

Prognosis means the expected outcome of a disease. You may wish to discuss your prognosis with your doctor, but it is not possible for anyone to predict the exact course of the disease. Instead, your doctor can give you an idea about common issues that affect men with testicular cancer.

Test results, the type of testicular cancer you have, the stage of the cancer and other factors such as age, fitness and medical history are all important in assessing your prognosis.

Five-year survival rate

Doctors often use numbers (statistics), including five-year survival rate, when considering someone's prognosis.

Testicular cancer is the most curable solid organ tumour. If the cancer is found while it is still only in the testicle (stage 1), the five-year survival rate for men is 98%. Stages 2 and 3 cancer become more difficult to treat, but in most cases, tumours can be controlled, shrunk or cured with treatment.

However, it's important to realise that regular follow-up and review is a major factor in the high cure rates of testicular cancer.

🗨️ My doctor said to me, 'If you're going to get a cancer, this is the one to get. The cure rate is high, side effects are minimal and life afterwards is pretty normal. It's very uncommon to die from testicular cancer.' 🗨️ *Mark*

Which health professionals will I see?

After seeing your GP and getting a diagnosis from the urologist, you may be cared for by a range of health professionals who are responsible for different aspects of your treatment.

The health professionals you see will depend on the treatment you have. The multidisciplinary team may include some or all of the people listed on page 24.

Health professional	Role
urologist	a surgeon who specialises in treating diseases of the urinary system and the male reproductive system
medical oncologist	prescribes and coordinates chemotherapy
radiation oncologist	prescribes and coordinates radiotherapy
nurses	help administer drugs, including chemotherapy, and provide care, information and support throughout your treatment
cancer care coordinator/cancer nurse coordinator	supports patients and families throughout treatment and liaises with other staff to help organise care
endocrinologist	specialises in restoring the normal balance of hormones in the body, for men who have had both testicles removed and need testosterone replacement
anaesthetist	administers an anaesthetic before an operation so you lose consciousness and don't feel any pain
dietitian	recommends an eating plan for you to follow while you are in treatment and recovery
social worker, physiotherapist, clinical psychologist & occupational therapist	link you to support services and help you with any emotional, physical or practical problems



Key points

- Your doctor will do an external examination to feel your testicles and scrotum to check for lumps and swelling.
- An ultrasound scan will create a picture of your scrotum and testicles. This is a quick and painless scan.
- Blood tests will be done to monitor chemicals released into your blood (tumour markers). An increase in tumour markers may indicate that cancer is present.
- The only way to definitely diagnose testicular cancer is by removing the testicle. This operation is called an orchidectomy or inguinal orchidectomy. For some men, this is the only treatment required.
- After an orchidectomy, you will have side effects, such as pain and bruising. These will ease over time.
- If the removal of the testicle shows you have cancer, you will probably have more tests to see whether the cancer has spread. You may have a CT scan, chest x-ray and other scans.
- The doctor will tell you the stage of the cancer, which describes how far it has spread. Testicular cancer uses a scale from 1–3. More advanced cancers have a higher number (i.e. stage 3).
- Your doctor may discuss your prognosis with you. Testicular cancer is the most curable solid organ tumour, and 98% of men with stage 1 cancer survive at least five years after treatment.
- You will see a range of health professionals, such as a urologist and nurses. They will work together as a multidisciplinary team to diagnose and treat you.



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 only offers a small benefit for a short period of time. Others want to make sure the benefits outweigh the side effects so that 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 54 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. For more information, call the Helpline for a free copy of *Understanding Clinical Trials and Research* or visit www.australiancancertrials.gov.au.



Treatment

Your medical team will advise you on the best treatment for you.

They will consider:

- your general health
- the type of testicular cancer you have
- the size of the tumour
- the number and size of lymph nodes involved
- whether the cancer has spread to other parts of your body.

In almost all cases, except for men diagnosed at an advanced stage, an orchidectomy is done to remove the affected testicle (see pages 15–16). Additional treatment for testicular cancer may include chemotherapy, radiotherapy or a combination of treatments.

