



The Royal College
of Surgeons of England



Treating **PROSTATE CANCER**



Questions and Answers

About this Information Booklet



Every year over 45,000 men in the UK are diagnosed with prostate cancer. One way of dealing with the disease is through gaining knowledge and information. A diagnosis of cancer is life changing and often bewildering. As cancer treatments and options change it is often hard to navigate the huge amount of information that you or a loved one is given.

This booklet aims to give you an insight in to the disease and current treatment in an easily digestible question and answer format.

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TREATING PROSTATE CANCER

Questions and Answers

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HOW CAN I USE THIS BOOKLET?

We have designed this booklet for men who have already been told they have prostate cancer. It aims to:

- help you become better informed about prostate cancer and how it is treated; and
- guide you in the decisions you will make about your care with your doctor.

The information in this booklet cannot replace talking to your GP or hospital doctor.

This booklet will describe the prostate and explain the differences between the common complaint of an enlarged prostate and prostate cancer.

It will describe the tests used and the ways in which prostate cancer is most frequently treated. There are several treatments for cancer of the prostate.

Each treatment has its own risks and side effects. For this reason you have an important part to play in deciding which treatment is best for you. Relatives and friends may also find this booklet useful.

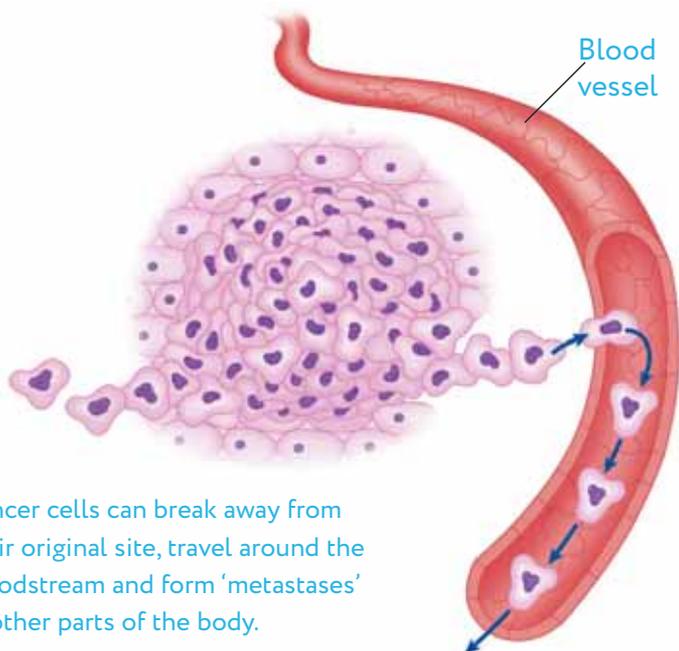


WHAT IS PROSTATE CANCER AND HOW IS IT DIAGNOSED?

Understanding cancer

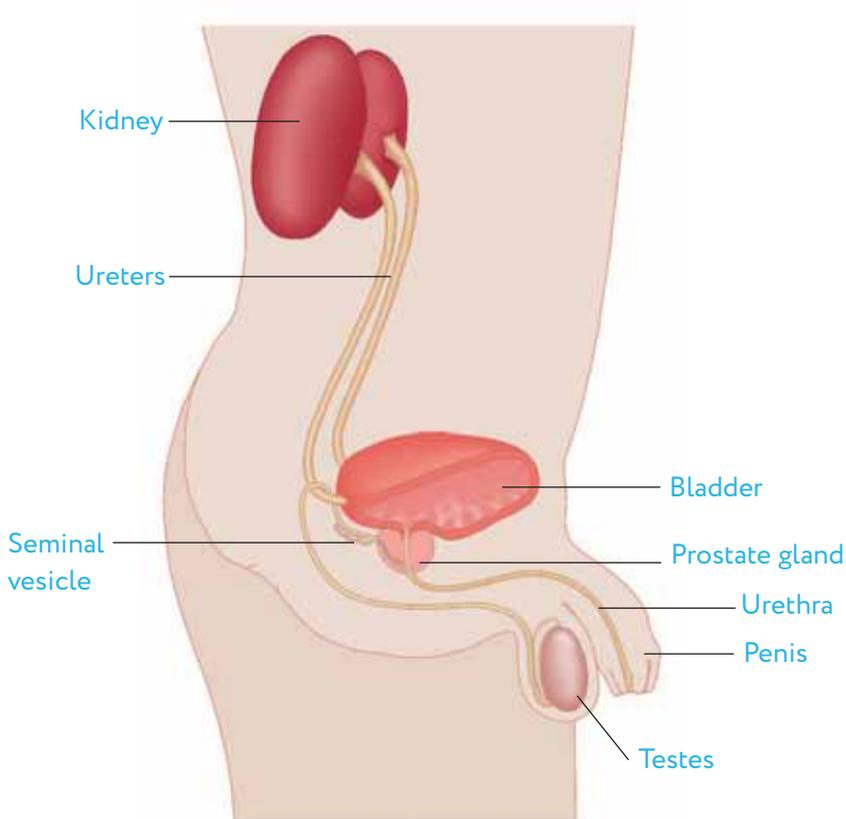
Your body is made up of trillions of cells that continuously renew themselves to replace old or damaged tissue. When the renewal process gets out of control and begins to invade healthy tissue, it is called cancer. However, cancers are different from benign (non-cancerous) growths, which are more common and do not invade healthy tissue.

Cancers are described as 'malignant'. Other words for describing a cancer are tumours and neoplasms. Sometimes cancer cells can break away from the original site and settle in other parts of the body, causing further damage. When this happens the cancers that have spread are called 'metastases' or 'secondaries'.



Cancer cells can break away from their original site, travel around the bloodstream and form 'metastases' in other parts of the body.

