

Kent Oncology Centre

Prostate Brachytherapy

Introduction

This booklet has been written to tell you about prostate brachytherapy. Prostate brachytherapy is a radiation therapy that can be used as a prostate cancer treatment. It is capable of delivering high and concentrated doses of radiation to the prostate gland with relatively little radiation reaching the adjacent organs.

This booklet is only a guide and does not contain every possible detail about the treatment. Please ask the staff if you have any particular concerns.

Macmillan Urology Radiographers

 01622 225094

Urology Nurse Specialist

 07720 898300

 01622 224021

Radiotherapy Treatment Reception  01622 225080

What does prostate brachytherapy involve?

Prostate brachytherapy works by delivering a very high dose of radiation to the prostate by the insertion of radioactive seeds into the organ.

The brachytherapy is performed using what is known as a 'one step procedure', in which your treatment is planned and delivered in one operation in the theatre. It is a day-case procedure and you will be able to return home that day.

You will, however, need to undergo a short ultrasound scan of the prostate a few weeks before your brachytherapy to check that it will be possible to proceed with the implant.

Information talk, pre-assessment clinic and volume study

Three or four weeks before your brachytherapy you will be asked to come to the pre-assessment clinic in Maidstone Hospital. All patients coming for planned (elective) procedures are given a medical examination to ensure that everything is ready for their operation.

You will also meet one of the brachytherapy radiographers for an information talk. This is an opportunity for you to ask any questions you might have about the brachytherapy procedure. The prostate volume study may also be carried out at this time.

We try to fit all these appointments into a single day to reduce patients travelling and time in the hospital, but it may not always be possible.

Volume study

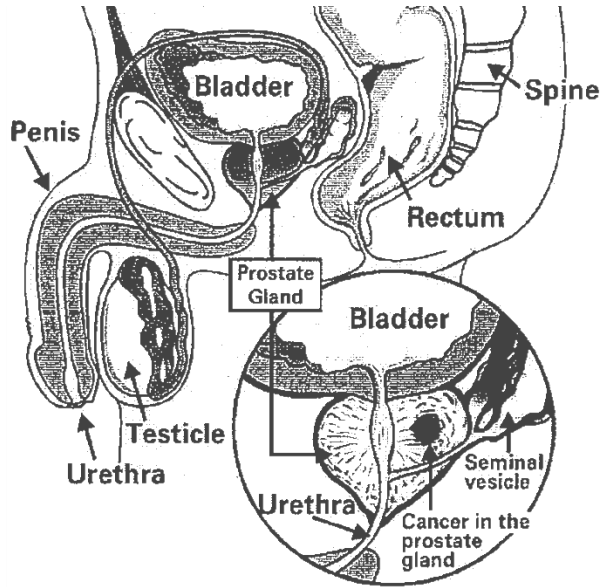
A simple scan of your prostate will be made using a transrectal ultrasound probe inserted in the rectum. You will be able to leave shortly after the scan.

If the outcome of the ultrasound scan is satisfactory the date of your brachytherapy will be confirmed.

Radioactive seed implant (brachytherapy)

The procedure involves implanting radioactive Iodine¹²⁵ seeds directly into the prostate gland where they continuously give off low level radiation for approximately one year.

Each seed is 5mm in length and 0.5mm thick. After the radiation has worn off the seeds remain in the prostate gland and cause no problems.



The seeds are held together in a strand for implanting. Using a transrectal ultrasound probe to guide the needles, these seeds can be positioned throughout the gland with a high degree of accuracy. Since only a small area is affected by the radiation of each seed, relatively little radiation reaches the adjacent organs.

How should I prepare for the seed implant?

We recommend that you increase your fluid intake and maintain this until you go back to see your consultant. Keeping yourself well hydrated, especially the day before the implant, can reduce the time needed before you can go home after your operation. This can also help improve your bowel regularity which can help with the late side effects. This will be explained later in the leaflet under 'Bowel problems'.

