

BRACHYTHERAPY FOR PROSTATE CANCER

Brachytherapy (*Greek for short distance therapy*) involves implanting tiny pellets about the size of a grain of rice into the prostate. These seeds give off low-level radiation continuously with the aim of killing the cancer cells whilst sparing the surrounding normal tissues as much as possible.

This information sheet aims to supplement the verbal information provided by the Urologist (surgeon), Oncologist (cancer doctor) and specialist radiographer or nurse. It explains the practicalities of prostate brachytherapy as well as potential side effects and methods used to minimise them. You may not experience all of these side effects and it is possible that you may get some not mentioned here.

Brachytherapy is one of four options for patients with early prostate cancer. It is important, therefore before you make your decision about treatment, that you've had the opportunity to discuss the other options - surgery (radical prostatectomy), radical radiotherapy, and active monitoring. These can be discussed with your surgeon (urologist) or radiotherapy doctor (oncologist). It may also be helpful to discuss the relative merits of each treatment with a specialist radiographer or nurse.

Not all patients with early prostate cancer are eligible for brachytherapy. You should have a greater than ten year life expectancy and have no significant problems passing water (speak to your doctor, as you may still be eligible). Your tumour must not be too big and should be confined to the prostate with no involvement of the capsule or elsewhere (in medical jargon T1/2, N0, M0). Furthermore, your tumour should not look too aggressive down the microscope (Gleason no more than seven) and your PSA blood test should be less than 15 (ideally less than 10).

To ensure you are eligible for brachytherapy your individual case will be discussed in a weekly multidisciplinary meeting in Addenbrooke's containing oncologist, surgeon, radiologist, pathologist, radiographer and nurses. If this meeting confirms brachytherapy is a suitable option for you, you will be sent an appointment to attend the brachytherapy clinic at Addenbrooke's to discuss treatment in more detail with one or more of the brachytherapy team. The procedure will be explained to you in detail and if you and the brachytherapy team decide it is the right treatment for you, you will be given the date you will have brachytherapy, have an assessment to ensure that you are fit to undergo anaesthetic and be given a prescription to take to the hospital pharmacy. Most patients' treatment will need only one visit to theatre to have the implant. If you have a large prostate, or there are concerns that we may not be able to put you into the necessary treatment position when you are anaesthetised you will need to attend for a Volume Study as well as the implant, which the brachytherapy team will discuss with you.

Medication

On the morning of the implant you will be asked to use an enema at home - specific instructions on this will be given to you when you attend clinic. This empties your lower bowel and rectum so that the ultrasound images of your prostate will be clear. Use the enema at around 7 in the morning. This will clear your lower bowel and should allow adequate time for you to drive to the hospital after you have been to the toilet.

You will be prescribed a tablet to relax the muscles within the prostate to reduce potential narrowing of the urethra – the tube which runs through the prostate to drain the bladder. These are usually called Tamsulosin and you should get a repeat supply from the GP after your brachytherapy, as you may need to take them for at least three to six months. Take the first of these tablets early in the morning on the day you are booked to have your brachytherapy.

Antibiotics are given to be taken after the implant to prevent infection; usually these are Ciprofloxacin 500mg twice a day for seven days. You should take them as prescribed until you have used them all. You do **not** need to start taking these until the day after the implant. While you are in theatre you will be given antibiotics through a drip into your hand.

Please ensure you bring both the Tamsulosin and your antibiotics with you when you come for your implant. The anaesthetist will discuss medication with you that you may need for pain relief when you come in for the implant. **Please ensure you tell the doctors if you have an allergy to ANY medication.**

If you are under the age of 60 and have not yet applied for a certificate for exemption of prescription charges please tell the doctor or radiographer when you see them in clinic before you go to pharmacy to hand in your prescription and a form will be given to you to complete.

The Implant Procedure

You will have the implant on a Tuesday afternoon and stay in ATC (Addenbrooke's Treatment Centre) overnight. You do not need to come to the hospital until around mid day. Do not come in the morning unless specifically asked to do so by a member of the brachytherapy team. You must not drive for at least 24 hours after the anaesthetic, so a responsible adult will need to bring you in & collect you the next day. The implant procedure is performed in theatre, lasts one to two hours and is done under general anaesthetic. Once you are asleep, a catheter is placed in your bladder to drain urine. An ultrasound probe will be inserted into the rectum to produce images of the prostate on a monitor. Using these images for guidance, a treatment plan is generated which calculates the exact number of radioactive seeds needed, and the best place to position them. Needles are inserted through the skin between the scrotum and the anus into the prostate. The number of needles used will depend on the size and shape of the prostate, but is usually between 15 and 30. Seeds are passed through the needles into the prostate and the needles are removed.