WHAT AND WHERE IS THE PROSTATE?



The prostate is a gland found only in men and is just below the bladder. When men pass urine, it flows through a tube (urethra) and out through the penis. The urethra has to pass through the prostate before reaching the penis. This is why some men have problems with urinating when they have an enlarged prostate. Fluid produced by the prostate forms part of semen and may help to nourish sperm.

WHAT GOES WRONG WITH THE PROSTATE?

As men get older, the prostate gland increases in size. Many men will develop a condition called benign prostatic hyperplasia (BPH). BPH is not cancer. Men who have difficulty urinating may have drug therapy or an operation called a TURP (**transurethral resection of the prostate**) to relieve the symptoms of BPH. Prostate cancer can, in some advanced cases, cause urinary difficulties similar to those for BPH. So some men with prostate cancer may be offered a TURP to relieve these symptoms. This operation does not cure prostate cancer. Four out of 10 men who are 70 years or older will have prostate cancer. But some of them will live out their whole lives without the cancer ever being discovered or affecting them.

The causes of prostate cancer are unknown, although it is more common in some ethnic groups and diet has an effect. There is evidence that prostate cancer runs in families. You have about double the chance of developing it if your father or brother has had prostate cancer.

Symptoms of prostate problems

Listed below are some symptoms that are usually caused by benign disease, not prostate cancer. So do not worry if you have any of these symptoms, but do go to your doctor to have them checked as there are treatments that can help these symptoms.

- Difficulty or pain in passing urine.
- Having to rush to the toilet to pass urine.
- Frequent visits to the toilet, especially at night.
- Starting and stopping while urinating.
- Dribbling urine.
- A feeling of not having emptied the bladder fully.

What tests are there for prostate cancer?

Prostate cancer may be suspected following a rectal examination or blood test called PSA (Prostate Specific Antigen). However, it can only be confirmed by examining prostate tissue (a biopsy) under a microscope.

Sometimes, advanced prostate cancer is diagnosed when men visit the doctor feeling unwell, with tiredness, loss of appetite and perhaps bone pain.

What do the tests involve?

Your GP will ask you to describe how you feel. You may also have a rectal examination, urine and blood tests. Depending on what is found, your GP may refer you to a hospital for further investigation by a surgeon (urologist). You will receive a letter from the hospital asking you to go to an outpatients' clinic. We describe these investigations on pages 7 and 8.

Prostate-specific antigen (PSA) test

PSA is made by the prostate and some of it leaks into the blood. A small sample of blood is taken from a vein in the arm and sent to a laboratory to measure the level of PSA. About 50% of men with prostate cancer at the time of diagnosis have a raised PSA (above 4 micrograms per litre or nanograms per millilitre). But only one in four men with a PSA level between 4 and 10 micrograms per litre has prostate cancer.

There are various reasons for a raised PSA level. A high PSA does not necessarily

mean you have cancer, nor does a lower level mean you do not. It is generally felt that the PSA test is not accurate enough to be used to screen every man.



MRI (magnetic resonance imaging)

Magnetic resonance imaging scans the prostate looking for abnormal areas. If prostate cancer is detected the scan will help decide how much cancer is present.

In many centres MRI is carried out prior to prostate biopsies, but other centres schedule MRI scans after prostate biopsies and after the cancer is detected. The MRI machine is a large cylinder surrounded by a magnet.

For the scan, you will lie on a moveable table that will slide into the MRI machine for the picture of your prostate to be taken.



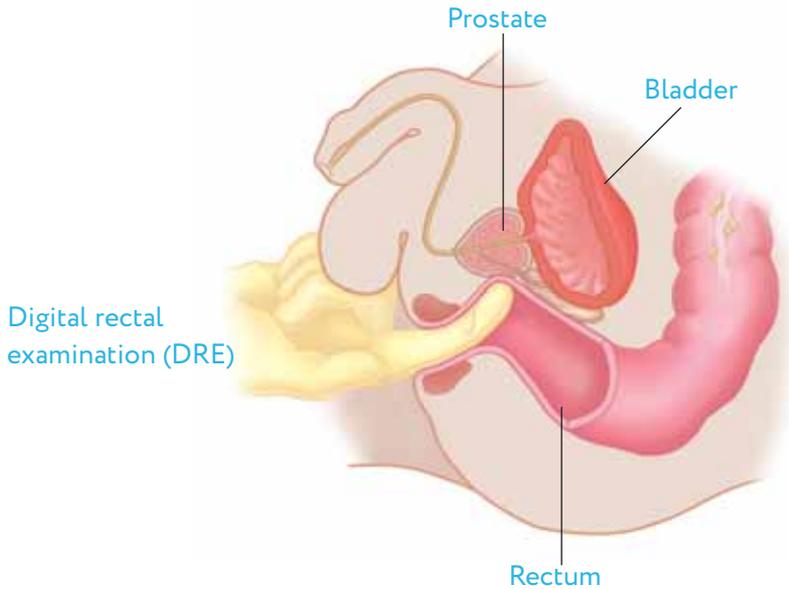
MRI Scanner

Trans-rectal ultrasound and biopsy (TRUS)

You will be asked to lie on your side with your knees drawn up towards your chin (the same as for a digital rectal examination described on page 8). An ultrasound probe is inserted in your back passage. A needle is used to take samples (biopsies) from your prostate, and these are sent for examination under a microscope to look for prostate cancer. Usually 12 or more biopsies are taken and you will have a local anaesthetic to make the procedure more comfortable for you. Another method of obtaining prostate samples is through the perineum. This is called transperineal biopsy. It is usually done under sedation or general anaesthetic.