Surveillance policy

If you had an orchidectomy and the cancer was completely removed along with your testicle, you may not need further treatment. Instead, your doctor may monitor you with regular blood tests (checking tumour markers), chest x-rays and CT scans for at least five years. This is called a surveillance policy.

Surveillance can detect if there is any cancer remaining (residual cancer). It can also help determine if the cancer has come back (see page 49).

The number of check-ups and scans will depend on the type of testicular cancer you have – seminoma and non-seminoma cancers have different patterns of relapse, so surveillance is tailored for you.

It's important to adhere to the surveillance policy outlined by your doctor. Though it may be tempting to skip appointments if you are feeling better or if you were diagnosed with early-stage cancer, surveillance is more likely to find the cancer early if it comes back.

“ Surveillance is just like having regular check-ups. I was seen every four months for the first year, every six months from years 1–3, then every 18 months. ” *Mike*

Chemotherapy

Chemotherapy is the use of drugs to kill or slow the growth of cancer cells. The aim of treatment is to destroy cancer cells, and cause the least possible damage to healthy cells.

This treatment may be given:

- if the cancer has spread outside your testicle
- together with surgery or, less commonly, with radiotherapy (adjuvant treatment), if there is a moderate risk of the cancer spreading or returning
- as the primary treatment if the cancer has spread to other parts of your body (stage 3 cancer – see page 22).

There are many types of chemotherapy drugs. Some men are given a drug called carboplatin, which is often used for early-stage seminoma cancer as adjuvant chemotherapy. Other drugs commonly used in testicular cancer are bleomycin, etoposide and cisplatin. When used together, this is called BEP chemotherapy.

Chemotherapy is administered into a vein (intravenously) through a drip. Bleomycin may also be given by injection into a muscle (intramuscularly). In either case, chemotherapy is given in cycles, which means you will receive the drugs and then have a rest period of about 21 days before starting a new cycle. Most men have 2–3 cycles of BEP, but treatment varies from patient to patient.

You will probably have to visit the hospital as an outpatient each time you have chemotherapy. This is generally for five days out of every three weeks, and one day per week for the other two weeks of the cycle.



In most cases, chemotherapy is a successful treatment for testicular cancer.

Chemotherapy side effects

Chemotherapy can affect the healthy fast-growing cells in your body, such as hair cells or cells lining the mouth and stomach, causing side effects.

Everyone reacts differently to chemotherapy, so the side effects you experience will depend on the drugs you receive. Some men don't experience any side effects, while others have a few.

Side effects are usually temporary, and medication can often help reduce your discomfort. Talk to your doctor about any side effects you have and ways to manage them.

Tiredness – Most men feel tired during chemotherapy, particularly as treatment progresses. You may also find you have a lower sex drive (libido).

Low white blood cell count – About a week after a treatment session, your white blood cell levels may drop, making you more prone to infections. If you feel unwell or have a fever higher than 38°C, call your doctor immediately or, if after hours, go to the hospital Emergency department.

Nausea and vomiting – It is common to feel ill or vomit. However, anti-nausea medication can prevent or reduce this feeling. It is available in many forms, including suppositories, oral tablets and wafers that dissolve on the tongue. Tell your medical team if you feel nauseated.

Constipation – Medication taken to prevent nausea and vomiting can cause constipation. Your medical team can give you laxatives for this.

Hair loss – Chemotherapy often causes patients to lose their body and head hair, but it grows back once treatment is over.

Neuropathy – Some drugs affect the nerves, causing numbness or tingling in fingers or toes. This is called peripheral neuropathy. It typically improves after treatment is finished.

Ringings in the ears – Ringing or buzzing in the ears, known as tinnitus, may occur as a short-term side effect.

Erection problems – Chemotherapy can affect erections, but this is usually temporary. For information about sexuality, see pages 42–44.

Lower sperm production – The drugs may reduce the number of sperm you produce and their ability to move (motility). This can cause temporary or permanent infertility. Speak with your doctor about sperm banking before starting chemotherapy.

Breathlessness, cough or unexplained symptoms – Some drugs can damage the lungs or kidneys. You may have lung and kidney function tests to check the effects of the drugs on your organs before and after treatment.

