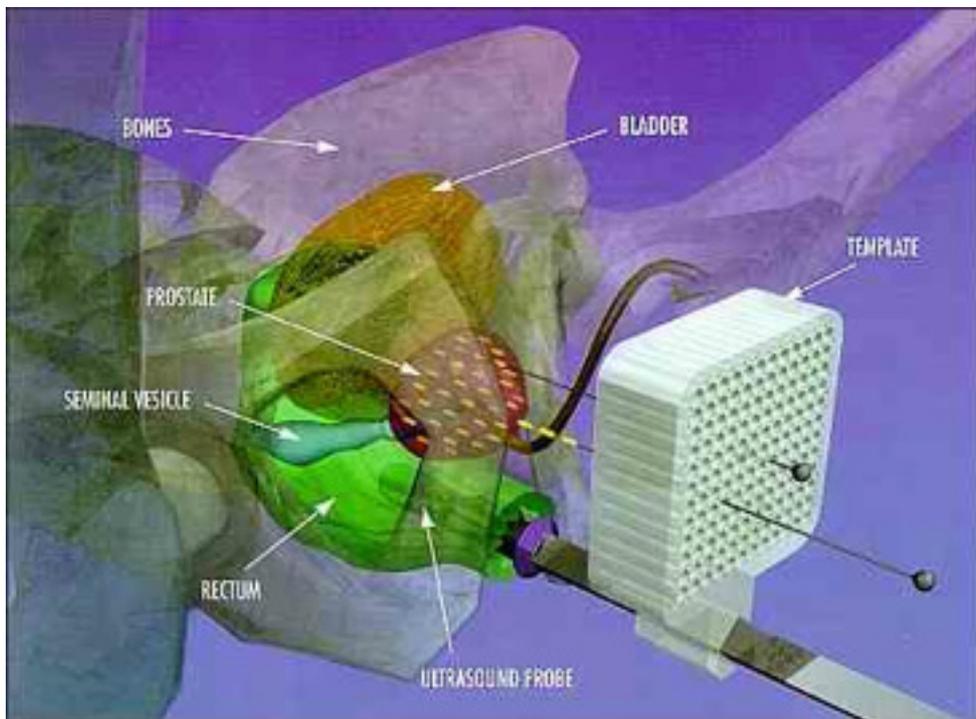


Permanent Iodine ¹²⁵

Seed Implantation Brachytherapy

Patient Guide Booklet



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Seed Implantation Brachytherapy

Introduction

You have been given this booklet because it appears you may be suitable for a prostate radioactive seed implant procedure.

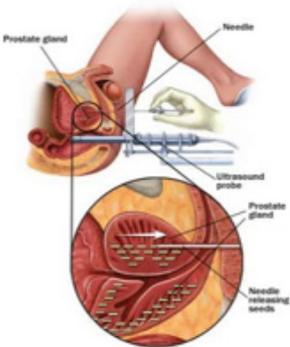
Modern day prostate seed implants have been performed since the mid 1980's and have become a widely accepted means to treat some men with prostate cancer.

This procedure is a multi-step process performed over several weeks. Understanding each step of the seed implant procedure will make you more comfortable and confident in your treatment.

This booklet was designed to provide you with general information about the seed implant process. Each major step is described, providing specific information that can be reviewed at your convenience. You can preview each upcoming step of the process as it approaches without worrying about understanding the entire process at once.

Always remember to bring this booklet with you to any implant related appointment. This information will also be your source to help maximize your understanding, comfort and convenience regarding the seed implant process. The material in this booklet was prepared by brachytherapy practitioners, however, it is meant to be informational only and should only be used in conjunction with medical advice from your treating doctors

Radioactive Seed Implantation



Radioactive seed implantation is a potentially curative treatment for early localised prostate cancer. At present it is recommended for cancers of Gleason score 7, PSA less than or equal to 10 and in men with relatively small prostates who have good urinary flow. The treatment involves injecting between 80 and 100 tiny seeds into the prostate through the perineum. The perineum is the skin beneath the scrotum and above the anal canal. Each seed is roughly the size of an un-cooked grain of rice.



The seeds sit in the prostate but are only radioactive for between three and four months. It is during this time that the cancer is killed. The advantages of seed brachytherapy include that the procedure is minimally invasive not requiring a surgical incision. As a result your recovery is very quick with men returning to work 3 to 4 days after the procedure.