Digital rectal examination (DRE)

You will be asked to lie on a couch on your side with your knees drawn up towards your chin. The doctor or specialist nurse will then put a gloved finger up into your bottom. He or she will be able to feel your prostate through the rectum wall.



Bone scan

A bone scan shows up any spread of cancer into the bones. A tiny, harmless amount of radioactive substance is injected into your veins and taken up by abnormal bone. The injection is given in the morning and the images are taken about four hours later. Any spread of cancer to the bones shows up as dark areas.

You may also have a CT scan or MRI scan (see page 7). These help to tell the difference between early and late prostate cancer.

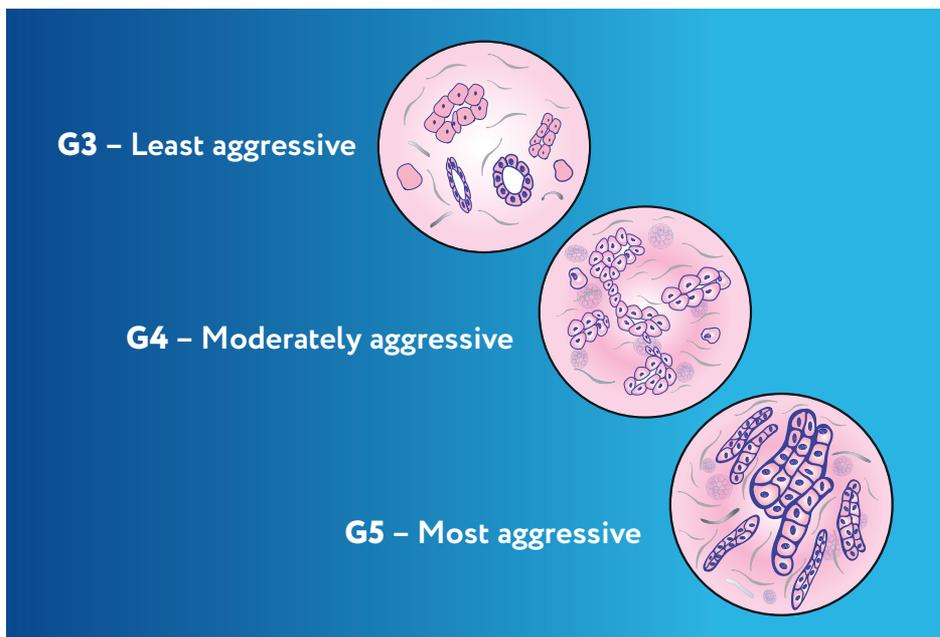
Cancer aggressiveness (Gleason Score)

Prostate cancer tissue can look like normal prostate tissue – the extent to which the cancer tissue looks like normal tissue is called the cancer GRADE.

Low-grade cancer looks most like normal tissue and high-grade cancer looks least like normal tissue. In general, the lower the grade, the less aggressive the cancer and the less likely it is to shorten life expectancy.

For prostate cancer, the Gleason grading system is normally used. For a needle biopsy, the grade can be 3, 4 or 5. Grade 3 is the least aggressive and 5 is the most aggressive. Because prostate cancer is very variable in appearance, one grade is given to the most frequent appearance and a second grade to the second most frequent appearance under the microscope.

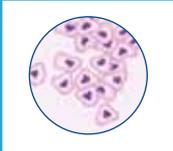
The two Gleason grades are then added together to give the Gleason score, which ranges from 6–10. Grade 6 (3+3) is least aggressive, 7 (4+3 or 3+4) is moderately aggressive and 8–10 is most aggressive. The more aggressive your prostate cancer is, the more likely it is to reduce your life expectancy.



CANCER STAGING: How far has the cancer spread?

Prostate cancer is described as 'early', 'locally advanced' disease or 'late'. It starts with changes in the cells of the prostate. The cells form a lump that may eventually be felt in a physical examination. Surgeons describe how far the cancer has spread according to 'TNM-stages', standing for primary Tumour, Nodes and Metastasis.

About 60% of men are diagnosed with early disease, 30% with locally advanced disease and 10% with advanced or late-stage disease. However, even when prostate cancer has reached the late stage, it may still be possible to slow down its growth. We discuss this in detail in section five.

T1 stage Early prostate cancer that can only be seen under the microscope.		T1
T2 stage Early prostate cancer that can be felt by rectal examination.		T2
T3 stage Locally advanced prostate cancer that may cause urinary problems.		T3
T4 stage Late prostate cancer probably with secondaries or metastases.		T4

Nodes can be N0 (negative) or N1 (positive). N1 indicates that the cancer has spread outside the prostate to one or more local lymph nodes. Metastasis can be M0 (negative) or M1 (positive). M1 indicates that the cancer has spread to a distant site.

SECTION TWO

HOW IS EARLY PROSTATE CANCER TREATED?

What are the treatments for early prostate cancer, and which is right for me?

Early cancers are usually dealt with in one of three ways, by:

- **active surveillance**
- **radical prostatectomy**
- **radical radiotherapy or brachytherapy**

We describe each of these in more detail on the next few pages.

Although any one of them may be most appropriate for you, these treatments can have very different effects on your quality of life.

So you have an important part to play in making an informed choice.



How is early prostate cancer treated?

A number of other treatments such as cryosurgery, laser therapy and HIFU (high-intensity focused ultrasound) are available in some places. Because these treatments are relatively new, not enough time has passed to know whether they are any more or less effective for early prostate cancer. You may be invited to join a clinical trial of one of these treatments.

What is active surveillance?

Active surveillance involves regular check-ups to monitor the prostate cancer. You will have to go to an outpatients' clinic or GP surgery every three to six months for a PSA test and sometimes repeat scans and biopsies. The doctor will be looking for a rise in your PSA level or any change in your condition. If this happens, you may be offered radical treatment.

What will happen to my cancer during active surveillance?