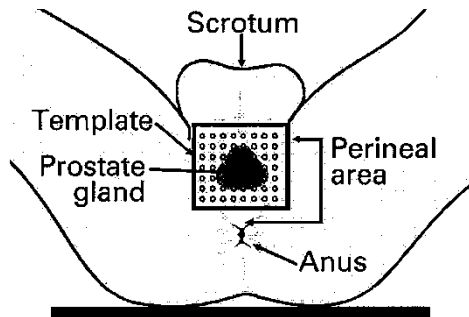
What happens on the day of the seed implant?

The implant is performed as a day case procedure and you will be booked into the ward in the morning. Please bring with you the medications prescribed following your volume study. A radiographer will check if you have had your bowels open that day. If not you may be asked to use a suppository before the procedure.

The implant is performed in the operating theatre, usually taking about 90 minutes to two hours. Most patients will be asleep for the procedure, under general anaesthetic, but in some cases the anaesthetist will recommend that a spinal or epidural injection is used instead. A spinal or epidural blocks the feelings and pain in the treatment area, but the patient is awake for the procedure.

The seeds are loaded into special needles and inserted into the prostate gland through the skin between the scrotum and the anus. A catheter is used, but you will not be aware of it being inserted and it is usually taken out at the end of the procedure.

Diagram showing the position of the needle template



After the implant procedure

If you had a general anaesthetic, once the implant procedure is completed, you will be woken in the operating theatre. You will be returned to the ward. An ice pack will have been placed between your legs to help reduce bruising and swelling in the implant area.

You can eat, drink and have visitors as soon as you wish. Please drink plenty as we need you to be passing urine freely before you can be discharged. Take care not to eat too much too quickly after a general anaesthetic as this can make you feel sick.

The anaesthetic may impair your concentration; for a minimum of 48 hours after your operation you should not:

- drive a motor vehicle or ride a bicycle, so please arrange for someone to take you home
- operate machinery
- drink alcohol
- make any important decisions or sign any legal documents

You should take the medications that you have brought with you, tamsulosin MR and ciprofloxacin, when advised. Please read the information leaflets enclosed with your tablets.

You will be prescribed antibiotics (ciprofloxacin) as a precaution (prophylactic), to prevent infection after your implant. You should take at least one dose on the day of your implant, and continue for a further seven days afterwards. Please take them as prescribed. There is no need to repeat the course unless advised to by your doctor.

Tamsulosin is an 'alpha-blocker' which relaxes the smooth muscle of the urethra and helps urination. It is frequently prescribed for men suffering from urinary symptoms as a result of an enlarged prostate and generally has few side effects. However, it can occasionally cause a slight drop in blood pressure leading to feelings of dizziness when sitting up or standing quickly. It is recommended that you continue to take tamsulosin as prescribed until you see your consultant again. You will need to ask your GP for a repeat prescription.

You can go home on the same day, usually by about 5.00pm, once you have recovered from the anaesthetic and can pass urine freely.

If you cannot pass urine you will have a catheter inserted; it will stay in overnight and be removed the next day. You can go home with the catheter inserted.

You should avoid heavy lifting or strenuous physical activity for the first two days that you are at home. After two days you will probably be ready to return to your normal activity level.

Side effects of the implant

The prostate implant will cause some side effects, some immediately after the procedure (acute side effects) and some in the weeks following (delayed side effects). Acute side effects are a result of the trauma caused by the needles and seeds being inserted into the prostate. Delayed side effects are caused by the radiation given off by the seeds.

Acute side effects

You may experience some of the following immediately after the implant procedure:

- **Mild soreness, bruising and discolouration** in the area between the scrotum and the anus (perineum) where the needles were inserted. This is not usually severe enough to require the use of any painkillers, but you may take your usual pain control medication (paracetamol, ibuprofen) if you feel uncomfortable once you return home.
 - **Blood in the urine and semen:** you may notice a trace of blood in your urine for several hours after the implant. This is quite normal, so don't be alarmed. Drinking plenty of water helps to flush out the bladder and reduce any blood clots.
 - **Burning sensation** when passing urine
 - **Incontinence** (in less than two percent of patients who have not had prior prostate surgery)
 - **Temporary increased frequency / urgency of need to urinate**
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- **Urinary retention:** the most significant immediate effect of the implant is swelling of the prostate, resulting from the bleeding and trauma caused by the needles being inserted into the gland. This swelling can make it difficult for you to pass urine, which is why we make sure that you can pass urine freely before you are discharged.