Advantages

- Numerous studies have shown that cure rates with seed brachytherapy are equivalent to surgery and external radiation
- Seed implantation takes 30 to 45 minutes to perform and requires a one night hospital stay
- Incontinence is extremely rare
- Impotence rates are the vicinity of 20 to 30%

Disadvantages

- Between 1 and 6 months following implantation it is common to experience the need to pass urine more frequently and your urinary flow may reduce. This occurs because there is a lot of swelling of prostate. In some men (less than 5%) it may be necessary to insert a temporary catheter into the bladder. Sometimes you will be recommended to take certain prescribed medications for the first few months after the implant to minimise flow problems.
- Although there are no regulatory requirements to isolate you after implantation, we do advise that for two months after the implantation you minimise contact with children under the age of three and pregnant women.
- Any prostate surgery following seed brachytherapy can be associated with increased risk.

The Volume Study

Approximately one month before your implantation, a volume study will be scheduled. A volume study involves acquiring multiple pictures of your prostate using a trans-rectal ultrasound device placed in your rectum. This is done because no two prostates are ever the same in terms of their size and shape. It is therefore necessary to individualise the radiation plan to your particular anatomy and the Volume Study allows the necessary information to be collected in order to achieve this unique plan.

The volume study can be done under either a local anaesthetic or a 15 minute general anaesthetic. At the same time, your doctor will perform a cystoscopy which involves placing a small telescope in through the eye of the penis to internally inspect your bladder and prostate. Occasionally at the time of volume study certain problems may be discovered that may prove to make seed brachytherapy technically challenging. One of these problems may be that your prostate gland is too big. If your prostate gland is too big your doctor may recommend that you take hormone tablets or injections for three months in order to shrink your prostate. If this is the case then the volume study usually needs to be repeated at a later date.

The implant procedure

Bowel preparation before your implant: guidelines

Read the following recommendations carefully

- Begin a low residue diet three days before your implant (See section on special diet considerations)
- Change to a clear liquid diet around lunchtime the day before your implant
- Do not have anything to eat or drink from midnight the night before your implant
- Administer a Microlax enema between 8 PM and bedtime the night prior to your implant



- Administer a second
- Microlax enema upon waking on the morning of your implant
- Microlax enemas can be purchased from your local pharmacy without the need for a prescription

Theatre: Implant procedure

A typical seed implantation takes between 30 and 45 minutes to perform. It is performed either under a local anaesthetic with sedation or a general anaesthetic. The procedure is performed by a urologist and radiation oncologist. Other members of the implant team include radiation physicists, therapists and specially trained nurses.

An ultrasound probe will be inserted into the rectum to identify the prostate. The seeds are then directly injected into the prostate and guided into place using the ultrasound pictures.

Between 20 and 30 needles are used to inject the 80-100 seeds. At the end of the procedure a cystoscopy is performed to confirm that seeds are in the correct position. A urinary catheter is temporarily placed in your bladder to drain urine and will be removed the next morning.

What happens after your implant?

After the implant you will go to a recovery room for about two hours. While in the recovery room a bag of ice will be placed between your legs to help reduce swelling of the implant area. The urinary catheter is usually removed the next day.

Most patients go home the day after the procedure but some may leave hospital as soon as they have recovered from the anaesthetic and are able to pass urine freely. Because you may feel weak and your alertness and judgement may be affected by the anaesthetic, you must not drive for at least 12 hours.

You may resume eating and have visitors as soon as you wish, but you should avoid heavy lifting or strenuous physical activity for the first 3 to 4 days after the operation.

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Possible side effects following your procedure and actions to take

Blood in Urine

Some pinkish colour or blood in your urine is common for a few days following your implant. Increase your fluid intake to flush any blood from your urine. Water is the best.

Frequency

Frequent urination, burning and dribbling commonly occurred days after the your implant. Wearing a pad may protect your undergarments. Frequent urination may continue for several weeks to a few months. Symptoms are most troublesome from one to 3 months after the implant. Please see guidelines to bladder care for further advice

Blockage

Rarely, a patient will be unable to urinate owing to swelling or blockage of the urethra. If you cannot urinate, a small soft bladder catheter will be inserted to drain your urine. The tube can be attached to a leg bag which you will need to wear. If you cannot pass urine and have a painful bladder you will need urgent medical attention. Call your specialist or present to an emergency department

Bruising

Some bruising, discolouration and swelling of the perineum and testicular area can occur. It is also common to have bruising in the area of the implant or a feeling of fullness when you sit. It will last about 3 to 4 weeks and then resolves on its own. It requires no specific treatment. Applying an ice pack can help increase comfort.

Pain

Mild to moderate pain at the implant site may occur. Panadeine will relieve most of the pain. A prescription for Panadeine Forte may be given for severe pain. If you are concerned by severe pain contact your specialist.

