PATIENT INFORMATION

Radiotherapy after Removal of the Prostate

Liverpool and Macarthur Cancer Therapy Centres

[Sydney South West Area Health Service logo]
1. Introduction

This booklet is designed to provide you with general information about radiotherapy at our treatment centres after the removal of the prostate gland (post prostatectomy) for prostate cancer. In some cases, the information may not apply to you. If you have any doubts or concerns, please ask any member of the treatment team.

Radiation therapy or radiotherapy is currently offered after removal of the prostate for men who we suspect have some remaining prostate cancer cells in the region where the prostate has been removed (the prostate bed). The aim of radiotherapy is to kill these remaining cancer cells. Men offered radiotherapy post prostatectomy fit into one of the following groups:-

- Treatment soon after surgery for situations where there is a strong suspicion that all of the prostate cancer has not been removed - “adjuvant” treatment
- Treatment for a rising PSA in situations where the PSA had previously not been detectable after surgery – “salvage” treatment

Adjuvant treatment.

This is when radiotherapy is given directly after a prostatectomy in cases where we are concerned there may be remaining prostate cancer cells in the prostate bed. It is generally offered to men who have one or more of the following features:

The pathology report shows:-

- prostate cancer is suspected to be present outside the prostate gland
- prostate cancer was present in the seminal vesicles (glands above the prostate)
- prostate cancer extended to the edge of the specimen which was removed by the surgeon (positive surgical margin).

In general, men who have one or more of these features have a 50% chance that their cancer will return at some stage in the future as indicated by a rise in their PSA level (called a biochemical failure). There are several large studies demonstrating that giving adjuvant radiotherapy will halve this risk. It is important to note that the majority of men who have a rise in their PSA after surgery do not experience symptoms from prostate cancer throughout their lifetime and do not die of prostate cancer.

Men who are eligible to receive radiotherapy in the adjuvant group also have the option of waiting to see if their PSA rises and then have salvage radiotherapy. The advantages of this are that they may avoid having radiotherapy that is not needed. Secondly, delaying radiotherapy allows men to recover more fully following their surgery, especially in regards to bladder control and in men who have had a nerve sparing procedure, recovery of sexual functioning. The down side of delaying radiotherapy is that it MAY increase the risk of prostate cancer cells spreading by allowing cells to regrow.

Salvage treatment.

Is offered to men who have one of the following:-
Salvage radiotherapy is much more likely to be successful if the prostate cancer cells are confined to the prostate bed. Features that are suggestive of cancer cells being confined to this region (and hence being cured with radiotherapy) include a low PSA (ideally <0.5), low grade on pathology (Gleason <8), positive margins at surgery, and a slow rise in the PSA level following the operation (called a slow doubling time). Note that the chances of radiotherapy leading to cure varies considerably according to individual circumstances.

2. Radiation Therapy Planning and Treatment

Radiation treatment to the prostate generally involves 32-35 treatment visits to the radiotherapy department over a period of approximately 7 weeks. Before treatment starts you will have separate visits which are required to plan the treatment.

At the planning appointment you will have a CT scan of your pelvis (simulation). This scan will help us determine the position of the prostate bed and the surrounding tissues so we can accurately direct the radiation beams. Because the position of the prostate bed can vary according to the fullness of the bladder and rectum, we request that you have a comfortably “full” bladder and an empty rectum before the CT scan and for each of your treatments so that the prostate bed is in the same approximate position each day. For most patients, this involves emptying your bowel and bladder 1 hour before the CT scan (simulation) or treatment and then taking 2 glasses (250mls each) of water or some other liquid within 10-15 minutes. This is also designed to reduce the amount of bladder and small bowel that will be receiving high doses of radiation and therefore reduce any bladder or bowel side effects from treatment. At least one week before your CT scan, or following your clinic appointment with your specialist doctor, you will be required to start taking a fibre supplement, Benefiber. (see Appendix 1 regarding bowel and bladder instructions).

Three permanent skin tattoos are used as reference points to mark the area we plan to treat. They are the size of a small freckle and are given with a small needle into the skin. We will also use some temporary texta ink marks on your skin, which are fine to wash away after the planning session.
After the planning session, a radiation therapist will call you by telephone with a date to start treatment. Most patients are able to drive themselves to the centre for treatment and to continue their usual daily activities including working at their regular jobs.