Assuming it is a slow growing cancer that will not affect your life expectancy, you will avoid the complications of radical treatment.

Active surveillance is the best option for men with low-risk prostate cancer. If the cancer starts to grow on active surveillance or you change your mind, you can still be treated with a radical prostatectomy or radical radiotherapy.



SECTION THREE

RADICAL PROSTATECTOMY – WHAT IS INVOLVED AND WHAT ARE THE RISKS?

A radical prostatectomy is a major operation. This operation is different to a TURP (transurethral resection of the prostate), which only removes some of the prostate.

Radical prostatectomy can be done by a variety of routes. The cut can be abdominal (retropubic) or perineal (between the testicles and the back passage) or by keyhole surgery (laparoscopic or by robotic surgery).

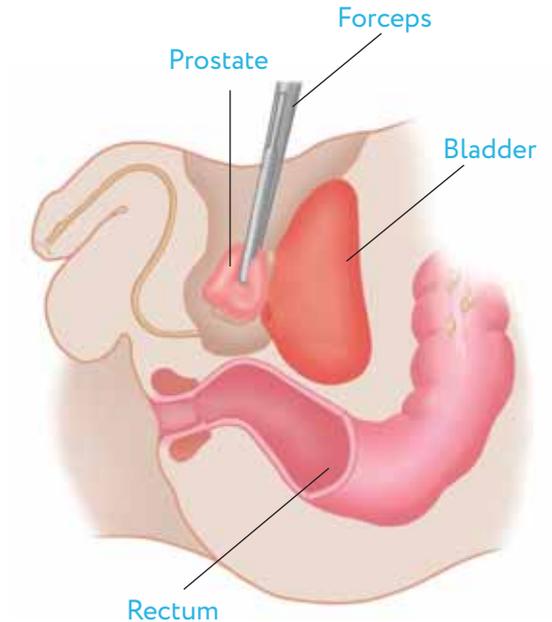
Your PSA should fall to a very low level after the operation. As long as it does not rise, it is generally considered that you are free of the cancer. In three or four out of 10 men having a radical prostatectomy, the cancer will already have spread to surrounding tissue, making the operation less effective. In about three in 10 men, the PSA will rise at some time after a radical prostatectomy and you may need to have additional treatment with radiotherapy or hormone therapy.

Which men should choose to have a radical prostatectomy?

The surgeon (who can carry out a radical prostatectomy) and the clinical oncologist (who can offer you radical radiotherapy) will help you decide between active surveillance and radical prostatectomy and radical radiotherapy. Radical prostatectomy is generally only recommended for men with a life expectancy of at least 10 years. Your decision may be influenced by the side effects of each option and how they might affect your quality of life. Most are done with robotic assistance.

Radical prostatectomy – what is involved and what are the risks?

The whole prostate is removed in a radical prostatectomy.



What are the side effects of a radical prostatectomy?

- About one out of 10 men suffer mild urinary incontinence. This means you may leak urine when you cough.
- About three out of 100 men suffer major problems with urinary incontinence. This causes continuous leakage of urine.
- Almost all men will have some difficulty getting erections (impotence), although about a half will recover to some extent.
- All men will be infertile and have a dry orgasm.
- About one in 20 men have problems passing urine due to scarring at the new join between the urethra and the bladder.

There are treatments available for impotence and incontinence, that your doctor can discuss with you.

If you think your life expectancy is limited, the side effects of surgery on your quality of life may not be worth any possible gain. Even if your life expectancy is **not** limited, you may be more concerned about your quality of life. This is a decision only you can make.

What does the operation involve?

Radical prostatectomy is a major operation with risks and complications. On average you will have to wait about one month for your operation. Bring any medication you are taking with you and show this to the nursing staff or doctor.

At the hospital

You will be asked to go to the hospital before the operation for routine checks, including:

- **your blood pressure, pulse and temperature**
- **a urine test**
- **an ECG (tracing your heartbeats electrically)**
- **blood tests**
- **a chest X-ray**

Usually, you will be admitted early on the day of your operation. Make sure that you do not eat or drink anything after midnight. On the day you go to hospital, you may have your blood pressure, pulse and temperature checked again. Most men are in hospital for between three and seven days.

What happens before the operation?

The anaesthetist who will be looking after you during the operation will visit you and ask you questions about:

- Previous operations and anaesthetics – this is to make sure you have had no problems with anaesthetics in the past.
- Medicines – it is important that the anaesthetist knows about the medication you are taking.
- Dental problems – the anaesthetist will have to put a tube in your mouth to help you breathe during the operation. It is important for them to know about caps and crowns. You will need to leave any false teeth on the ward.
- Chest problems and smoking – if you smoke, you are more likely to suffer complications from anaesthetics. You should give up smoking at least a week before you go into hospital. Smoking is now forbidden in hospital.
- Allergies – you must tell the anaesthetist about any allergies you have.
- If you are overweight you may be asked to lose weight before the operation.



The surgeon will also take precautions to prevent you developing a blood clot. You may be asked to wear elastic stockings and be given injections of blood-thinning drugs.

What do I need to know about ‘consenting to treatment’?

The consent form is a formal agreement between you, the surgeon and the hospital. It says that you are willing to have the treatment shown on the form. It is important that you read the consent form carefully before signing.

The surgeon operating on you, or one of his doctors, should bring the consent form to you to sign. You might also be asked to agree to provide spare prostate tissue for research or take part in a clinical trial. This will be your decision.

It is important that you are aware of the side effects of treatment before you sign a consent form.



What happens just after the operation?

After the operation you will be taken to the recovery ward. Here, a nurse will check your pulse and blood pressure regularly. You will usually be brought back to your ward within one hour.