After the Implant

After the implant you will go to a recovery room until you are fully awake. You will stay in the hospital overnight and the catheter will be removed by one of the nurses the following morning. You will be asked to pass water before you leave and an external ultrasound scan will be done to ensure that you are emptying your bladder properly once the catheter is removed. During your overnight stay the nurses will monitor your catheter bag with a Geiger Counter as there is a very small risk (less than 1%) you may pass a seed in your urine.

At home, you may resume eating and drinking normally and have visitors as soon as you wish, but you should avoid heavy lifting or strenuous physical activity for the first two days. After that you will probably be ready to return to your normal activity level. Unless you have a very physically demanding job you should be fit to return to work the Monday after your brachytherapy.

Side effects

Immediately after the implant you may experience some mild soreness in the pelvis and blood in the urine. This discomfort is temporary and usually wears off within a day or two.

After the catheter has been removed a small number of patients may get acute retention of urine and require the catheter to be replaced. In this small group, it is recommended that a trial without catheter is repeated in two weeks. It is very rare that patients require catheterisation for more than a few weeks but if necessary patients will be taught to self-catheterise until they are able to pass urine without a catheter.

For several days after the implant you may notice a slight trace of blood in your urine. This is quite normal so don't be alarmed. If the bleeding becomes severe or there are large blood clots, call your Specialist Nurse, Oncologist or Urologist (you should be given the best contact number before leaving the hospital). Drinking plenty of water is advised as this helps prevent blood clots and flushes the bladder.

For several days to several months, you may also experience frequent or painful urination, a sense of urgency and a **weaker urinary stream**. Often this does not occur at once, but gradually builds up in the first few weeks after the implant. This is generally due to inflammation in the bladder or urethra caused by the radiation from the seeds in the prostate. These symptoms will gradually decrease as the seeds lose their strength. This can take up to six to twelve months after the implant and can often be helped by drinking plenty of fluids. Avoiding caffeine may also help to relieve these symptoms.

Occasionally patients can experience troublesome **rectal symptoms** such as a feeling of fullness and soreness, similar to piles. Less likely (in less than 5% of patients) is the possibility of some mucus discharge or bleeding from the back passage, which may be associated with diarrhoea. If this happens you may have to rush to go to the toilet to open your bowels. Steroid suppositories can be prescribed to reduce these side effects, but they are seldom needed for longer than three to four months.

Sometimes patients experience a mild discomfort in the lower abdomen, they feel a dull ache or “dragging” sensation. This is temporary and usually wears off in two to three months.

Your ability to get **erections** may be affected by this procedure. This risk is much lower in men who have not been given Zoladex or Prostag or had difficulties prior to treatment. On average erectile dysfunction occurs in about 30% of patients but is often helped with drugs such as Cialis or Viagra. You can discuss this with your brachytherapy team, your GP, or you can be referred to the erection dysfunction clinic if needed.

Radiation Safety

Many patients are concerned about whether an implant poses any potential dangers of radiation exposure to their family and friends.

The radioactive material (Iodine 125) that is emitting the radiation treating your prostate is contained in sealed radioactive seeds made of metal. The seeds look similar to a grain of rice. As the radioactive material is sealed into the seeds it does not circulate in your blood, urine or any other body fluids. This means that any linen, tableware, cutlery, dishes and toilet facilities that you use can be used by others without taking any special precautions. As the radiation used to treat you is of very low energy it is not very penetrating, and almost all of it is absorbed in your body in the area being treated. Moreover the radiation level decreases considerably with distance, so that no significant dose levels can be detected at one metre from your body. The strength of any radioactive source decreases with time and the Iodine 125 seeds implanted lose 50% of their activity every two months.

Patients are not considered to be a radiation hazard following discharge from the hospital. However, there are some precautions which you will need to take.

Contact with children and pregnant women

For two months following the implant you should avoid prolonged close contact with young children and pregnant women. This means for example, that they should not sit very close to you or on your lap. Apart from this there is no need for you to treat them any differently from how you would have done before the implant. You may greet them as you normally would, you may hug them and they may stay in the same room as you for as long as you wish.

If your partner or someone sharing your living accommodation is pregnant, you should contact the Oncology Department as soon as possible so that you can be given more detailed advice as appropriate. This may include, for example, sleeping with a pillow between you and your partner until the baby is born, not sitting immediately adjacent on a settee for long periods etc.

Contact with other adults

There are no restrictions on your contact and travel with other adults.

The Information Card

We will give you an information card to carry with you and ask that you carry this for three years following your implant. Your next of kin must be told about the card so they can act on it in the event of unforeseen illness or death. Please use it, for example, to remind your GP of the implant, or inform staff from another hospital, should you require hospital care during this three-year period. It is important they know about your implant.

If you require abdominal or pelvic surgery at any time in the future you should tell staff who are involved in the procedure as soon as possible that you have had prostate brachytherapy, and the date when it took place. Although there are no restrictions on travel with other adults you may set off radiation detectors in places such as airports and the card will help you to explain why this has happened. Some security monitors are so sensitive that they are able to detect radiation at levels that are well below those that are of concern to health. It is especially important for your own convenience that you have your card readily available when travelling in case you need to show it at security checks in ports or airports.