The actual radiation treatment is given by radiation therapists. Generally, each daily treatment session takes about 15 minutes and you should expect to be in the Cancer Therapy Centre anywhere between 30 and 60 minutes (this depends on the number of patients waiting and if the machines are on schedule). After checking in at reception, you should proceed to the waiting room where you will be called by the radiation therapy staff and asked to change into a gown (the gown will be provided at your first visit). You will then be asked to wait in the waiting area next to your treatment machine. When the Radiation Therapists are ready for you they will call you into the treatment room where you will be asked to lie on the treatment couch. Most of the time in the room will be spent making sure that you are in the correct position and checking that the same area receives radiation each day. X-rays are taken on a regular basis to ensure you are in the correct position for treatment. Please ensure that you have followed the instructions for having a full bladder (see appendix 1).

Treatment is given daily on weekdays and is not given on weekends or public holidays. The machines are serviced once a fortnight and on these days treatment will not occur. Very occasionally, you may be asked to have two radiotherapy treatments in one day to make up for these non-treatment days. If this occurs then the treatments will need to be delivered at least six hours apart that day. The machine staff will inform you of any changes to your treatment schedule.
You will be asked to attend the clinic area once every one to two weeks to be reviewed by your specialist or their registrar (specialist-in-training). They will discuss any side effects or concerns you may have with treatment.

The Cancer Therapy Centre dietician is available to advise you on maintaining a healthy diet and how to reduce some of the side-effects of treatment by modifying your diet. Please ask any member of the treatment team if you would like an appointment made.

3. Side-Effects of Radiotherapy

Radiotherapy works by killing cancer cells using penetrating x-rays. The normal cells and tissues in the area being treated may also be affected which may then cause side-effects. However, normal tissue cells have a greater capacity to recover from the radiation compared to cancer cells. The gap between each day of treatment allows the normal cells to recover. The following is a list of possible side-effects that you may experience.

Early Side-Effects
Great care is taken to minimise the exposure of the tissues surrounding the prostate bed, but there is no way of avoiding small amounts of the bladder and rectum. You may experience some bladder or bowel symptoms (see below) at about two to three weeks after starting treatment that may become more uncomfortable towards the end of the 7 weeks. In most cases the symptoms will settle within about four weeks after completing radiotherapy.
The main side-effects during treatment may include:

**Bowel Irritation**

Changes to your bowel habits may occur during treatment. You may notice that you need to go to the toilet more frequently, pass a lot of wind or have a feeling of urgency and develop discomfort when passing a motion. Some people may also experience bleeding from the rectum or a mucus discharge.

If the skin around the anus becomes sore, take care not to wipe too hard with toilet paper. We may also recommend salt baths once or twice a day, which helps with healing. Occasionally your doctor will give you creams or suppositories that can be soothing.

If you develop diarrhoea, advise your doctor. You may be given anti-diarrhoea medications.

The following diet changes are recommended:

- **Step 1:** reduce your fibre supplement (Benefiber) from twice to once per day. If diarrhoea continues, move to Step 2.
- **Step 2:** stop taking Benefiber. If diarrhoea continues, move to Step 3.
- **Step 3:** reduce the amount of insoluble fibre in your diet by avoiding:
  - skins, pips, and seeds from fruits and vegetables.
  - wholegrain breads, bran, and muesli based cereals.
  - nuts and legumes eg baked beans, kidney beans, lentils.
  - spicy foods (eg pepper, chilli, curry, mustard).
  - alcohol.
  - caffeine (from tea, coffee, chocolate and cola).
  - foods high in fat (eg. pastry, fried or greasy foods).
  - carbonated drinks e.g. beer, soft drinks.

Once your diarrhoea settles, slowly reintroduce fibre and aim to follow a healthy well balanced diet.

**Urinary Problems**

Most people will find that they need to pass urine more frequently, especially at night. There may be a burning sensation when passing urine.

Generally we like people to drink plenty of fluids. If you notice a “burning” sensation when you are passing urine, try Ural sachets added to water (these can be purchased at the chemist without a prescription). The Ural sachets can take the acidity out of urine and reduce discomfort.

If you have urinary irritation, drinking cranberry juice may be helpful.

**Skin**
The skin around the anus may become quite sore and red like “sunburn”. It is also common to lose some of the pubic hair in the weeks following treatment. This is temporary and should grow back over several months.

**Sexual Function**

For men that are still sexually active following their operation, there is no need to refrain from sexual activity either during or after the treatment. Occasionally a "burning" sensation may be experienced on orgasm. Having sexual relations during radiation treatment will not harm your partner.