Risk of other cancers – Men who have chemotherapy for testicular cancer are at a slightly higher risk of developing secondary leukaemia. This is extremely rare, so the benefit of receiving treatment outweighs this risk. However, your doctors will do regular check-ups to monitor you.

For more information about chemotherapy, call Cancer Council Helpline 13 11 20 for a free copy of *Understanding Chemotherapy*. You can also download this publication from your local Cancer Council website.



You may have surveillance after chemotherapy treatment. Regular tests and scans will monitor you to check if the cancer has come back.

Using contraception during treatment

Chemotherapy drugs may remain in your body for a few days after treatment, and they can be passed into body fluids, such as urine and semen.

If you have any type of sex within seven days after a treatment session, protect your partner from your body fluids by using a condom.

Your doctor or nurse can give you more information about how long you need to use this protection.

Although chemotherapy can affect sperm production, you may still be fertile and able to cause pregnancy. As chemotherapy drugs can harm an unborn baby, it is important that your partner does not become pregnant during the time you're having chemotherapy treatment.

Some men want to have children after treatment. For more information about fertility, see pages 44–45.

Radiotherapy

Radiotherapy uses x-rays to damage or kill cancer cells, however this treatment is not commonly used to treat testicular cancer. It was used to treat men with seminoma cancer, but this is becoming less common. Men with non-seminoma cancer are not usually treated with radiotherapy.

Radiotherapy is sometimes given after surgery to prevent the testicular cancer from coming back or to destroy any cancer cells that may have spread. Testicular cancer most commonly spreads to the lymph nodes in the pelvic and lower abdominal region.

Treatment is carefully planned to make sure as many cancer cells as possible are destroyed while causing the least possible harm to your normal tissue.

The radiation oncologist or radiation therapist may mark your skin with a special ink to make sure the radiation is directed at the same place on your body every time you receive treatment. Although the ink is permanent, the mark is very small (the size of a freckle).

During treatment you will lie under a machine called a linear accelerator, which directs the x-ray beams at the cancer. The unaffected testicle may be covered with a lead barrier to help preserve your fertility.

Treatments only take a few minutes, but the initial appointment to see the radiation oncologist and set up the machine may take a few hours. Most men have outpatient treatment sessions at a radiotherapy centre from Monday to Friday for 2–4 weeks. Your doctor will advise you on the number of sessions you need to have.



You may have surveillance after radiotherapy treatment. Regular tests and scans will monitor you to check if the cancer has come back.

Radiotherapy side effects

Radiotherapy most commonly causes skin reactions, fatigue and stomach problems. However, side effects usually disappear within a few days of finishing treatment.

Your doctor will check in with you at least weekly to monitor and treat any side effects during the course of your treatment. You can also talk to a nurse if you are concerned about any side effects.

Skin reaction – The skin in the treatment area may become red or irritated. Moisturising cream, such as sorbolene, should be applied to the skin when treatment starts – talk to your medical team about any other products they recommend.

Fatigue – Tiredness can be a major challenge. Plan your activities during the day so you can rest regularly. It may also help to talk to your family, friends or employer about how they can help you.

Stomach problems – The radiotherapy area will include your abdomen and this may cause stomach pain, nausea and bloating (dyspepsia). Your doctor may prescribe medication to prevent these symptoms from occurring.

Bowel problems – Bowel irritations, including diarrhoea, are common. Medication and watching what you eat can help. Call the Helpline for information about nutrition and cancer.

Hair loss – You may lose pubic and abdominal hair in the treatment area. After treatment, your hair will usually grow back.

Bladder irritation – Your bladder and urinary tract may become irritated and inflamed. Drinking plenty of fluids will help, but you should avoid alcoholic or caffeinated beverages, as they can irritate the bladder further.

Infertility – Radiotherapy may cause reduced sperm production or damage to sperm. This may be temporary or permanent – see pages 44–45. Speak with your doctor about sperm banking before starting radiotherapy.

Secondary cancers – Men who have radiotherapy for seminoma are at a slightly increased risk of developing secondary cancers in the radiotherapy field. This is the area of the body exposed to radiation, and can include the stomach and pancreas.

This is rare, however it is one of the reasons that radiotherapy is now used less commonly, particularly for stage 1 seminoma. If you do have radiotherapy, your doctors will do regular check-ups to monitor you after treatment.