As previously mentioned, after a few days rest you should feel ready to resume your normal activities.

Delayed side effects

For various reasons there is a delay before the radiation given off by the implanted seeds starts to cause noticeable side effects. These radiation reactions typically start to occur two or three weeks after the implant, reaching a peak about six to eight weeks after. As the radiation given off by the seeds gradually decreases, the severity of these side effects also decreases.

The organs typically affected by the radiation are the prostate, the bladder, the urethra, the rectum and the penis. Some patients experience some side effects more intensely than others; medication can be used to ease the symptoms. You will meet with, or be contacted by, a specialist nurse or radiographer during the weeks after your implant and you can always contact them if you need further advice.

Urine flow, frequency and urgency

In the weeks after the implant procedure the prostate and urethra can become inflamed, causing some restriction of urinary flow and discomfort during urination. Drinking plenty of fluids (about two to two and a half litres per day of mainly water or squash) can help relieve this and reduce the risk of urine infection.

Inflammation and irritation of the bladder can lead to increased frequency of urination, and also a greater sense of urgency. Tea, coffee and many cola drinks contain caffeine, which can further irritate the bladder, affecting your urine output and bladder control. We advise you restrict your intake of these until your urine irritations settle. Decaffeinated drinks are preferable.

You may find that you are waking up to pass urine more frequently during the night. Try reducing your fluid intake a few hours before going bed, and having sips of water if required during the night. A covered hot water bottle can help reduce discomfort when placed over the bladder area.

If you have to wait before your urine starts to flow, having a warm bath or placing your penis into a bowl of warm water can help.

Your prescription of tamsulosin mentioned earlier, will help with some of these side effects. Many men gain further improvement in their urine flow by increasing their tamsulosin to two tablets per day, one in the morning and one in the evening. This is an 'unlicensed dose' so please discuss this with your specialist team or GP first. A leaflet on the 'Use of Unlicensed Medicines and Medicines Outside of their Licence' is available.

You will only be given one month's supply, but you will need Tamsulosin for three months or more until symptoms subside. A repeat prescription should be obtained from your GP.

Incontinence

Incontinence occurs in less than two percent of patients who have not had prior prostate surgery.

Retention of urine

A small percentage of patients may develop acute urinary retention (inability to pass urine) and require a catheter

If you feel considerable discomfort in the lower abdomen and are passing only a few dribbles of urine or are unable to pass urine at all, you may have urinary retention. You should go to your local emergency care centre (A&E) as you may need a catheter inserted. You will have been given a letter on discharge after your seed implant, for you to hand into the emergency care centre should this occur.

If a catheter is necessary it will usually be left in place for a few days before removal. Very occasionally the catheter will need to stay in place for a few weeks or longer to allow the situation to resolve. You will be advised accordingly.

Please inform your consultant's secretary or the specialist nurse if urinary retention occurs, so the appropriate support can be arranged for you.

If a painkiller is required, an anti-inflammatory medicine such as ibuprofen or Diclofenac is recommended. We advise you check with your doctor or pharmacist if these medicines are suitable for you and do not interact with other medicines you are taking. Contact your GP if a stronger painkiller is required.

'Bowel problems'

It is normally the effects of the treatment on your rectum that cause the 'bowel problems' that you may experience. You may feel constipated, or may feel that you have to open your bowels more often than before your brachytherapy treatment.

It helps to have regular bowel motions and to avoid becoming constipated; increasing the amount of fibre in your diet can help with this. Sometimes a bowel softener may be required (Lactulose or Movicol). These should be prescribed by your GP.

