

## Information for Patients

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## Introduction

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You have chosen to have your prostate cancer treated with brachytherapy. This information leaflet will give you more information about the treatment, how the procedure is performed, and the possible after effects. This leaflet does not provide a comprehensive account of the other treatment options available for men with prostate cancer, as these should have been thoroughly discussed with you already. If you have any questions about the procedure, or worries about the side effects, please get in touch with us using the contact numbers listed at the end.

## Brachytherapy – what is it?

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Brachytherapy involves insertion of radioactive ‘seeds’ into the prostate. The seeds are small (4.5mm in length), silver in colour and give off low level radiation for approximately one year. This radiation kills the cancer cells, along with most of the normal prostate cells. However, because the radiation travels only a short distance (a few millimetres) within the body, it should not cause significant damage to any of the other body organs which lie close to the prostate gland (for example the bladder, the rectum and the nerves which control erections). Despite this, such damage may still occur and produce side effects (see below).

As the seeds are so small, they can be placed in the prostate using a needle, and no cuts in the body are required. The needles are passed into the prostate through the ‘perineum’ which is the area between the scrotum and the anus.

Because the radiation from the seeds travels such a short distance, we have to put lots of them into the prostate (typically 60 to 80) to make sure that we kill all the cancer cells. We also have to place the seeds very accurately; if some of them are misplaced it might mean some cancer cells escape the radiation. To ensure accurate seed placement, the position of the seeds is carefully monitored using an ultrasound probe in the back passage. This information is fed into a computer, which continuously checks that the seeds are in the right place and that we are not giving too little radiation to the prostate or too much radiation to nearby organs.

## How does brachytherapy compare to other treatments?

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Although you may find this difficult to believe, there have been no conclusive scientific studies comparing the various treatments for prostate cancer. Several such studies are underway at present, but they will probably not give us the answers we need for another 10 years. This is not to say that there has been no research done (far from it!), but simply that we still don’t know for sure how best to treat prostate cancer. Most patients with your type of tumour can be treated equally well with surgery, conventional radiotherapy or brachytherapy.

## Advantages of brachytherapy:

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- It is at least as effective as other treatments for men such as you with early stage, low grade prostate cancer
- Incontinence is rare following brachytherapy, unless you subsequently require prostate surgery. To minimise this risk, we do tests before the brachytherapy procedure to ensure that you are at low risk of needing prostate surgery in the future
- The risk of impotence (losing erections) after brachytherapy is approximately 1 in 4, and increases further over time. The risk of impotence is similar to that with conventional radiotherapy treatment, and less than with surgery
- The procedure is quick (approximately 2 hours) and you will be able to go home the same day, or the day after
- You will be back to normal activities much quicker than with the other treatments, usually within a few days.

## Disadvantages of brachytherapy:

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- It *may* not be as effective as other treatments for men with larger, higher grade tumours
- The long-term results are not as well known as with other treatments, although there is some data from the USA showing good results up to 12 years following treatment
- It is common to get some problems passing urine for a few weeks or months after the procedure (see below)
- Rarely, the seeds may migrate from the prostate, either to other parts of the body, or to come out in the urine or semen. However this is extremely unlikely to produce any ill-effects to you or anyone else.

## The procedure

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You will first receive an appointment to attend the hospital for 'pre-assessment'. This involves coming up for an afternoon for various blood tests, heart tests and an examination. The pre-assessment tests are simply to check that you are fit enough to have an anaesthetic.

If your prostate is large, you may need a 'volume study' before undergoing the implant. This is a detailed scan of the prostate under general anaesthetic. Most men do not need this scan. If it is needed, you will be admitted to the Day Surgery Unit. The procedure takes about 15 minutes, and is similar to the prostate biopsy you underwent, but as no biopsies are taken it is much more comfortable. You should not get any side-effects, although sometimes a small catheter is passed into the bladder during the procedure and this may cause some mild stinging on passing urine for 24 hours or so. You will be able to go home an hour or two after the volume study.

For the implant procedure, you will be admitted to hospital, usually to Day Surgery. You will require a general anaesthetic. The operation takes about two hours. Hollow needles are passed through the skin behind the scrotum into the prostate, and the position of each needle is checked under ultrasound control. The seeds are then passed up the needles. Once the seeds have been placed the needles are removed. A catheter tube is placed into the bladder after the procedure to drain urine for the first few hours after the operation.

