Understanding Testicular Cancer
A guide for men with cancer, their families and friends
This booklet has been prepared to help you understand more about testicular cancer.

Many men feel understandably shocked and upset when told they have testicular cancer. We hope this booklet will help you understand how this 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.

*Cancer Council Helpline 13 11 20* can arrange telephone support in different languages for non-English speakers. You 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. Our bodies constantly make new cells to help us grow, to replace worn-out cells and to heal damaged cells after an injury.

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

A tumour can be benign (not cancer) or malignant (cancer). A benign tumour does not spread to other parts of the body. However, a malignant tumour is made up of cancer cells, which are able to spread. The cancer that first develops in a tissue or organ is called the primary cancer.

How cancer starts

- **Normal cells**
- **Abnormal cells**
- **Cancer in-situ**
- **Angiogenesis**
When it first develops, a malignant tumour may not have invaded nearby tissue. This is known as a cancer in-situ or carcinoma in-situ. As the tumour grows, it may spread and become what is known as invasive cancer.

Cancer cells can spread to other parts of the body by travelling through the bloodstream or the lymphatic system. They may continue to grow into another tumour at this new site. This 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 still called 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. Their job 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 to the penis. The spermatic cord contains blood vessels, nerves, lymph vessels and a tube called the vas deferens, which carries sperm towards the penis.

The vas deferens also passes through the prostate gland. This 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

- Urinary bladder
- Penis
- Spine
- Rectum
- Urethra
- Spermatic cord (containing the vas deferens)
- Seminal vesicle
- Prostate gland
- Epididymis
- Testicle
- Scrotum
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, as well as 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:

Seminoma – Usually occurs in men aged 25–50, but also occurs in men over 60.

Non-seminoma – A type of testicular cancer that is diagnosed more frequently in younger men, usually in their 20s. Non-seminoma is made up of sub-types of testicular cancer that are grouped together, such as teratoma, yolk sac tumour, choriocarcinoma and embryonal 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 the cancer as if it is a non-seminoma.

A small number of testicular cancers 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 not cancer (benign) and are removed by surgery.

Other types of cancer can also involve the testis, in particular some types of cancer of the lymph system (lymphomas). For information about lymphoma, call Cancer Council Helpline 13 11 20.

Q: What are the causes?
A: The causes of testicular cancer are unknown, but certain factors may increase a man's chances of developing it:

**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 more likely to develop testicular cancer than men born with descended testicles.
**Personal history** – About 2–3% of men who have previously had testicular cancer later develop cancer in the other testicle.

**Family history** – A man with a father or brother who has had testicular cancer is slightly more at risk.

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.

**Human Immunodeficiency Virus (HIV)** – There is some evidence that the HIV infection may increase a man’s 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: What are the symptoms?
A: In some men, testicular cancer does not cause any 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.

Q: How common is it?
A: Testicular cancer is a rare type of cancer. About 690 men are diagnosed with the disease each year, accounting for about 1% of all cancers in Australian men.

Testicular cancer occurs most often in men aged 20–40 years, and the average age at diagnosis is 35.
You will usually begin by seeing your general practitioner (GP), who will use a gloved hand to check 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 device sends out soundwaves that 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 of tumour markers are more common in mixed tumours and non-seminoma. 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** – raised in non-seminoma cancers
- **beta human chorionic gonadotrophin** – raised in some seminoma and non-seminoma cancers
- **lactate dehydrogenase** – 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.
Removing the testicle

None of the tests described on pages 12–13 can definitely diagnose testicular cancer. The only way this can be done is by surgically removing and examining the affected testicle.

For some types of cancer, a doctor can make a diagnosis by removing and examining some tissue from the tumour. This is called a biopsy. 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 (an orchidectomy or orchiectomy).

Tissue that is removed during surgery 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 your testicles are affected, your doctor may remove both of them. This is called a bilateral orchidectomy.