- **Feeling of constipation:** resulting from the prostate swelling and pressing against the rectum. If you are maintaining your high fibre diet and extra fluids, and are emptying your bowels on occasion, it is unlikely that you are actually constipated.
- **Increased desire to open your bowels:** particularly in the mornings. Usually this 'morning frequency' settles gradually. You may also pass a small amount of blood and/or mucous from the rectum. These symptoms result from radiation damage to the lining of the rectum and usually resolve as the amount of radiation given off by the seeds decreases. If the rectum becomes too inflamed and you experience a burning sensation after opening your bowels, anti-inflammatory medication may be required; please contact your GP.

If you feel you need any additional medication to counter your side effects, please contact your specialist team or GP first.

Erectile dysfunction (ED/Impotence)

An inability to achieve satisfactory erections (erectile dysfunction) may occur immediately after your prostate brachytherapy or may develop up to several years later. ED occurs in about 20-30% of patients who previously had satisfactory erections. ED usually responds well to treatments that you can discuss with your GP, e.g. sildenafil (Viagra®), tadalafil (Cialis®) or vardenafil (Levitra®). Your specialist doctor will discuss the risks with you.

Intercourse

Please also read the advice given below in the **Radiation safety** section. Prostate brachytherapy may leave you infertile, but do not rely on this as your method of contraception. You are advised to avoid fathering children for a minimum of 12 months following implant. Your semen may be discoloured for several months as a result of bleeding that occurred during the implant. Sometimes ejaculation can be painful but this tends to settle over time.

Sexual intercourse, using a condom, may be resumed after one month if you feel comfortable to do so.

Please note: this treatment is likely to permanently cause your ejaculate to decrease in volume and become less fluid.

Late Side Effects

Some people may experience some changes over a year after their implant. These can be related to your urine flow or your bowels. You will have regular follow up with your consultant or the radiographers where you can discuss this and have help or medication.

Urine flow

Your flow may become reduced, uncomfortable or stinging. This is caused by scar tissue forming in the urethra. You can be sent to see the urology team who can perform a stretch on the urethra to help this problem.

Bowel problems

Rarely some people can have bleeding from the back passage, discomfort and increased frequency opening their bowels.

It is very important that if you have any of these symptoms you contact the radiographers or the urology team so that they can help you.

IMPORTANT:

A small area of the rectum overlying the prostate receives a high dose of radiation. We strongly advise that you **do not undergo an anterior rectal biopsy or a transrectal prostate biopsy** in the future, as there is a risk that the area might not heal properly. So, if you are to undergo an investigation of your bowel in the future, please contact us or ask your consultant to contact us.

Radiation information and radiation safety

Your implant poses no significant risk to your family and friends. Although **the seeds are radioactive, you are not**. However, we do advise the following:

- For the first two months of your implant do not sit close to children under the age of puberty. However, you may give them a cuddle or hold them for a few minutes each day. This also applies to anyone you know who may be pregnant. There are no restrictions on physical contact with other adults.
 - If you are experiencing stinging and burning sensations while passing urine in the first one to two weeks after the implant we advise you to avoid having sex.
 - Use a condom for the first two months after the implant. There is a small risk of passing a radioactive seed.
 - Used condoms should be disposed of by double wrapping and placing in the dustbin.
 - The radioactive seeds impose no restrictions on travel.
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Your information card

After your implant you will be given two copies of an information card, one to carry with you and one to keep at home. It gives information about your implant and some contact telephone numbers. Please carry it with you for two years.

You must tell your next of kin about the card so they can act on it in the event of unforeseen illness or death. Should you require any future treatment or hospital care it is very important your GP or doctor know about your implant.

In the event of your death within 20 months of the implant a normal cremation is not allowed because of the radiation hazard. There are also hazards for hospital staff carrying out post-mortems. It is essential that hospital staff and funeral directors are informed; the card will provide them with advice on who they should contact.

The card will also be useful to you when travelling away from home. Many airports, seaports and some underground systems now have radiation detectors installed following recent terrorist incidents. They are very sensitive and may respond to your implant even though the radiation levels are very low. You can use your card to explain why this has happened. Please feel free to invite an official to telephone the Kent Oncology Centre should this be appropriate. It might be useful to keep this leaflet with you, as well as the card, if you are traveling abroad. The card can be destroyed after two years.