For more information about radiotherapy, call **13 11 20** for a free copy of *Understanding Radiotherapy* or download it from your local Cancer Council website.

Further surgery

If the cancer has spread to the lymph glands (lymph nodes) in your abdomen, you may have an operation called a retroperitoneal lymph node dissection (RPLND or lymphadenectomy) to remove them.

Men with non-seminoma may have a RPLND after chemotherapy has finished. This is done to check whether there is any remaining cancer, or another type of abnormal tissue called mature teratoma.

Teratoma is not cancer, but it may turn into cancer later on, so it should not be left in the body.

Men with seminoma usually don't have this procedure as the cancer cells in their lymph nodes can be destroyed through radiotherapy or chemotherapy. However, some men with more advanced seminoma have a RPLND.

This surgery can be done in two ways, depending on the stage of the cancer and the experience of the surgeon: a large incision may be made from the breastbone (sternum) to below the bellybutton (an open procedure), or the surgeon may make a smaller cut and insert the surgical tools (laparoscopy or keyhole technique).

During the operation, your organs are moved out of the way and the affected lymph nodes are removed. This is sometimes referred to as 'cherry picking'.

The procedure can take several hours, depending on how many lymph nodes need to be removed.

RPLND side effects

It can take many weeks to recover from a RPLND – at first, you will probably be very tired and not be able to do as much as you are used to.

The main side effects are abdominal pain and tenderness. Tell your doctor or nurses if you are in pain, as they can prescribe medication to make you more comfortable.

A RPLND may also damage the nerves that control ejaculation. This can cause a problem known as retrograde ejaculation, which is when sperm travels backwards into the bladder, rather than forwards out of the penis. Although this is not harmful to the body, it causes infertility.

If having children is important to you, it's advisable to store some sperm before the RPLND. It may also be possible for your surgeon to use a nerve-sparing surgical technique to protect the nerves that control ejaculation. Talk to your doctor for more information about this procedure.

Palliative treatment

Palliative treatment helps to improve people's quality of life by alleviating symptoms of cancer without trying to cure the disease.

Treatment can help with managing any pain, stopping the spread of cancer and managing symptoms. It may include radiotherapy, chemotherapy or other medication.

Call Cancer Council Helpline 13 11 20 for more information about palliative care and advanced cancer.



Key points

- Your medical team will advise you on treatment based on the type of testicular cancer, its stage, your general health and what you want.
- If you had an orchidectomy to remove the testicle, you may not need any further treatment. Instead, your doctor will monitor you with regular blood tests, chest x-rays and CT scans for about five years. This is called a surveillance policy.
- Men who have further treatment may have chemotherapy, radiotherapy, surgery or a combination.
- Chemotherapy is the use of drugs to kill or slow cancer cell growth. Different drugs may be used – one common combination is called BEP chemotherapy.
- Side effects of chemotherapy are temporary. They include a risk of infection, fatigue, nausea, hair loss and erection problems.
- Radiotherapy uses x-rays to damage or kill cancer cells. It is not used commonly, but it may be used to treat men with seminoma cancer.
- Some side effects of radiotherapy include fatigue and abdominal pain. This usually disappears soon after treatment finishes.
- If the cancer has spread to the lymph nodes in the abdomen, you may have an operation to remove the affected nodes after chemotherapy is finished. This is a retroperitoneal lymph node dissection (RPLND).
- Palliative treatment may help control symptoms and stop the cancer spread. It can include treatments such as chemotherapy or medication.



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 13 11 20 for a free copy of *Nutrition and Cancer*.

Staying active – If your only treatment was an orchidectomy, you may be able to start exercising more vigorously (such as playing sport) 6–8 weeks after the operation. Men who've had chemotherapy, radiotherapy or other types of surgery may need longer to recover from treatment. Your doctor can give you advice about this. 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 your local Cancer Council website.



Matt's story

In January 2002, I was 26, 10-foot tall and bulletproof. As a professional soldier in the Australian Defence Force, I was trained and well prepared for war. When I was diagnosed with testicular cancer, I suddenly found myself in a battle I wasn't expecting.