What happens during an orchidectomy

1. You will be given a general anaesthetic before the orchidectomy.
2. 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.
If the cancer has not spread, an orchidectomy may be the only treatment you need. However, after the operation, your doctor will encourage you to have regular check-ups to make sure there is no recurrence of the disease. For more information, see page 46.

**Recovery after surgery**

After the orchidectomy, you will probably stay in hospital for 1–2 days. When you return home, you should be able to drive after 2–4 weeks and return to work when you feel ready. 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. Scrotal supports can be purchased at most pharmacies. This is just like underwear and is not noticeable under regular clothing.

You may also experience some of the side effects listed on pages 16–17.

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3. **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.**
Side effects

Pain – Your doctor can give you pain-killers to control the pain. 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 blisters (haematoma) may also form, but both the bruising and blisters 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 page 40.

Effect on fertility – Losing one testicle shouldn’t affect your ability to have children (fertility), as 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 do sperm banking. See page 42.

“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
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.

Body image issues – Some men choose to replace the removed testicle with an artificial testicle, called a prosthesis.

**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 that has the weight and feel of a normal testicle. The prosthetic testicle makes the scrotum appear normal.

Whether or not you have a prosthesis (or two prostheses) is a personal decision. Some men feel it relieves their anxiety about having one testicle, or not having testicles.

If you choose to have a prosthesis, this operation usually occurs separately to the orchidectomy. The prosthesis is anchored to the base of the scrotum.

Your urologist can give you more detailed information about your options and the procedure.

Further tests

If the removal of your testicle and other tests show you have cancer, more tests may be carried out to see whether the cancer has spread to other parts of the body. This is called staging (see page 19). Some of these tests may also be done before the orchidectomy.
CT scan
A computerised tomography (CT) scan is a type of x-ray procedure. It takes pictures of the inside of your body, which can help your doctor see if the cancer has spread.

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.

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

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.

The contrast solution used in CT scans may contain iodine. If you are allergic to dyes, fish or iodine, let the person performing the scan know in advance.

PET scan
A PET (positron emission tomography) scan highlights abnormal tissues in the body. This scan is not commonly used for testicular cancer, but it may be used after treatment if your tumour markers are elevated, or if the doctor is not sure of the full extent of the cancer. PET scans may not be available at your local hospital. Some people have to travel to a centre where a PET scanner is located.
You will be injected with a glucose solution containing a small amount of radioactive material. The solution circulates in your body and is taken up by actively dividing cells, such as cancer cells. You will then have a full body scan.

The scan takes about 2–3 hours. The radiation will leave your body within a few hours, but talk to your doctor beforehand if you are concerned about the effects of the radiation.

Chest x-ray
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.

Staging testicular cancer
The removal of the testicle and the results of the other tests will help the pathologist see how far the cancer has spread (the stage). Your doctor will determine your treatment based on the stage of the cancer and your personal preferences.

The most common staging system uses numbers to describe the stage:

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Cancer is found only in the testicle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 2</td>
<td>Cancer has spread to the lymph nodes in the abdomen or pelvis.</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Cancer has spread beyond the lymph nodes to other areas of the body, such as the lungs, liver or brain.</td>
</tr>
</tbody>
</table>
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.

Testicular cancer is the most curable solid organ tumour. If the cancer is found while it is still only in the testicle (stage 1), 97% of men are cancer-free after treatment. Stage 2 and 3 cancer do become more difficult to treat, but in most cases, tumours can be controlled or shrunk with treatment.

‘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.’’