Follow-up schedule

After a seed implant you will see your brachytherapy team on a regular basis. The follow-up schedule starts four weeks after the implant and usually includes a visit to, or a telephone call from, the team every three to six months for the first five years, to check treatment progress. You will be asked to have a blood test, to check your PSA level, about two weeks before each

appointment and you may also have a physical examination during these visits.

About four weeks after the implant you will have a CT (Computed Tomography) scan. This is a special x-ray scan, which produces an image of a cross-section, or slice, of the body. These scans allow us to ensure that the quality of our implants remain at a high standard. The scan does not involve a drink or injection. The scan does not monitor the effectiveness of the treatment and so you will not receive any results.

PSA testing

PSA stands for Prostate Specific Antigen. PSA is a protein made by the prostate which naturally leaks into the bloodstream. The effectiveness of your treatment will be assessed primarily from your PSA blood test which will be checked regularly. The PSA levels will fall slowly, and may take two or three years to reach their lowest level. Readings may rise temporarily at times before going down again (PSA bounce). The PSA rarely falls to zero.


PSA bounce or spike

A PSA bounce or spike is a benign (non-cancerous) rise in the PSA. This usually occurs in the second year after the implant, although it can occur earlier or later. About a third of men receiving prostate brachytherapy experience this. There is no way at the moment to distinguish between a benign PSA rise and a PSA rise caused when prostate cancer is active. If the PSA continues to rise for over 12 months this may be due to recurrence of the cancer.

Helpline numbers


Kent Oncology Macmillan Cancer Information Centre, Maidstone Hospital

Offers support and information to anyone who has concerns about cancer (patients, relatives, friends or carers).

 01622 227064

Macmillan Cancer Support

Provide practical, medical and financial information

 0808 808 0000


www.macmillan.org.uk

Prostate Cancer Charity

 0800 074 8383

www.prostatecanceruk.org

Prostate Cancer Support Federation


 0800 035 5302

www.prostatecancersupport.co.uk

For information and support but not advice

Cancer Research

This charity provides information about cancer, treatment and clinical trials.

 0808 800 4040

Web: www.cancerresearchuk.org

Patient Experience Teams (PALS) for East Kent patients

Kent and Canterbury Hospital

Desk at the outpatient's entrance of the hospital


Queen Elizabeth the Queen Mother Hospital

Office at the main entrance of the hospital (Ramsgate Road)

William Harvey Hospital

Desk at the main entrance of the hospital

Email: ekh-tr.patientexperienceteam@nhs.net

 01227 783145 or 01227 864314



Developed by: Prostate Brachytherapy Team, Cookridge Hospital
Adapted by: Prostate Brachytherapy Team, Kent Oncology Centre

MTW NHS Trust is committed to making its patient information accessible in a range of languages and formats. If you need this leaflet in another language or format please ask one of your clinical care team or the Patient Advice and Liaison Service (PALS). We will do our best to arrange this.

Maidstone and Tunbridge Wells NHS Trust welcomes all forms of feedback from our service users. If the standard of service you have received from the Trust does not meet your expectations, we want to hear from you. Please speak with the ward manager or the nurse in charge in the first instance, or you can contact the **Patient Advice and Liaison Service (PALS)** on:

Telephone: ☎ 01622 224960 or ☎ 01892 632953

Email: mtw-tr.palsoffice@nhs.net

or visit their office at either Maidstone or Tunbridge Wells Hospital between 9.00am and 5.00pm, Monday to Friday.

You can be confident that your care will not be affected by highlighting any areas of concern or making a complaint. The Trust will retain a record of your contact, which is held separately to any medical records. If you are acting on behalf of a patient, we may need to obtain the patient's consent in order to protect patient confidentiality. More information on PALS or making a complaint can be found on the Trust's website: www.mtw.nhs.uk or pick up a leaflet from main reception.

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