Infection

The risk of infection following brachytherapy is very low. Your anaesthetist will give you an intravenous injection of an antibiotic at the time of your anaesthetic. In addition, you will be given a prescription for antibiotics to prevent infection. Take the pills as prescribed until they are finished.

Sexual activity

Blood in the semen may occur following the procedure and last for several ejaculates. Although it is quite safe for you and your partner to resume normal sexual activity following the implant, it is recommended to initially use a condom.

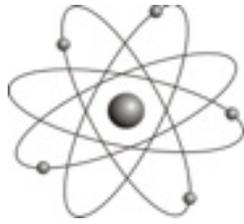
Loss of ejaculatory volume

Following your implant, men can develop a dry ejaculate. Very often this is due to semen being passed into your bladder rather than out through your penis during climax. The seminal fluid is later passed out through your urine when you next into your bladder

Diarrhoea

You may experience some diarrhoea or loose bowel motions. If this happens, the bland residue diet will be useful to control your symptoms. Products like Metamucil can be used to firm up bowel motions. Discuss this with your doctor

Radiation safety



Radiation safety is a concern for many patients and their families. Iodine 125 is a low energy radioactive material that loses its radioactivity quickly. The low energy of the seeds means that most of the radiation is contained within the prostate gland. Some radiation is given off to the surrounding structures such as the rectum and bladder. Your body fluids are not radioactive and objects that you touch do not become radioactive.

Only a very small amount of radiation escapes the body. You should observe precautions to ensure that those around you are protected from unnecessary exposure.

Occasionally seeds end up in the bladder after the implant and are passed in the urine. This will usually occur within one to two days of the implant. The loss of a few seeds will normally not affect your treatment.

Before you leave hospital, you will be given a seed recovery kit containing a container, tweezers and lead pouch. If you do pass a seed after discharge do not pick them up with your fingers. Use the tweezers to place them in the provided container.

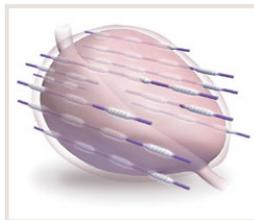
It is a regulation that all men who have a seed implant carry a credit card sized alert in their wallet. You will be given one of these before you are discharged from hospital. In case of a medical emergency whereby you are taken to a hospital for unexpected treatment (i.e. car accident etc.) then your card will advise the treating doctors of your recent seed implant.

Precautions

Any pregnant or possibly pregnant woman should avoid prolonged personal contact with you for at least the first two months following your implant. She can greet you briefly and then move to a distance of 6 feet or more away (two steps away). At this distance (two steps) there is normally no limit to the length of time she can be in the same room with you.

Young children under the age of three should not be allowed to sit on your lap for at least the first two months following the implant. However they can sit next to you with no time limit.

You may sleep in the same bed as your partner. The use of a condom is recommended for the first 2 to 3 ejaculates due to the very low risk of a seed being passed in the sperm. Your semen can occasionally be blood stained and climax can sometimes be uncomfortable. While sexual intercourse is not harmful with these first few ejaculates, the symptoms may be undesirable for you and your partner.



Follow-up schedule

Either one day or one month following your surgery you will be asked to undergo a CAT scan and a Chest X-ray. The CAT scan will enable the doctors to determine the exact position of each seed in the prostate. This is necessary to determine that your prostate is receiving the proper amount of radiation.

A Chest X-ray is also performed to determine if any seeds have travelled to the lungs. Seeds in the lung are uncommon but if it does occur no specific treatment is required and no harm is done.

You will see your urologist and radiation oncologist on a regular basis. Both specialist doctors will work together to provide you with the best care possible. The follow-up schedule usually includes a visit every 3 to 6 months for the first five years to check your treatment progress.

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Suggested guidelines to bladder care following your seed implant

A regular healthy diet is recommended unless you are on a special diet for other reasons. Drink plenty of fluids, at least 2 L each day, to keep your urine dilute.

Minimise your intake of alcohol, tea, coffee, cola and chocolate-based drinks. Choose a range of other fluids.

After your implant, it is normal to experience some difficulty with your urination. Possible side effects include red urine, urinary frequency and blockage.

Your doctor may prescribe one or more medications to improve or lessen your letter symptoms as listed below.

Trimethoprim 300mg or Norfloxacin 400mg

Both of these drugs are antibiotics and may be prescribed by your doctor to commence one day before your implant. You will also leave hospital with a five-day supply for which you will need to take until you have finished.

Naproxen Sodium (200mg)

This is an anti-inflammatory drug usually given for arthritis symptoms and has been used to relieve some of the symptoms of prostate swelling after your implant. It is an over-the-counter drug's, so you can buy it without a prescription at the pharmacy.