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:
<table>
<thead>
<tr>
<th><strong>Health professional</strong></th>
<th><strong>Role</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>urologist</td>
<td>a surgeon who specialises in treating diseases of the urinary system and the male reproductive system</td>
</tr>
<tr>
<td>medical oncologist</td>
<td>prescribes and coordinates the course of chemotherapy</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 your treatment</td>
</tr>
<tr>
<td>cancer care coordinator/cancer nurse coordinator</td>
<td>supports patients and families throughout treatment and liaises with other staff to help organise care</td>
</tr>
<tr>
<td>endocrinologist</td>
<td>specialises in restoring the normal balance of hormones in the body, for men who have had both testicles removed and need testosterone replacement</td>
</tr>
<tr>
<td>anaesthetist</td>
<td>administers an anaesthetic before an operation so you lose consciousness and don’t feel any pain</td>
</tr>
<tr>
<td>dietitian</td>
<td>recommends an eating plan for you to follow while you are in treatment and recovery</td>
</tr>
<tr>
<td>social worker, physiotherapist, clinical psychologist &amp; occupational therapist</td>
<td>link you to support services and help you with any emotional, physical or practical problems</td>
</tr>
</tbody>
</table>
Key points

• Your doctor will do an external examination, using a gloved hand 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 orchiectomy. 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, PET scan and/or chest x-ray.

• 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. This is the expected outcome of the disease. Testicular cancer is the most curable solid organ tumour, and 97% of men are cancer-free after treatment.

• You will see a range of health professionals, such as a urologist and nurses. These people will work as a multidisciplinary team to diagnose and treat you.
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.

You may have chemotherapy, radiotherapy or surgery, or a combination of treatments.

**Surveillance policy**

If you had an orchidectomy (see pages 14–15) 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. This is called a surveillance policy.

Tests will show whether there is still cancer there (residual cancer) or if the cancer has returned. If so, you will have further treatment.

> The surveillance policy is just like having regular check-ups at the doctor. I was seen every four months for the first year, every six months from years 1–3, then every 18 months.  

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*Michael*
Chemotherapy

Chemotherapy is the use of drugs to kill or slow the growth of cancer cells. The aim of treatment is to destroy rapidly dividing cells, such as cancer cells, while causing the least possible damage to healthy cells.

This treatment may be given:

- if the cancer has spread outside your testicle
- in conjunction 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 or is life threatening (stage 3 cancer – see page 19).

There are many types of chemotherapy drugs. Some men are given a drug called carboplatin, which is often used in early-stage seminoma 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 by an injection into the vein (intravenously) using a drip or by an injection into a muscle (intramuscularly). It is given in cycles, which means you will receive the drugs and then have a rest period for about 21 days before starting a new cycle.

Most men have two cycles of BEP, but treatment varies from patient to patient. You will probably have to visit the hospital daily (as an outpatient) to have treatment.
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.
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.

**Nausea and vomiting** – It is common to feel ill or vomit. However, anti-nausea medication can prevent or reduce this feeling. Tell your medical team if you feel nauseous.
**Constipation** – Medication taken to prevent nausea and vomiting can cause constipation. Your health care 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, but let your doctor know if you experience it.

**Ringing 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 page 40.

**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. Consider 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. Talk to your doctor about any symptoms that don’t go away.
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.

**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 a few 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’s important that your partner does not become pregnant during the time you’re having treatment.

Some men want to have children after treatment. For more information about fertility, see page 42.
Radiotherapy
Radiotherapy uses x-rays to kill cancer cells. This treatment is commonly used to treat men with seminoma. Men with non-seminoma 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 abdomen.

Treatment is carefully planned to make sure as many cancer cells as possible are destroyed with as little harm as possible to your normal tissue. The doctor 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 seeing the radiation oncologist, having blood tests and setting 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 will need to have.
Side effects
Radiotherapy most commonly causes fatigue and dyspepsia (abdominal pain, bloating and nausea). These, and other side effects, usually disappear within a few days of finishing treatment. Talk to your doctor if the side effects are ongoing.

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.

Dyspepsia – The radiotherapy area will include your abdomen and this may upset your stomach. If you feel nauseous, your doctor will probably prescribe medication.

Bowel problems – Bowel irritations, including diarrhoea, are common. Medication and watching what you eat can help. Call the Helpline for information about food 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. Consider storing sperm before radiotherapy treatment starts.
Men who have radiotherapy 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 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 to prevent the cancer from spreading further.