I'd been feeling unwell and strangely fatigued and, after some tests, the doctor diagnosed me with cancer. I had my right 'nut' surgically removed, then I was up for chemotherapy.

In total, I had six cycles of chemo. I know it varies depending on the stage of cancer a person has. For me, the first cycle wasn't too bad except for a strange metallic taste in my mouth.

The vomiting and nausea started to hit as I began the third cycle. I was given an anti-nausea suppository that could

be taken daily. At first, my pride and modesty limited the times I used it, but within a week, I had no hesitation ducking off to the toilet to 'throw one up range' in search of relief.

At the end of each cycle, I had MRI scans, lung tests and blood tests to check my tumour markers. My doctor would sit down and go through the results. The chemo helped control the spread of cancer, but I had to have another operation to remove areas where the cancer had spread.

Throughout treatment and recovery, I've learnt a lot about myself. Staying as active as possible has helped me. I also tried complementary therapies such as tai chi and qi gong.

I now realise that I'm never going to be exactly like I was before diagnosis, but this isn't necessarily a bad thing. It just is.

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 cancer

A common question asked by men with testicular cancer is whether their sex life will be affected.

Having cancer can affect your sexuality in both physical and emotional ways. The impact of these changes depends on many factors, such as treatment and side effects, the way you and your partner communicate, the way you see your changed body, and your self-confidence.

Knowing the potential challenges and addressing them will help you adjust to these changes. Different cancer treatments have different effects on sexuality:

Orchidectomy – The removal of one testicle will not affect your ability to have an erection or an orgasm. Your other testicle should make more testosterone and sperm to make up for the lost testicle.

Bilateral orchidectomy – Having both testicles removed may affect your ability to become aroused and have an orgasm. You may also need to take hormone (testosterone) replacements to restore the normal balance of the male hormone in your body.

Chemotherapy – This may cause your erections or orgasms to decrease for a few weeks because the drugs can lower your testosterone levels. It can also affect fertility (see pages 44–45).

Radiotherapy – If administered to the abdomen, radiotherapy is unlikely to affect semen production, but treatment to the pelvis may temporarily stop semen production in the prostate and seminal vesicles.

This means that you will still feel the sensations of an orgasm, but little or no semen will be ejaculated. This is called a dry orgasm. Semen production usually normalises after a few months.

Retroperitoneal lymph node dissection (RPLND) – This may damage the nerves that control ejaculation, causing sperm to travel backwards into the bladder instead of forwards into the penis (retrograde ejaculation).

You will still feel like you are having an orgasm, but it will affect your fertility temporarily.

All treatments – Tiredness, anxiety and worry are common during all types of cancer treatment. This can affect your interest in sex, but usually sex drive returns when treatment is over.

tips

Dealing with changes to your sexuality

- If you have a partner, discuss what has changed physically and emotionally to help reassure both of you about your affection and desire for each other.
- Explore your own ability to enjoy sex through masturbation. This can help you find out if treatment has changed your sexual response.
- Be gentle the first few times you are sexually active after treatment. Start with touching, and tell your partner what feels good.
- Talk openly with your doctor or sexual health counsellor about any challenges you are facing. They may be able to help and reassure you.
- Talk to your doctor about any potential sexuality and fertility issues before and after you have treatment. They will let you know the different options available to you.

Fertility

Most men treated for testicular cancer – especially men with one testicle – can go on to have children naturally.

Your doctor may advise you to use certain types of contraception, such as condoms during and after treatment (see page 33).

This is to protect your partner and to avoid pregnancy, as some treatments, such as chemotherapy, can be toxic to your partner or harm a developing baby. Ask your doctors what precautions to take, as the amount of time you should use contraception will depend on the treatment you receive. You may be advised to use contraception for up to 6–12 months.

Chemotherapy and radiotherapy can temporarily decrease sperm production – particularly radiotherapy to the pelvis. Sperm counts usually increase when treatment is over, but sometimes it can take one or more years before there's enough healthy sperm to conceive. In some cases, infertility can be permanent. For this reason, men who have this treatment sometimes choose to store (bank) sperm.

Men who have both testicles removed will no longer produce sperm and will be infertile. Men who experience retrograde ejaculation will also be infertile.