You will have to wait before you have a drink because the anaesthetic may make you feel sick. You will receive food and drink gradually. However, within 24 hours you should be able to eat and drink normally. If you feel sick or have some pain, tell the nurse, who can give you something to help. It will help you recover quicker if you are free of pain, so it is important to tell the nurse if you need painkillers.

What happens in the days after the operation?

You will have a bag of fluid above your bed called a drip (intravenous fluids) which runs through a needle into your arm. This will probably be removed within a few hours. You will have a catheter (plastic tube) passing through your penis into your bladder to drain urine. You may also have one or more plastic tubes in your belly that are attached to drainage bags by your bed – these can be either to drain urine from your bladder or any fluid from the site of the operation.



The drain tube is usually removed on the day after surgery.

You may experience some pain in the first few days. But it is important to walk around after the operation to help prevent clots forming in your legs. If you need painkillers, ask for them.

Your catheter will stay in for about one to two weeks, so you will take it home attached to your leg. (Do not worry though, it is easy to hide this.) It is important to keep the catheter clean to help prevent infection. A daily bath or shower will help, but if you notice any discharge or pain around the tip of your penis, tell your nurse or doctor. You should try to drink two to three litres of fluid each day. After the operation there may be blood in your urine.

Occasionally a blood clot forms and blocks the catheter, preventing the urine from coming out. This can be painful and you should tell a nurse or doctor so they can remove it for you.

What happens when I go home?

Although you should take it easy for a month, it is important to take some gentle exercise like walking, as you will still be at risk of developing clots in your legs. Paracetamol should be enough to deal with any pain.

You will be given a drainage bag for your catheter that you can strap to your leg. You will be shown how to do pelvic floor exercises to improve continence. One to two weeks after you go home, you will have to return to the hospital to have the catheter removed. This is not usually painful although it can be a bit uncomfortable.

If you had clips rather than dissolvable stitches, you will have these removed by the nurse at your GP's surgery. This is not usually painful. You can return to work after a month although you will probably still feel more tired than usual.





Questions to ask your doctor after initial diagnosis?

It is a good idea to get an understanding of prostate cancer and talk through your treatment options with your doctor.

Here are a few suggested questions:

What is my PSA level and how has it changed over time?

.....

Has my cancer spread beyond the prostate?

.....

Where has the cancer spread to?

.....

What is my prostate cancer grade and how will this affect treatment?

.....

What treatment options exist for my stage of cancer?

.....



What sort of side effects can I expect from recommended treatments?

.....

Do I need to worry about impotence or other complications?

.....

Should I think about being monitored under active surveillance?

.....

How does active surveillance work?

.....

Should I think about changes to my diet or the way I exercise?

.....

**Where possible, take an active interest in your care.
Consider asking a relative or friend to support you throughout your treatment.**



Notes

Notes

SECTION FOUR

RADICAL RADIOTHERAPY – WHAT IS INVOLVED AND WHAT ARE THE RISKS?

Radical radiotherapy is another treatment for prostate cancer. It is suitable for men of any age and is an effective alternative to surgery. The aims of radiotherapy are to destroy prostate cancer cells and to stop them growing.

You can receive radiotherapy in one of two ways:

- **External beam radiotherapy** – high-energy X-ray beams are aimed at the prostate from outside the body.
- **Brachytherapy** – radioactive sources are positioned inside the prostate. There are two types of brachytherapy that can be used for different stages of prostate cancer and these are described on page 26.



Who are these treatments most suitable for?

As with surgery, radical radiotherapy is recommended for men with a good life expectancy. It is an alternative for men whose cancer can be treated radically, but who are not fit enough or choose not to have an operation.

Radiotherapy does not have risks associated with surgery, such as blood clots or blood loss. You will not have to stay in hospital during the therapy and many men are able to continue with their normal daily activities. However, it is not a 'softer option' – it carries its own risks and side effects, which you must consider before making this choice.

External beam radiotherapy

External beam radiotherapy is used to treat prostate cancer by aiming beams of high-energy X-rays at the prostate gland and the tissues immediately around it. The X-rays damage cells and stop them growing. Cancer cells are not able to recover from this damage, but the cells in the normal tissues surrounding the prostate (bladder and bowel) can repair themselves more easily.

Section four

The first step in external beam radiotherapy is to have a special planning scan (CAT scan) of your pelvis. The information on this scan will allow your doctor (oncologist) to see exactly where your prostate is and make a map of the areas that need treatment. During the scan the doctor will place three small dots of ink on your skin. These are permanent 'dots' that will be used to make sure you are in exactly the same position for your treatment each day.

The doctor will then ask a radiotherapy physicist to make an individual plan for your treatment. They will use a computer program to decide exactly where the X-rays need to be aimed to treat your prostate gland while trying to avoid as much of the normal tissue in the surrounding areas (bowel, bladder) as possible. This process is very complicated and will take one to two weeks to be completed.

When the doctor is satisfied with your plan, you may need to go back to the radiotherapy department for one further visit for a final check to position the X-ray beams before the actual treatment starts. (This is known as a verification visit.)

The X-rays are made in a special machine called a 'linear accelerator'. When you go for treatment, the radiographer will ask you to lie on your back on a firm bed attached to the machine. Part of the machine will move around you and direct X-rays at your prostate from different directions.

Radical radiotherapy – what is involved and what are the risks?

The treatment will only take a few minutes and is completely painless. It is important that you lie very still while the treatment is being given. You may be asked to drink some water before each therapy as this will fill your bladder and reduce the amount of bladder tissue in the radiotherapy beam.

You will have between 20 and 40 treatment sessions over four to eight weeks as an outpatient from Monday to Friday (not weekends).

There are two types of external beam radiotherapy that are available and these use different methods to reduce the amount of radiation given to the normal tissues surrounding the prostate gland. This can reduce side effects and also allow higher doses of radiation to be concentrated on the prostate gland itself.