The catheter is usually removed a few hours after the operation. Provided you pass urine without any difficulty you will be able to go home the same day. Sometimes it is necessary to stay overnight with a catheter in, particularly if you have your implant late in the afternoon. You may also have to stay in hospital a little longer if you find it difficult to pass urine after the catheter is removed.

You will be given antibiotics to take for two days. When you go home, you can go back to normal activities straight away, except for the following;

- you should try and drink plenty for the first few days after the implant
- avoid strenuous activity for two days
- avoid driving for 48 hours if you have had a general anaesthetic
- avoid sexual intercourse for two weeks after the implant. After this you should use condoms for five ejaculations, as there is a small risk you may pass one of the seeds in the semen. You may notice that your semen is discoloured after the implant; this is normal.

## Side effects of treatment

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### Immediate

Following the implant you may notice the following;

- Bruising behind the scrotum
- Mild soreness
- Blood in the urine.

These symptoms are normal following the procedure, and are a result of the needles used to place the seeds into the prostate. If you need to, take some simple painkillers such as paracetamol. If you have blood in the urine, drink plenty of water to flush the bladder out (at least two litres a day, but not more than five litres a day). If you are concerned about your symptoms use one of the contact numbers at the end of this leaflet.

About 5% of men (one in 20) will have difficulty in passing urine and need to have a catheter tube placed. This is because the operation causes some swelling of the prostate which can block the urethra (water pipe). If this happens, you may suddenly be unable to pass urine and experience discomfort. Alternatively, you may notice that it becomes more and more difficult to pass urine, and that you have to strain and do not

empty properly. These problems usually occur whilst you are still in hospital, and can be dealt with before you go home. If you get problems at home, use the contact numbers below.

A catheter is inconvenient, but not difficult to look after. It may be required for days, weeks or rarely months before you can start passing urine normally again. Sometimes we remove the catheter and teach you a technique called 'intermittent self-catheterisation' or ISC, which involves passing a very fine tube into the bladder four or five times a day to empty the urine. Most men find this much easier than having a catheter in permanently, and ISC is easy to learn and perform.

## Short-term

Over the first few weeks or months the prostate swells due to the effects of the radiation from the seeds. This swelling squeezes the urethra (water pipe), and can cause some difficulties in passing urine. The typical symptoms are frequent urination, urgency, discomfort on passing urine and a reduced flow. These symptoms gradually improve over several weeks (sometimes months). We usually give you tablets to reduce these symptoms for the first month after the implant. If your symptoms continue for longer than this you should get more tablets from your GP. You can also help yourself by cutting out all drinks containing caffeine and alcohol. Occasionally you may require a catheter or ISC during this period.

You may also notice blood in the semen, and pain on ejaculation. Neither of these symptoms is serious and they usually settle with time. Up to 1/3 of men may develop 'proctitis', which is irritation of the rectum from the radiation. This causes rectal burning, pain or bleeding. It is usually not severe, and settles with time.

## Long-term

The commonest long-term side-effect is increased urinary frequency. This occurs in up to a third of men having brachytherapy, but is usually not a problem.

Rarely, troublesome urinary symptoms or even retention of urine may persist even after the radioactivity of the seeds has worn off. These symptoms can be cured by "boring out" the centre of the prostate with an operation called a 'TURP'. This is effective, *but* carries a 25% risk of incontinence of urine in men who have had brachytherapy treatment.

Impotence (loss of erections) affects 20-40% of men following brachytherapy. This proportion increases with time, so that 5 years after the implant approximately half of men have difficulties with erections. The volume of semen is reduced in most men who have the treatment.

Sometimes a narrowing in the urethra can occur, causing a partial blockage to the flow of urine. This can be easily fixed with a small operation to open up the blockage, but the problem can recur and require ISC treatment (see above) to keep it open. A similar narrowing may also occur where the bladder joins onto the prostate (the bladder neck); this is treated in a similar fashion, but can be more difficult to deal with. Fortunately this side-effect is rare (1% of men).

The symptoms of proctitis persist in about 2% of men. If troublesome, they can usually be treated with medication. Very rarely surgery may be required, sometimes even a permanent colostomy.

In less than 1 in 1,000 men, a connection between the prostate and rectum may develop (a 'fistula'). This can result in urine leaking into the back passage. This problem is difficult to deal with, and may require major surgery to put it right.