**General**

Tiredness is very common although many people do continue to work and lead a normal life. It is very rare to be sick during this treatment and you will not lose hair, other than from the pubic area.

*Please mention any problems to the radiation therapists or radiation nurses giving your treatment. Your doctor will also see you regularly during treatment so problems can also be discussed at these visits.*

**Long Term Side-Effects**

The majority of patients make a good recovery from their radiation treatment and do not experience side-effects that are a bother to them. In some cases however, patients may experience some problems which if they do occur, generally start many months after the radiation treatment has completed and can be ongoing.

These late side-effects that can occur include:

**Bowel (or rectal) injury**

The most common symptom of late radiation bowel damage is rectal bleeding which can be a bother in up to 10% of patients. For these patients it may be necessary to give special treatments such as laser therapy or formalin applications to settle the bleeding. It is important to note that if you do ever develop rectal bleeding after radiation treatment, a colonoscopy is recommended to determine the exact cause of the bleeding. Sometimes patients with bowel damage may experience greater urgency in having to go to the toilet and rarely may have “accidents” if they do not find a toilet quickly enough. Some patients may also notice a mucous discharge coming from the rectum.

**Urinary problems**

Having radiotherapy after surgery is very unlikely to improve urinary function and indeed can be made worse in some cases. Worsening in urinary control or flow can occur in up to 10% of cases. If this occurs it will be important to see your urologist to have this evaluated. It is also possible for radiotherapy to cause bleeding in the urine but again this is unusual and all such cases should be reported to your doctor and investigated.
Sexual Functioning

In many cases men have been rendered impotent following their surgery. Having radiotherapy will reduce any chance of recovery of sexual functioning (which would be very uncommon if nerve sparing surgery was not performed). In men who are still sexually active after surgery, there is still the potential for good sexual functioning many years after radiotherapy especially in younger men. However it is fair to say that in many cases, erectile function declines following radiotherapy. If there are problems with sexual functioning following radiotherapy, it is fine to consider treatments such as Viagra (a tablet) or injections (of prostaglandin into the penis) which can help.

It is important to provide reassurance that there is absolutely no risk of transferring the prostate cancer from one person to another and that having intercourse in no way increases the risk of the prostate cancer coming back.

Please feel free to discuss any concerns about sexual functioning with your doctor. Assistance can also be obtained from the Clinical Psychologist regarding adjustment to changes in sexuality and relationship issues.

Hip Injury

Some radiation dose also goes through both hips and it is possible that the hips may become more fragile (osteoporotic) many years after treatment has completed. This may place men at a slightly higher risk of having a hip fracture if they have some form of injury of a fall. It makes good sense to maintain a high level of calcium and vitamin D intake.

If you have any concerns or questions about late radiation damage, please discuss this with your doctor.

4. Looking After Yourself During Radiotherapy

General Health and Diet

In general, we encourage people to lead as normal life as possible during their radiotherapy. Many people continue to work during their treatment.

You may bath or shower using warm water. Avoid using soap in the treated area and do not scrub at the skin. Just let the water run over the area and then gently pat dry.

You will see your doctor regularly while on treatment so you can discuss any problems or possible side effects you may be having. Please mention any of these problems to the radiation therapists or radiation nurses who will be seeing you each day.

5. Follow-up after treatment

Success of the treatment is usually assessed using the blood test (PSA). The first hurdle is for the PSA blood test to come down after treatment and the second hurdle is for the level to stay down.

It is important that you see your doctor periodically after the full course of treatment is completed. An appointment will be made for you to come back to the clinic to see the
doctor at about 6-12 weeks after the treatment has finished. Generally speaking it is preferable for people to be checked three to six monthly for the first 5 years, then once a year thereafter. A blood test (PSA) is generally performed prior to each checkup. Your follow-up may be shared among the urologist who referred you, your radiation oncologist and your local doctor.

At the Cancer Therapy Centre information is collected regarding the outcome of your treatment including any side-effects that may occur. This is very important to us as we are trying to deliver the best treatment possible and we wish to measure and improve the effectiveness of what we do. It is therefore very much appreciated if you maintain contact with us and notify us if you move.

6. Cost

Radiotherapy

All radiation oncology consultations, planning and treatment procedures are fully covered by Medicare. If you have any queries about the billing process you may ask to speak to the billing clerk or the office manager. Tests conducted outside the Cancer Therapy Centre such as blood tests or x-rays may carry a charge and you will need to check this with the people conducting the test.