3D conformal radiotherapy uses special 'blocks' within the linear accelerator to shape the beams to fit the exact shape and size of your prostate. Intensity Modulated RadioTherapy (IMRT) is a newer type of conformal radiotherapy. It can be used to adjust the dose of radiotherapy that is given to different parts of the treatment area.

Your doctor may recommend that you take a course of hormone therapy (see page 30) before radiotherapy to shrink the prostate, and maybe afterwards for some months.

Section four

What are the side effects of radiotherapy?

Most men experience side effects, but the severity varies from person to person. Acute side effects can happen during treatment and are usually temporary. Late side effects happen after the treatment has finished and these can be permanent. You should be able to continue normal activities during the radiotherapy.

Acute or short-term side effects

These are temporary and usually happen in the last three or four weeks of treatment and start to get better a few weeks after the treatment is over. You will get advice about diet and skincare before the treatment starts. Your doctor will prescribe creams and medicines if you need help with any of these problems.

- **Sore skin** – you may experience some darkening and soreness of the skin in the area being treated. This is most common in the skin between the legs and around the anus.

You should avoid using any creams, lotions or soaps, unless recommended by your doctor, and also avoid hot baths. You may also lose some pubic hair in the area being treated but this will usually grow back.

- **Bowel changes** – you may develop some discomfort and pain in the back passage (rectum) and this can be worse when you go to the toilet to open your bowels. This is called proctitis and can be treated with creams and suppositories.

Many men find that their bowel movements become loose and more urgent as the treatment progresses.

Radical radiotherapy – what is involved and what are the risks?

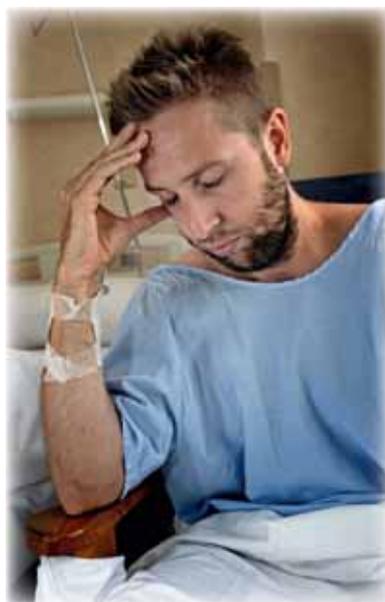
You may also notice a little leakage from the back passage and occasionally some blood or mucous (slime) in the stools. You will be given advice about diet and medication if diarrhoea becomes a problem.

- **Bladder changes** – you may have to pass urine more frequently both during the day and at night. Your urine stream may slow down and you may feel a burning sensation (radiation cystitis) when you pass urine.
- **Feeling tired** – towards the end of treatment and for a few weeks after, you may feel more tired than usual.

Permanent or long-term side effects

These side effects can happen many months after the radiotherapy has finished and include the following.

- **Bowel changes** – between one and five men in every 100 will have some long-term bowel changes. These can include diarrhoea or urgency to open your bowels, minor bleeding or some mucous from the rectum when passing a motion.
- **Bladder changes** – very rarely men may find it more difficult to pass urine.
- **Sexual changes** – most men will have problems getting an erection after radiotherapy, but about half will regain some degree of erection. The risk may increase if you have also been treated with hormone therapy. Treatments may be available to help.
- **Dry orgasm** – when you come, there may be no ejaculate.



Section four

Brachytherapy

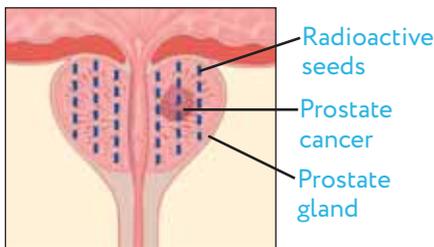
This form of radiotherapy can be given in two ways:

- low-dose-rate (LDR) permanent seed brachytherapy, or
- high-dose-rate rate (HDR) temporary brachytherapy

Low-dose-rate (LDR) permanent seed brachytherapy

This is an effective treatment for some men with early prostate cancer and uses radioactive seeds (see diagram). You will be carefully assessed before treatment to make sure that your prostate is not too big as this treatment can cause difficulties with passing urine if the prostate is very enlarged.

The seeds are placed in the prostate in a similar way to that described for HDR



Radioactive seeds or rods are placed in the prostate and destroy the cancer over a period of time.

brachytherapy (see left). However, the needles are withdrawn and the seeds are left permanently inside the prostate where they slowly lose their radioactivity with time and treat the prostate cancer.

Do not worry, you will not be giving out radioactivity or harming anybody who comes into contact with you; you will be asked to avoid close contact with

pregnant ladies and young children for at least two months after the treatment as a precaution. This treatment can be a quicker alternative for some of the men who cannot visit a radiotherapy centre each day.

This treatment has similar side effects to external beam radiotherapy but with less chance of erection problems.

High-dose-rate (HDR) temporary brachytherapy

This treatment can be used as well as external beam treatment to allow a higher dose of radiation to be given to the prostate and surrounding tissues for men with locally advanced (see page 28) or high-risk prostate cancer.

Radical radiotherapy – what is involved and what are the risks?

Hollow rods or needles are placed in the prostate through the skin of the perineum (the area between the anus and scrotum). You will need an anaesthetic for this procedure. After the needles have been placed, you will have a scan (CAT or ultrasound scan) to check their exact position and your doctor and a physicist will use this information to plan your treatment.

The needles stay in your prostate for one day, during which time you will need to lie on your back and a catheter will be placed in the bladder to help you pass urine. A radioactive source is put in each rod for a few minutes, one or two times during the day. You are not radioactive and the source is removed after each treatment.