Infertility can be very upsetting for you and your family, and you may have many mixed emotions about the future. It may help to talk to a counsellor or family member about how you are feeling.

If you want children, or you're unsure what your plans are, storing sperm before treatment for use at a later date is an option. Although there is a cost involved, most sperm banking facilities have various payment options to make it more affordable.

For more information about these issues, call Cancer Council Helpline 13 11 20 for a free copy of *Fertility and Cancer*.

“ I think there should be strong encouragement to bank sperm just in case. Being a father of twins, thanks to banked sperm, I cannot recommend this enough. ” Chris

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, particularly if your body has changed physically.

Give yourself time to adapt to the changes. Try to see yourself as a whole person (body, mind and personality) instead of focusing on the parts of you that have changed.

If you have lost a testicle, it will probably not affect your ability to have sex, but it may influence how you feel about yourself as a man. You may have less confidence and feel less sexually desirable.

Getting used to having one testicle or no testicles will take time. Talk to your partner, if you have one, and explain how you are feeling. You will probably find your partner is supportive and accepting of the change.

If you continue to be concerned about your appearance, you may wish to speak to your medical team about getting a silicone prosthesis (artificial testicle). For more information, see page 19.

“ I did feel less masculine after surgery. It seems stupid, but I felt like half a man because I had one testicle. My equipment worked, but it looked different. As a single guy, I was worried about showing a partner. But I’ve found that it doesn’t seem to concern anyone but me. ” Glen

- Take time to get used to any changes to your body. Look at yourself naked in the mirror and feel your genitals to notice any differences and to see if anything is sore or tender.
- Talk to other men who have had a similar experience. See page 50 for more information.
- Show your partner any body changes and let them touch your body, if you are both comfortable.
- Read Cancer Council's booklet *Emotions and Cancer*, available online or call the Helpline for a copy.
- You can also ask Cancer Council Helpline **13 11 20** about practical ways to deal with physical changes, such as hair loss or weight loss.

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 that every ache and pain means the cancer is coming back.

Some people say that 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 Helpline 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. Your local Cancer Council may also run a counselling program.

The organisation beyondblue has information about coping with depression and anxiety.

Go to www.beyondblue.org.au or call **1300 224 636** to order a fact sheet.

Follow up after treatment

Treatment for testicular cancer usually has a good outcome. Only about 2–3% of men who have had cancer in one testicle develop cancer in the other testicle. However, some men have a recurrence of cancer in another part of the body, such as the lymph nodes.

After treatment, you will need regular check-ups to confirm that the cancer hasn't come back (surveillance – see pages 28–29). A physical examination, blood tests, chest x-rays and/or CT scans may be done.

It's important to make this surveillance a priority, as the tests can detect cancer recurrence early, when it is most likely to be cured.



If you don't have any signs or symptoms of the cancer, the doctor may use the term remission. This means that cancer can't be found in your body.

What if testicular cancer returns?

For some people, testicular cancer does come back after treatment, which is known as a recurrence. This is why it is important to have regular check-ups.

Treatment will depend on whether the cancer is in the other testicle, whether it has spread, and what type of testicular cancer it is. Men with advanced cancer may have surgery and/or high-dose chemotherapy. Your doctor will discuss your treatment options with you.

Unlike many other cancers, there is still a good chance that a recurrence of testicular cancer may be cured.



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 some states and territories 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.

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 www.cancerconnections.com.au.

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

“ My family members don't really understand what it's like to have cancer thrown at you, but in my support group, I don't feel like I have to explain. ” Sam



Caring for someone with cancer

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 Australia, the national body representing carers in Australia. Carers Australia works with the Carers Associations in each of the states and territories. Phone 1800 242 636 or visit www.carersaustralia.com.au for more information and resources.