- 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.

The surgeon will make a large incision from the breastbone (sternum) to below the bellybutton. Your organs are moved out of the way and the affected lymph nodes are removed. This can take several hours, depending on how many lymph nodes need to be removed. Surgical staples are used to close the wound.
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 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.

An 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 sperm before the RPLND. It may also be possible to have surgery to protect the nerves that control ejaculation (nerve-sparing surgery). 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 decide your treatment based on the type of testicular cancer you have, 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. This is called a surveillance policy.

• People who have further treatment may have chemotherapy, radiotherapy, surgery or a combination of treatments.

• Chemotherapy is the use of drugs to kill or slow the growth of cancer cells. Different drugs may be used – one common combination is called BEP chemotherapy.

• Side effects of chemotherapy are temporary. They include fatigue, nausea, hair loss and erection problems.

• Radiotherapy uses x-rays to kill cancer cells. It is usually used to treat men with seminoma.

• Some side effects of radiotherapy include fatigue and abdominal pain. Side effects usually disappear 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 lymph nodes. This is called retroperitoneal lymph node dissection (RPLND).

• Palliative treatment may help control the symptoms of the cancer and stop the spread of the disease. It can include various treatments, such as chemotherapy or other medication.
Making treatment decisions

Sometimes it is difficult to decide on the right treatment. You may feel that everything is happening so fast you don’t have time to think things through. If you are feeling unsure about your options, check with your doctor how soon your treatment should start, and take as much time as you can before making a decision.

Understanding details about the disease, the available treatments and their possible side effects will help you make a well-informed decision. This decision will also take into account your personal values and the things that are important to you and your family. It is common to feel overwhelmed by information, so it may help if you read and talk about the cancer gradually.

• Weigh up the advantages and disadvantages of different treatments, including the impact of any side effects.

• If only one type of treatment is recommended, ask your doctor why other choices have not been offered.

• If you have a partner, you may want to discuss the treatment options together. You can also talk to friends and family.

You have the right to accept or refuse any treatment offered by your doctors and other health care professionals. Some people with 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. Some people choose options that focus on reducing symptoms and make them feel as well as possible.
Talking with doctors

When your doctor first tells you that you have cancer, you may not remember all the details about what you are told. You may want to see the doctor again before deciding on treatment. Ask for the time and support to make your decision.

If you have questions, it may help to write them down before you see the doctor. You can also check the list of suggested questions on page 53. Taking notes or recording the discussion can help too. 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 your doctor uses medical terms you don’t understand, ask for an explanation in everyday language. You can also check a word’s meaning in the glossary (see page 54).

If you have several questions for your doctor, ask if it is possible to book a longer appointment.

A second opinion

Getting a second opinion from another specialist may be a valuable part of your decision-making process. It can confirm or clarify your doctor’s recommendations and reassure you that you have explored all of your options.

Some people feel uncomfortable asking their doctor for a second opinion, but 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. Alternatively, you may decide you would prefer to be treated by the doctor who provided the second opinion.

**Taking part in a clinical trial**

Your doctor may suggest you consider taking 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. Over the years, trials have improved treatments and led to better outcomes for people diagnosed with cancer.

If you join what is called a randomised trial for a new treatment, you will be chosen at random to receive either the best existing treatment or a promising new treatment.

To help you decide whether or not to participate, you can talk to your specialist or the clinical trials nurse. If you’re still unsure, you can also ask for a second opinion from an independent specialist. If you do decide to take part, you have the right to withdraw from the trial at any time; doing so will not jeopardise your ongoing treatment for cancer.

For more information about clinical trials and other research, including questions to ask your doctor and how to find a suitable study, call Cancer Council Helpline 13 11 20. You can also find trials on the website www.australiancancertrials.gov.au.
Cancer can cause physical and emotional strain. It can also impact on your body image, relationships and outlook for the future. It’s important to take time to look after yourself by eating well, exercising, reducing stress and improving your wellbeing.