You will stay in hospital for a few days until you can pass urine normally after the catheter has been removed. You will have a shorter course of external beam radiotherapy (four to five weeks) two weeks after the brachytherapy treatment. The side effects are similar to external beam radiotherapy apart from a small extra risk of developing a narrowing of the urethra (stricture), which can happen in between six and ten men in every 100 treated.

What happens after radiotherapy?

You will be seen in the outpatient clinic a few weeks after the radiotherapy finishes and regularly for many years afterwards. Your PSA will be checked and you will be asked about any side effects from the radiotherapy treatment.

If your treatment has been successful, your PSA level should fall. This can take many months and if you are also being treated with hormone therapy, it may be some years before you know your final PSA. This is because the hormone therapy will also reduce the PSA level. You will still have a measurable PSA level because you still have a prostate gland and the normal prostate cells will produce a small amount of PSA.

SECTION FIVE

WHAT IS LOCALLY ADVANCED PROSTATE CANCER AND HOW IS IT TREATED?

The spread of cancer was described on page 10 in terms of 'T' or tumour stages. When cancer has spread through the capsule of the prostate or the seminal vesicles (**T3**) or into the surrounding structures (**T4**), it is called locally advanced prostate cancer. Men with locally advanced prostate cancer have a higher risk that cancer cells may have already spread. You may be offered other treatment to kill any cells that could have spread beyond the prostate.

You may be offered radiotherapy treatment to include the surrounding structures (as well as the prostate), usually in combination with two to three years of hormone therapy. Hormone treatment (see page 30) can delay or prevent the cancer coming back in other places and is given by tablets or injections.

Some men with locally advanced prostate cancer are treated with hormone therapy alone. The choice depends on factors that you will discuss with your doctor.

There are two types of hormone treatments that can be used to treat locally advanced prostate cancer. They are the luteinising hormone-releasing hormone agonists or LHRH agonists (see page 32) and anti-androgens. LHRH agonists

are given by injection and anti-androgens by tablet.



What is locally advanced prostate cancer and how is it treated?

To grow, the prostate cancer cells need the male hormone testosterone. These hormone treatments work in different ways to prevent testosterone stimulating the prostate cancer cells. The LHRH agonists will prevent testosterone from being produced by the testicles and are given as an injection. The anti androgens block the action of testosterone on the prostate cancer cells and are given as tablets. They are both effective in treating this stage of prostate cancer but have different side effects.

Anti-androgen drug therapy

What are the risks and side effects of anti-androgen drug therapy?

These drugs allow some men to maintain their sex drive and activity and do not cause any reduction in bone strength, which can be a side effect of LHRH agonists. In some men, the drugs can cause the breasts to grow and sore nipples.



SECTION SIX

WHAT IS LATE OR ADVANCED PROSTATE CANCER AND HOW IS IT TREATED?

When cancer spreads to other parts of the body (metastasises), it is called late prostate cancer.

To grow, prostate cancer needs the male hormone 'testosterone'. When the cancer has spread beyond the prostate to nearby glands or bones ('metastasised'), its growth can be delayed by stopping testosterone from reaching it. This is called 'hormone therapy' and the treatment has the same effect on cancer cells wherever they are in the body.

There are three types of hormone therapy:

- Surgical removal of the testicles (called 'orchidectomy')
- Injections of drugs called 'LHRH agonists'
- Anti-androgen drug therapy



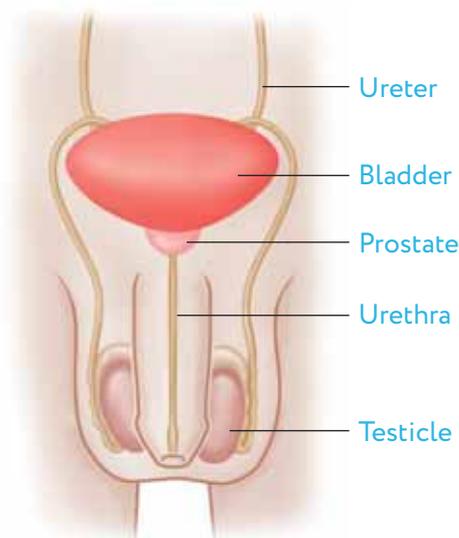
We are not yet sure at which stage of prostate cancer introducing hormone therapy is most effective. All men suffering from symptoms should start immediately. However, some doctors like to prescribe hormone therapy for patients with no symptoms. So, you may be asked to decide whether to begin hormone drug therapy immediately or wait until symptoms appear.

The release of testosterone by the testicles is triggered by a hormone released from the pituitary gland. If the release of testosterone is stopped, the growth of prostate cancer may stop for some time.

Orchidectomy and its side effects

Orchidectomy involves removing the testicles by surgery. Because an orchidectomy cannot be reversed, you must consider the following permanent side effects before you give your permission.

- You will lose your ability to get or maintain an erection (impotence)
- You will lose your sex drive
- You will be infertile
- You will experience hot flushes (this is due to hormonal changes)
- You will be left with some of the testicle tissue, 'the shell' of the testicle. However it will feel smaller than the real testicle.