You can also call Cancer Council Helpline 13 11 20 to find out more about carers' services and get a 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

Andrology Australia	www.andrologyaustralia.org
ANZ Cancer Trials Group.....	www.anzup.org.au
beyondblue.....	www.beyondblue.org.au
Cancer Council Australia.....	www.cancer.org.au
Cancer Australia	http://canceraustralia.gov.au
Carers Australia	www.carersaustralia.com.au
Department of Health	www.health.gov.au
healthdirect Australia.....	www.healthdirect.gov.au
MensLine Australia	www.mensline.org.au
Testicular Cancer Resource Network	www.tc-cancer.com

International

American Cancer Society.....	www.cancer.org
Cancer Research UK.....	www.cancerresearchuk.org
Macmillan Cancer Support.....	www.macmillan.org.uk
National Cancer Institute.....	www.cancer.gov



Question checklist

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

- What type of testicular cancer do I have?
- What treatment do you recommend and why?
- Are there other treatment choices for me? If not, why not?
- What are the risks and possible side effects of each treatment?
- How long will treatment take? Will I have to stay in hospital?
Can I bring a family member or friend along with me?
- How much will treatment cost? How can the cost be reduced?
- Will I have a lot of pain with the treatment? What will be done about this?
- Are the latest tests and treatments for this type of cancer 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 follow up appointments?
- Are there any complementary therapies that might help me?
- Should I change my diet during or after treatment?
- If the cancer comes back, how will I know?



Glossary

abdomen

The part of the body between the chest and hips, which includes the stomach, pancreas, liver, bowel and kidneys.

adjuvant treatment

A treatment given with or shortly after another treatment to enhance its effectiveness.

alpha-fetoprotein (AFP)

A chemical found in the bloodstream of some men with non-seminoma testicular cancer. It is not found in men with seminoma testicular cancer.

anaesthetic

A drug that stops a person feeling pain during a medical procedure.

A local anaesthetic numbs part of the body; a general anaesthetic causes a person to lose consciousness for a period of time.

benign

Not cancerous or malignant. Benign lumps don't usually spread to other parts of the body.

beta human chorionic gonadotrophin (beta-hCG)

A chemical found in the bloodstream of some men with either seminoma or non-seminoma testicular cancer.

biopsy

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

cells

The building blocks of the body.

A human is made of billions of cells, which are adapted for different functions.

chemotherapy

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

congenital defect (birth defect)

A problem that happens while a baby is still developing in the womb. This may affect how the body looks and/or functions.

CT scan

Computerised tomography scan. This scan uses x-rays to create a picture of the body's structures, such as the bones, blood vessels and soft tissues.

cytotoxic

Substances that are toxic to cells and kill or slow their growth.

dry orgasm

Sexual climax without the release of semen from the penis.

epididymis

A tube on the back of each testis that stores immature sperm and attaches to the spermatic cord, a tube which runs from each testicle through the groin region into the abdominal cavity.

fertility

The ability to conceive a child.

germ cells

Cells that produce eggs in females and sperm in males. Germ cell cancers can occur in the ovaries or testicles.

haematoma

A localised collection of blood outside the blood vessels that gathers in body tissue.

hormones

Chemical messengers in the body that transfer information between cells.

human immunodeficiency virus

Also known as HIV. This is the virus that causes AIDS.

hypospadias

A birth defect in males and females in which the opening of the urethra is not in its normal place.

infertility

The inability to conceive a child.

intrascrotal haematoma

Blood that collects in the scrotum.

intratubular germ cell neoplasia

Non-invasive precursor to testicular cancer.

lactate dehydrogenase (LDH)

A chemical found in the bloodstream of some men with seminoma testicular cancer.

libido

Sex drive.

lymphadenectomy

Removal of the lymph glands.

lymph nodes

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

lymphatic system

A network of tissues, capillaries, vessels, ducts and nodes that removes

excess fluid from tissues, absorbs fatty acids, transports fat, and produces immune cells.

malignant

Cancer. Malignant cells can spread (metastasise) and eventually cause death if they cannot be treated.

metastasis

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

MRI scan

Magnetic resonance imaging scan. It uses magnetism and radio waves to take detailed cross-sectional pictures of the body.

nerve-sparing surgery

A surgical approach to save the nerves that affect ejaculation and urination.

non-seminoma cancer

A type of testicular cancer. Non-seminomas include choriocarcinoma, embryonal-cell carcinoma, teratoma and yolk sac tumour.

orchidectomy (inguinal orchiectomy)

An operation to remove a testicle and spermatic cord through an incision in the lower abdomen. An operation to remove both testicles is called a bilateral orchidectomy.

palliative care

Care for people with a life-limiting illness. It aims to improve quality of life by meeting physical, practical,

emotional and spiritual needs.

palliative treatment

Medical treatment to help manage pain and other symptoms of cancer.

pathologist

A specialist who studies diseases to understand their nature and cause, and interprets the results of tests.