**Healthy eating**
Eating nutritious food will help you keep as well as possible, and cope with cancer and treatment side effects. Depending on your treatment, you may have special dietary needs. A dietitian can help you manage any eating difficulties, and choose the best foods and meals for your situation. Cancer Council Helpline can also send you free information about nutrition and cancer.

**Staying active**
Research shows it is helpful to stay active and exercise regularly if you can. Physical activity, even if gentle or for a short duration, helps to improve circulation, reduce tiredness and elevate mood.

If you aren’t used to exercise or haven’t exercised for a while, make small changes to your daily activities. You could walk to the shops, take the stairs, do some gardening or join an exercise class.

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.
Complementary therapies

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

There are many types of complementary therapies, such as herbal medicine, acupuncture, massage, relaxation and meditation. Some cancer treatment centres offer these therapies as part of their services, but you may have to go to a private practitioner. Self-help CDs or DVDs can also guide you through different techniques.

Let your doctor know about any complementary therapies you are using or thinking about trying. Depending on your medical treatment, some therapies may not be appropriate. For example, herbs and nutritional supplements may interact with your medication or surgery, resulting in harmful side effects. Massage, acupuncture and exercise therapies should also be modified if you have lowered immunity, low platelets or fragile bones.

For more information about complementary therapies and alternative therapies, call Cancer Council Helpline 13 11 20.
Relationships with others

For many people, the experience of having cancer and any ongoing challenges causes them to make some changes in their life. You may also have a new outlook on your values, priorities, or life in general.

Some people find that these changes can affect their relationships. However, sharing your thoughts and feelings with family, friends and colleagues may help to strengthen your relationships with them.

If you feel uncomfortable talking about your feelings, take your time and approach others when you are ready. People usually appreciate insight into how you are feeling and guidance on providing support during and after treatment. Calling Cancer Council Helpline may help you build your confidence to discuss your feelings with others.

Give yourself time to adjust to your cancer diagnosis, and do the same for friends and family. People often react in different ways, for example being overly positive, playing down fears, or keeping a distance. They are also dealing with the diagnosis and the changes.

If someone’s behaviour upsets you, it might help to discuss how you both feel about the situation.
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.

**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 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.

**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.

- 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, for some time during and after treatment. 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.

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. 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. This 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.
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. If you have a partner, talk to them about how you’re feeling. You will probably find they are 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 17.

“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
Life after treatment

Life after cancer treatment can present its own challenges. You may need to take some time to adjust to any physical and emotional changes.

You may have mixed emotions. Beforehand, you may have been busy with appointments and focused on treatment, but afterwards you may feel anxious or vulnerable. You might worry about every ache and pain and wonder if the cancer is coming back.

Some people say that after cancer they have changed priorities and see life in a new way. For example, you may decide to travel, spend more time with family, or do volunteer work.

Tips

- Take time to get used to body changes. 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 gently, if you are both comfortable.
- Read Cancer Council’s information about emotions and cancer, available online or from Cancer Council Helpline 13 11 20.
- You can also ask the Helpline about practical suggestions about dealing with physical changes, such as hair loss or weight loss.
Although you might feel pressure to return to normal life, you may find that you don’t want your life to return to how it was before cancer.

You might find it helpful to:
• take time to adjust to physical and emotional changes
• re-establish a new daily routine at your own pace
• spend time on a leisure activity you enjoy
• maintain a healthy diet and lifestyle
• schedule regular check-ups with your doctor
• share your concerns with family and friends and tell them how they can support you
• call Cancer Council Helpline to connect with other people who have had cancer, or to request a free booklet about life after cancer.

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.
After treatment: follow-up

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.

Nevertheless, after your treatment, you will need regular check-ups to confirm that the cancer hasn’t come back. A physical examination, blood tests, chest x-rays and/or CT scans may be done.

Check-ups will become less frequent if you have no further problems. Between follow-up appointments, let your doctor know immediately of any health problems.