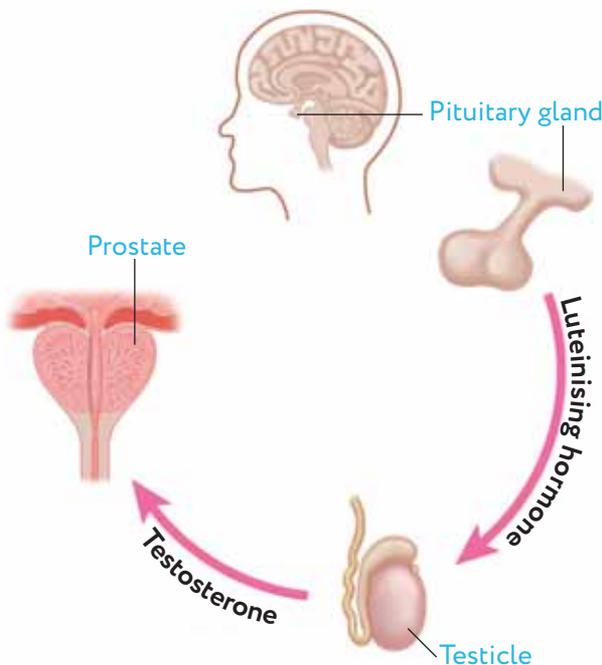
An orchidectomy is an operation to remove the testicles.

Section six

LHRH agonist injections (‘luteinising hormone-releasing hormone’)

These drugs stop the release of a hormone that sends signals to the testicles to produce testosterone. It is a roundabout way of switching off testosterone and so helps to stop prostate cancer from growing.

This treatment is as effective as an orchidectomy operation. The first injection is usually given at the hospital, but further injections can be given by your GP. The injections are repeated every month or every three months, according to the recommendations of your doctor.



The aim of LHRH agonist drugs is to stop testosterone being produced as this hormone helps cancer to grow.

What are the risks and side effects of hormone-manipulation drug therapy?

The side effects are the same as those of orchidectomy. You will be unable to have an erection, lose your sex drive and be infertile.

The testes shrink and many men develop hot flushes, put on weight around the middle and have mild discomfort in their breasts. Some men lose some strength from the bones and muscles and this may need to be checked with special bone scans. Some doctors use intermittent hormone therapy to give a rest from the treatment. During the time you are off treatment you may regain your sex drive and have erections.

As everyone responds differently, it cannot be predicted how long the treatment will be effective. There are other treatments available if you stop responding to the initial hormone therapy. These include adding another type of hormone to your LHRH agonist treatment, such as an anti-androgen (complete androgen blockade). You may be offered treatment with chemotherapy or your doctor may discuss other new drugs that are part of clinical studies.

LHRH agonist drugs cause an initial surge in the testosterone level, which is counteracted by a short course of anti-androgen tablets before and after the first injection.

Chemotherapy

Chemotherapy involves using drugs that can kill or slow the growth of cancer cells by poisoning them. There are many different chemotherapy drugs and some of these have been found to be effective in treating prostate cancer. Chemotherapy is usually given as injections into a vein. More than one drug may be given. You can usually receive these drugs as an outpatient and you may need to go for treatment every few weeks for several months. The exact timing and length of treatment will depend on the drugs that your doctor feels will be most effective for your prostate cancer. Chemotherapy slows down the growth of both cancer and normal cells and can cause side effects.

There are new types of chemotherapy, hormone therapy and other drugs that are being investigated for advanced prostate cancer that are likely to be available in the future. There are also many trials of new drugs and you should speak to your oncologist to see if you would be suitable for one of these trials.

What are the risks and side effects of chemotherapy?

The side effects will depend on the drugs that you receive and will usually stop a few weeks after the course of treatment is completed.

Side effects can include feeling sick, but you will be given drugs that are very effective at dealing with this problem. Chemotherapy can sometimes cause damage to the cells in the bone marrow and this can temporarily make you tired and more prone to infections and bruising or bleeding. Your doctor will explain the side effects for your particular chemotherapy regime.

Other treatment and palliative care

- Radiotherapy, which is very effective in reducing prostate cancer pain if the cancer has spread to the bone.
- Tablets containing steroid drugs – these can be effective but can cause stomach ulcers and fluid retention. Other medication can reduce these side effects.
- Bis-phosphonates – at this stage of the disease, your doctor may recommend medicine that helps prevent thinning of the bones. This is a relatively new treatment.

Palliative therapy does not stop the growth of the cancer, but aims to reduce the pain and any other problems caused by it.



What if I have any questions or comments?

Your most important resources are your GP and your hospital consultant. They know about your medical history and are best placed to give you advice.

This booklet does not cover all the treatments for prostate cancer, but focuses on those most frequently used.

To find a prostate cancer support group:

<https://tackleprostate.org/find-a-support-group-near-you.php>

General information and support:

Cancer Research UK

<https://www.cancerresearchuk.org/about-cancer/prostate-cancer>

Helpline: 0808 800 4040 (9.00am–5.00pm, Mon–Fri)

Macmillan

<https://www.macmillan.org.uk/information-and-support/prostate-cancer#163034>

Helpline: 0808 808 0000 (9.00am–8.00pm, Mon–Fri)

Talk to a man with prostate cancer

The National Federation of Prostate Cancer Support Groups

Helpline: 0800 035 5302 (9.00am–9.00pm, 365 days a year)

Prostate Cancer Research Centre



Our vision is a better future for men living with prostate cancer

Our mission is to:

- **Increase survival rates**
- **Reduce morbidity**
- **Improve quality of life**

We are the only UK charity raising funds for innovative clinical research into new treatments for men with life threatening prostate cancer. Our focus is on taking innovative research from the lab to clinical trials in men.

We rely on donations to fund our research and to distribute these Question and Answer booklets to thousands of men diagnosed with prostate cancer.

If you would like to find out more or support our vital work please fill in the form attached here.

Each booklet costs the charity £1 to produce and approximately 25p per copy to distribute. Any donation you are able to give is gratefully received. Thank you.

The Prostate Cancer Research Centre and The Royal College of Surgeons of England have produced this booklet as one of a series in consultation with relevant professional organisations.

The Prostate Cancer Research Centre raises money for research into treating and understanding prostate cancer.



The Royal College
of Surgeons of England