Flomax / Hytrin / Prazosin / Duodart ("Alpha Blockade medication")

These medications relax the muscles of the urethra and bladder, allowing for improved stream and emptying of your bladder. You may be given a script for one of these medications and be told to commence it approximately one week before your implant. If you're urinary flow is considered to be satisfactory, sometimes your doctor won't start these tablets until after the implant and if you are experiencing urinary flow disturbance.

These medications are generally well tolerated, but a small percentage of patients can become lightheaded or experience fainting. If light-headedness or dizziness occur, sit or lie down immediately until a sensation goes away. Notify your doctor and nurse of any problems. You should not run out of these medications and ask for more supplies from your local doctor or specialist doctor.

Panadol / Panadeine

These are over-the-counter medications. The usual dose is two pills every 3 to 4 hours as required. Use is directed to relieve pain and also to help you sleep. These may be taken with naproxen.

Panadeine Forte

This is a prescription medication for moderate to severe pain. The usual dose is one to two tablets every 3 to 4 hours as required. Users directed to relieve post implant pain. Note that the Panadeine Forte may cause constipation. This drug may also be taken with Naproxen.

Pre-Implant Dietary Guidelines

Low Residue Diet

Below is a suggested guideline for the bland modified diet which you will be asked to commence 3 days before your implant. Note that you have several food items in each category from which to choose, making this temporary diet easy to follow and simplifying meal planning/ This diet has been designed by dieticians. Be assured that this diet will satisfy your daily nutritional needs during this limited period, but if you would like you may supplement your diet with a high quality multivitamin.

Meat, Fish, Poultry, Eggs

Suitable Foods	Foods to Avoid
Tender lean red or white meats – trim off visible fat. Poultry, remove skin Fish, shellfish and fish tinned in water rather than oil Eggs, Lean bacon, ham & corned beef	Tough gristly or fatty meat. Highly seasoned meats such as curries. Avoid fried meats and the outer crust of roast meat

Mild and Milk Products

Suitable Foods	Foods to Avoid
Milk, fortified milk. Cheeses, choose lower fat varieties such as cottage or ricotta Yoghurt & icecream (not containing fruit skin or seeds)	Milk products such as icecream, yogurt or cheese containing fruit skins, seeds and nuts

Vegetables

Suitable Foods	Foods to Avoid
Soft cooked and peeled vegetables. Carrots, parsnips, potatoes, pumpkin, marrow, peeled and seeded tomato and zucchini, flower of broccoli and cauliflower, cucumber, sweetcorn, peppers, broadbeans, dried beans, baked beetroot, mushrooms, silverbeet, green or French beans, tenderbeans, split peas, legumes, Pickled vegetables. lettuce, asparagus tips, celery with outer fibres removed	Vegetables seeds and skins. Onions, garlic, leeks, cabbage, brussel sprouts, turnips, peas, whole tomato, radishes, olives,

Fruit

Suitable Foods	Foods to Avoid
Soft stewed or canned fruits without tough skins or seeds. Ripe apple, pear, banana, watermelon, cantaloupe, cherries, peaches, apricots and other stone fruits are suitable. Juices – apple, blackcurrant, pineapple, peach, apricot, grape, tomato, guava and berry juices are suitable (limit to 2 glasses per day and dilute with water)	Rhubarb, pineapple, figs, strawberries and berry fruits, grapes, grapefruit, mandarins, oranges. Fruit skins, lemon peel or seeds. Dried fruit and nuts eg. Sultanas, raisins. Orange grapefruit and other citrus juices should be taken in moderate amounts only

Bread, Cake, Biscuits

Suitable Foods	Foods to Avoid
White or fine wholemeal or rye bread, toast, plain scones or buns. Plain cake and biscuits, eg. Plain sponge cake, Milk Arrowroot biscuits, Salada or Sao biscuits	Coarse wholegrain or cracked wheat breads, bread or rolls with poppy, sesame seeds or caraway seeds. Biscuits or cake containing wholegrains or seeds, nuts, coconut dried fruit or spices

Clear liquid diet guidelines

These guidelines for a clear liquid diet are to be used THE DAY BEFORE YOUR IMPLANT. Select items from the list below: Do not eat other foods.

Suitable Liquids

Beverages	Sweets	Fruit Juices	Soups
Coffee and Decaf Tea Ribena Powerade Gatorade	Plain boiled lollies ie. Barley sugar Plain Icy poles Jellies	Apple Grape Cranberry Strained Orange	Clear broth Bonox

NOTE: Take your medications without interruption. This modified fibre diet may also be recommended to those patients undergoing external beam radiation. If you have any questions regarding your diet during this period please be sure to consult your nurse or doctor.