If you don’t have any signs or symptoms of the cancer, the doctor may say you are in 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 relapse. 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.
Key points

• It is important to look after your own wellbeing during and after cancer treatment.

• Eating healthy food will help you cope with cancer and treatment. If you have special dietary needs, a dietitian can give you advice.

• It is beneficial to stay as active as possible and do gentle exercise. If you had an orchidectomy, you may be able to exercise more vigorously 6–8 weeks after treatment. If you have had another type of treatment, it may take longer.

• Complementary therapies, such as massage, can help some people improve their mood and cope better with side effects.

• Cancer can affect your relationships. Many men worry about whether their sex life will be affected. Different treatments have different effects. The removal of one testicle should not affect your ability to have an erection or orgasm, or conceive a child.

• If you are concerned about the effect on your fertility, you may want to bank sperm for use at a later time.

• You may have mixed feelings after treatment ends. Scheduling regular check-ups with your doctor and re-establishing a daily routine can help.

• Only about 2–3% of men who have had testicular cancer go on to develop cancer in the other testicle. Your doctor will do regular check-ups, including blood tests, to confirm the cancer hasn’t come back.

• If the cancer does come back (relapse), you may have chemotherapy or surgery.
When you are first diagnosed with cancer, and during different stages of treatment and recovery, you may experience a range of emotions, such as fear, sadness, anxiety, anger or frustration. If sadness or anxiety is ongoing or severe, talk to your doctor.

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

- your treatment team
- a counsellor, social worker or psychologist
- your religious or spiritual adviser
- a support group or someone who has had a similar experience to you – see page 50
- Cancer Council Helpline.

If you need practical assistance, such as help around the house, it may be hard to tell people what would be useful. You might prefer to ask a family member or friend to coordinate offers of help.

You may find that while some people you know are supportive, others struggle to know what to say to you. If you have children, the prospect of telling them you have cancer can be unsettling. Cancer Council has a range of free resources to help people talk about cancer and deal with the emotions that cancer may bring up. Publications are available for people with cancer, partners, carers, children, friends and colleagues.

Call 13 11 20 for resources and support. You can also download booklets from the Cancer Council website.
Practical and financial help
A serious illness can cause practical and financial difficulties. Many services are available so you don’t have to face these problems alone:

- Financial or legal assistance – through benefits, pensions and programs – may help pay for prescription medicines, transport costs to medical appointments, utility bills or basic legal advice.

- Meals on Wheels, home care services, aids and appliances can be arranged to help make life easier at home.

- Subsidised travel and accommodation may be available if you need to travel long distances for treatment.

- Home nursing care may be available through community nursing services or local palliative care services.

Ask Cancer Council Helpline or your hospital social worker, occupational therapist or physiotherapist which services are available in your area and if you are eligible to receive them.

Cancer Council library*
Following a cancer diagnosis, many people look for information about new types of treatment, the latest research findings and stories about how other people have coped. Cancer Council has a range of books, CDs, DVDs and medical journals that may be helpful for you. Call the Helpline for more information.

* Not available in Victoria and Queensland
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. There are many ways for you and your family members to connect with others for mutual support and to share information.

In these support settings, people often feel they can speak openly and share tips with others. You may find that you are comfortable talking about your diagnosis and treatment, your relationships with friends and family, and your hopes and fears for the future.

Ask your nurse, social worker or Cancer Council Helpline about suitable support groups and peer support programs in your area.

Types of support services*

- **Face-to-face support groups** – often held in community centres or hospitals
- **Online discussion forums** – where people can connect with each other at any time – see [www.cancerconnections.com.au](http://www.cancerconnections.com.au)
- **Telephone support groups** – for certain situations or types of cancer, which trained counsellors facilitate
- **Peer support programs** – match you with a trained volunteer who has had a similar cancer experience, e.g. Cancer Connect.