PET scan

Positron emission tomography scan.

A specialised imaging test that uses a radioactive glucose solution to identify cancer cells in the body.

primary cancer

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

prognosis

The expected outcome of a person's disease.

prostate

A gland in the male reproductive system that produces most of the fluid that makes up semen.

prosthesis

An artificial replacement for a lost body part.

radiotherapy

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

remission

When the symptoms and signs of the cancer reduce or disappear.

residual cancer

Cancer that remains after treatment has been given.

retrograde ejaculation

A condition where the sperm travels backwards into the bladder, instead of forwards out of the penis.

retroperitoneal lymph nodes

Lymph nodes in the area outside or behind the peritoneum (the tissue lining the abdominal wall).

retroperitoneal lymph node

dissection (RPLND)

Surgery to remove the retroperitoneal lymph nodes.

scrotum

The external pouch of skin behind the penis containing the testicles.

semen

The fluid ejaculated from the penis during sexual climax. It contains sperm from the testes and secretions from the prostate gland and seminal vesicles.

seminal vesicles

Glands that lie very close to the prostate and produce secretions that form part of the semen.

seminoma cancer

A type of testicular cancer.

side effect

Unintended effect of a drug or treatment.

sperm

The male sex cell, which is made in the testicles.

spermatic cord

A cord that runs from the testicle to the abdomen. The spermatic cord contains the tube that carries sperm, blood vessels, nerves and lymph vessels.

staging

Tests that are carried out to find out how far a cancer has spread. This helps doctors to recommend the best treatment.

stromal tumour

A rare type of testicular tumour that is not usually cancerous. May include Sertoli tumours and Leydig cell tumours.

surveillance policy

Regular check-ups after the cancer is removed – usually after an orchidectomy – to make sure it has not returned.

testicles

Two egg-shaped glands that produce sperm and the male sex hormone testosterone. They are found in the scrotum. Also called testes.

testosterone

The major male sex hormone produced by the testicles. Testosterone promotes the development of male sex characteristics.

tumour

A new or abnormal growth of tissue on or in the body. A tumour may be benign or malignant.

tumour markers

Chemicals produced by cancer cells and released into the blood. These may suggest the presence of a tumour in the body.

ultrasound

A non-invasive scan that uses soundwaves to create a picture of

a part of the body. An ultrasound scan can be used to measure the size and position of a tumour.

urethra

The tube through which urine leaves the body.

urologist

A surgeon who specialises in treating diseases of the urinary system and the male reproductive system.

vas deferens

Tubes that carries sperm out of the testes.

Can't find what you're looking for?

For more cancer-related words, visit www.cancercouncil.com.au/words or www.cancerciv.org.au/glossary.



How you can help

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 your local Cancer Council.



Cancer Council Helpline 13 11 20

Cancer Council Helpline is a telephone information service provided throughout Australia for people affected by cancer.

For the cost of a local call (except from mobiles), you, your family, carers or friends can talk confidentially with oncology health professionals about any concerns you may have. Helpline consultants can send you information and put you in touch with services in your area. They can also assist with practical and emotional support.

You can call Cancer Council Helpline 13 11 20 from anywhere in Australia, Monday to Friday. If calling outside business hours, you can leave a message and your call will be returned the next business day.

Visit your state or territory Cancer Council website

Cancer Council ACT
www.actcancer.org

Cancer Council SA
www.cancersa.org.au

Cancer Council Northern Territory
www.cancercouncilnt.com.au

Cancer Council Tasmania
www.cancertas.org.au

Cancer Council NSW
www.cancerCouncil.com.au

Cancer Council Victoria
www.cancervic.org.au

Cancer Council Queensland
www.cancerqld.org.au

Cancer Council Western Australia
www.cancerwa.asn.au

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



Cancer Council
Helpline
13 11 20