## Radiation Precautions

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Radiation safety is of concern to many patients; however the risk to other people around you is very low. The radioactive seeds implanted in your body contain iodine-125 (I-125). The radiation is contained in a sealed capsule (seed) so does not circulate around your body. Therefore you cannot contaminate anyone or anything.

The energy of the radioactive iodine is very low and your body will absorb most of the radiation emitted. Additionally, the radioactive strength of the seeds reduces with time; 50% every two months, so you cannot harm anyone by briefly hugging, kissing, shaking hands, or being in the same room with them.

However, we do ask you to keep to the following guidelines to minimize any low risks.

## Whilst in hospital

After your implant:

- You may pass a loose radioactive seed in your urine. For this reason we ask you to only use a bottle. Your urine will then be strained and any radioactive seeds found will be placed in a special pot.
- If you think you have found a loose seed in the bedclothes or on the floor, please do not touch it with your fingers. Use the tweezers or spoon provided to pick up the seed and place it in the lead pot provided.
- Please do not use any hospital toilets or showers – you will be provided with a commode if required.
- Please stay in or by your bed until you have changed back into your own clothes (in case there are any loose seeds caught up in your hospital garments).

- Normal ward visiting rules apply, but women who are or may be pregnant should not sit very close to you, and you should not nurse children on your lap or sit very close to them.

## Once you return home

- If you pass any radioactive seeds in your urine it should be flushed away in the toilet as normal.
- If you find any radioactive seeds in your clothing or on the floor do not pick them up with your fingers. Use a teaspoon to pick up the seed and flush it down the toilet.
- Sexual intercourse may be resumed two weeks after the implant but condoms must be used for the first five ejaculations after the operation. This is because there is a small risk that a seed may be contained in the ejaculate. Condoms should be disposed of by double-wrapping them and placing in the dustbin. If you loose a seed in this way you should use a condom for the next five ejaculations.
- If your partner is pregnant you must inform your oncologist. You should sleep with a pillow between you and your partner until the baby is born and you must use a condom for sexual intercourse until the baby is born.
- For the first six months after your implant you should not nurse children on your lap or sit very close to them for long periods of time. You may cuddle or hold them for a few minutes each day and they may stay in the same room with you for as long as you wish.
- There is no need to place any restrictions on the time you spend or activities you undertake with other family members, friends and colleagues.
- If you are advised to have an operation on your prostate, or undergo abdominal or pelvic surgery in the first twelve months following your implant, there is a small risk of irradiating the fingers of your surgeon. You must inform your surgeon that you have had a seed implant and show him/her the wallet card that you were given at hospital discharge.
- In the unlikely event of your death in the first 12 months following your implant no special precautions are required for burial. Cremation of your body can be hazardous due to damage to the seeds (with risks of contamination) and the residual radioactivity in the ashes and should not take place during this period. Please make sure your next of kin is aware of this.
- Some very sensitive security monitors can detect the very low levels of radiation emitted from your body in the first few months following your implant. These monitors can detect levels that are well below those of concern to health. If you should trigger one of these alarms show the wallet card that you will be given on discharge from hospital (see below).

## Example of wallet card

**Name:** \_\_\_\_\_ **D.O.B.** \_\_\_\_\_

Received a permanent radioactive I-125 seed implant of the prostate on:

\_\_\_\_\_

**at the Royal United Hospital, Bath BA1 3NG,UK**

For further information contact the Dept of Urology or Radiotherapy on  
Telephone Number: **+44 (0) 1225 428331**

- In the event of the cardholder being admitted to hospital this card must be shown to the admitting officer.
- In the event of any anticipated surgery, particularly involving the abdomen or pelvis, this card must be shown to the surgeon.

*The cardholder named above must carry this card at all times for a period of one year from the date of the implant.*



## Contact numbers

If you have a non-urgent problem, please contact us using the numbers below during office hours (9-5pm Monday to Friday). We are all busy people, and you may get an answer phone! If so, please leave a message with your name, contact telephone number and a short description of the problem and we will call you back. We aim to do this within 24 hours but sometimes it is longer.

Uro-oncology specialist nurse (Miranda Benney/Ros Helps)	01225 824250
Mr McFarlane	01225 824575
Dr Beresford	01225 824797
Robin Smith Ward (Surgical ward at the RUH)	01225 824402

If you have an urgent problem you can also try these numbers during office hours and we will advise you. Out of hours you should contact Robin Smith Ward, your GP or attend the Accident and Emergency Department.