*Not available in all areas*
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 some types of 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 different services and to request free information for carers and families looking after someone with cancer.
Useful websites

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

**Australian**
- Cancer Council Australia ........................................ www.cancer.org.au
- Cancer Australia ............................................... http://canceraustralia.gov.au
- Cancer Connections ........................................ www.cancerconnections.com.au
- Carers Australia ................................................ www.carersaustralia.com.au
- Department of Health and Ageing ................................ www.health.gov.au
- HealthInsite ........................................................ www.healthinsite.gov.au
- Andrology Australia ........................................ www.andrologyaustralia.org
- beyondblue ......................................................... www.beyondblue.org.au
- MensLine Australia .............................................. www.mensline.org.au
- Testicular Cancer Resource Network ..................... www.tc-cancer.com

**International**
- American Cancer Society ........................................ www.cancer.org
- Macmillan Cancer Support ...................................... www.macmillan.org.uk
- National Cancer Institute .......................................... www.cancer.gov
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?
- How far has the cancer spread? How fast is it growing?
- 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? How can the cost be reduced?
- Will I have a lot of pain with the treatment? What will be done about this?
- Can we discuss sperm banking? If I choose to do this, when does it have to be done?
- 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 check-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?
You may come across new terms when reading this booklet or talking to health professionals. You can check the meaning of other health-related words at www.cancercouncil.com.au/words or www.cancervic.org.au/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**
A chemical found in the bloodstream of some men with non-seminoma testicular cancer. It is not found in men with seminoma testicular cancer.

**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.

**CT scan**
This scan uses x-rays to create a picture of the body’s structures, such as the bones, blood vessels and soft tissues. Also called a computerised tomography scan.

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

**dry orgasm**
Sexual climax without the release of semen from the penis.

**epididymis**
A structure on the back of each testis that stores immature sperm and attaches to the spermatic cord, a tube which runs from each testicle to the penis.

**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.

**hormones**
Chemical messengers in the body that transfer information between cells.

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

**libido**
Sex drive.

**lymphadenectomy**
Removal of the lymph glands from a part of the body.

**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.

**nerve-sparing surgery**
A type of surgery to save the nerves that affect ejaculation and urination.

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

**orchidectomy (orchiectomy)**
An operation to remove a testicle. 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 physical and emotional symptoms of cancer.

**pathologist**
A specialist who studies diseases to understand their nature and cause, and interprets the results of tests (such as a biopsy).

**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.

**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. 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 disease.

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.

seminoma
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 penis. 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.

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

For the cost of a local call (except from mobiles), you can talk about any concerns confidentially with oncology health professionals. Helpline consultants can send you information and put you in touch with services in your area. If you need information in a language other than English, an interpreting service is available.

You can call the Helpline, Monday to Friday, 9am to 5pm.

If you have difficulty communicating over the phone, contact the National Relay Service (www.relayservice.com.au) to help you communicate with a Cancer Council Helpline consultant.

For more information, go to www.cancercouncil.com.au.

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**Regional offices**

**Central and Southern Sydney**  
Woolloomooloo  
Ph: 02 9334 1900

**Central Coast**  
Erina  
Ph: 02 4336 4500

**Far North Coast**  
Alstonville  
Ph: 02 6627 0300

**Hunter**  
Broadmeadow  
Ph: 02 4923 0700

**Mid North Coast**  
Coffs Harbour  
Ph: 02 6659 8400

**North West**  
Tamworth  
Ph: 02 6763 0900

**Northern Sydney**  
Crows Nest  
Ph: 02 9334 1600

**South West**  
Wagga Wagga  
Ph: 02 6937 2600

**Southern**  
North Wollongong  
Ph: 02 4223 0200

**Western**  
Orange  
Ph: 02 6392 0800

**Western Sydney**  
Parramatta  
Ph: 02 9354 2000
For support and information on cancer and cancer-related issues, call Cancer Council Helpline. This is a confidential service.

For further information and details please visit our website: www.cancercouncil.com.au