Passing urine

For a few weeks after the implant it is possible to lose seeds in the urine. Whilst in hospital the nursing staff will monitor your catheter bag to check for seeds using a Geiger counter. They will dispose of urine and any seeds. After the catheter has been removed we will ask you to pass your urine into a bottle and the nurses will put the contents through a sieve to catch any seeds which you may pass. You **must not** touch any seeds you find, contact a member of nursing staff for assistance. Once at home if you have a catheter bag and you notice a seed in the urine, empty the bag in the normal way and all the contents can be flushed down the toilet. Similarly if you are not catheterised and a seed is passed into the toilet this is no threat to the environment and you should flush it away. If you see one elsewhere pick it up using a spoon or tweezers and wrap it in two layers of aluminium foil (kitchen foil). The foil packet should be disposed of in the rubbish bin.

Sexual Activity

After brachytherapy you will almost certainly notice a reduction in the volume and a change in the consistency of semen produced on ejaculation. If your partner is pregnant you must use a condom during intercourse until the baby is born. Brachytherapy may reduce your fertility but you should not assume you are infertile and should continue to use your normal birth control after the implant. If you wish to father any children in future please discuss this in clinic before the implant. You may be referred for sperm banking if appropriate. **Following brachytherapy it is advised that you do not father any children for 6 months**

The seeds are permanently imbedded in the prostate gland but there is a remote chance of a seed being passed during sexual activity. Patients are therefore advised to abstain from sexual intercourse for at least a week following the implant procedure. Use a condom for the first three ejaculations after the implant, and if you do pass a seed in this way for a further five ejaculations. Initially your semen may be discoloured brown or black. This is normal and is a result of bleeding that may have occurred during the operation which is now being released into the ejaculate. Some people may prefer to have their first ejaculation(s) without a partner present as this may lessen any concerns you have about being able to ejaculate and also allows you to check for seeds in the ejaculate. If you do find a seed do not touch it with your fingers, use a spoon or tweezers, wrap it in two layers of aluminium foil and place it in the dustbin. Condoms should be disposed of by wrapping in paper and aluminium foil (kitchen foil) and placing in the dustbin.

In the event of your death

In the event of your death within three years of the implant cremation is not allowed due to the radiation hazard. There are also hazards for hospital staff carrying out post-mortems so it is essential that hospital staff and funeral directors are informed that you have had brachytherapy. They can then contact the hospital using the contact information on the card for advice.

Follow-up and CT Scan

About six weeks after the implant you will have a scan in the **Radiotherapy Department** in Addenbrooke's Hospital. This allows us to monitor the quality of our implants to ensure they remain at a high standard. You will also see one of the brachytherapy team and have a PSA blood test during this visit. You will be given the date for this scan at the same clinic visit as you are given the date for your brachytherapy. If you receive a letter changing the date of the scan, please check with a member of the brachytherapy team to confirm this alteration is correct. It is not unusual for the PSA to show a slight rise when it is first checked after brachytherapy. This is due to the trauma of the needles being inserted, so do not worry if this occurs. After this initial visit you will then be followed up by your urologist and/or oncologist in your local hospital. This longer term follow-up usually involves a visit every three to six months for the first five years and includes a PSA blood test and possibly a rectal examination.

Further information on prostate cancer and its Treatments

Cancerbackup provides free help lines, staffed by specialist nurses who can give information, both over the phone and by sending helpful booklets and fact sheets. The nurses can also provide medical, social, psychological and financial information, give emotional support and put callers in touch with support groups.

Website www.cancerbackup.org.uk

Freephone line - open Monday to Friday, 09:00 to 19:00 - **0808 800 1234**

Enquiries can also be made by:

Letter: 3 Bath Place, Rivington St, London EC2A 3JR

Email: info@cancerbackup.org.

If you would like an interpreter when you call, just ask for the language you need when you speak to a nurse.

Prostate Cancer Charity provides free information leaflets and telephone helpline manned by counsellors.

Helpline: **0208 383 1948** (Mon-Fri 10.00 to 16.00)

Email: info@prostate-cancer.org.uk Website: www.prostate-cancer.org.uk

Prostate Cancer Support Association (PSA) Local support groups run by and for men living with prostate cancer and their families who provide information on treatments and their possible effects. Telephone contact to share information, experience and fellowship - National helpline: 0208 446 3896 (10.00 to 20.00).

Prostate Help Association

Email: philip@pha.u-net.com

Web address: www.pha.u-net.co.uk

Prostate Support Group meets the 4th Thursday of every month. Ask staff for more details and contact numbers, or visit Addenbrooke's web site www.Addenbrookes.org.uk for further information



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For your peace of mind

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