7. Transport

Macarthur Cancer Therapy Centre

Campbelltown hospital is a 15 minute walk from Campbelltown and Macarthur train stations. Buses are available from these stations to the hospital. A free shuttle bus takes patients and relatives between Camden and Campbelltown Hospitals. A Transport Access Guide (TAG) for travelling to Campbelltown Hospital is available at front reception.

Free parking is available outside the Macarthur Cancer Therapy Centre, and in the main hospital car park.

For those patients, who have no means of transport for radiotherapy treatment, there is a transport bus available within the local area. You can have an eligibility assessment for this at the time of radiotherapy planning. Please let your doctor know if you require this service.

For those patients commuting from the Southern Highlands, there is a daily transport service run by the NSW Cancer Council. Brochures for this transport service are available within the centre.

Liverpool Cancer Therapy Centre

Liverpool hospital is within walking distance of Liverpool and Warwick Farm train stations.
Street parking is limited to two hours in most cases. You can park in the undercover car park at Liverpool Hospital (off Campbell Street) for a small fee.

For those patients, who have no means of transport for radiotherapy treatment, there is a transport bus available. You can have an eligibility assessment for this at the time of radiotherapy planning. Please let your doctor know if you require this service.

8. Support Services

The Cancer Therapy Centre has a range of allied health professionals who provide support services. Appointments to see any of these people can be made through the reception staff at the Cancer Therapy Centre.

9. Helpful Sources of Further Information

You may find the need for further information. Please discuss your needs with your doctor. You may consult the Cancer Therapy Centre Resource Library at both Liverpool and Macarthur Cancer Therapy Centres and borrow a book or video. The library is located near the clinic area. The Support and Information pack you will receive as a new patient contains helpful booklets that are yours to keep.

Websites and Organizations that may be helpful


www.cancer.gov/cancer_information US National Cancer Institute

http://www.macmillan.org.uk/Home.aspx UK- Leading cancer information service

www.prostate.org.au Prostate Cancer Foundation of Australia

Contact details:

Dr. Karen Wong 02 9616 4457
Dr Mark Sidhom 02 9616 4456
Dr Karen Lim 02 9616 4456
APPENDIX 1

Patient Information

Preparation for the Planning and Treatment of your Prostate cancer

In order to help us plan and deliver your radiotherapy treatment as accurately as possible, please follow the instructions below carefully. By following these instructions you will improve the accuracy of the radiation treatment, and reduce the potential side-effects.

Bowel preparation
If your rectum becomes larger during treatment, it can move the prostate bed more anteriorly. This could mean that a greater amount of the rectum receives radiation, which increases the risk of side-effects, and could also lead to inaccuracy in radiotherapy delivery to the prostate bed. The instructions below aim to have the rectum the same size each day during treatment as it was at the planning appointment, in order to avoid or minimise treatment side-effects.

Preparation for your Planning/CT appointment

- As instructed by your doctor, begin taking Benefiber twice daily as per directions on the bottle. If your bowels become loose, refer to the bowel information in Section 3 of this booklet.

- Reduce your intake of gas producing foods for **one week prior to your treatment planning session and during treatment**.
  Gas producing foods include legumes (such as baked beans, kidney beans, 4 bean mix), cabbage, brussel sprouts, broccoli, cauliflower, onion, garlic, carbonated drinks, beer, eggs, and some spicy foods such as curries.
  Other tips to minimise gas formation include:
  - Eat more slowly and chew thoroughly
  - Sip rather than gulp fluids and drink without a straw
  - Avoid eating and drinking at the same time, as this frequently encourages swallowing of excess air.
- Avoid chewing gum.
- Don’t talk whilst eating.
- Increase gentle physical activity such as walking.

Bladder preparation

- 1 hour before your appointment time please empty your bladder and open your bowels. It is important to at least open your bowels once per day, and it is preferable if your bowels are opened 1 hour before the initial planning scan, and before radiotherapy treatment each day.

- After emptying your bladder and bowel, drink 500ml of water within 10-15 minutes. (This is about 2 glasses, or you can get a drink bottle that fills up to around 500 ml).

- Please avoid emptying your bladder following your drink until after the planning or treatment is completed.

- It is important that your bladder is not too uncomfortable during planning or treatment as this may cause you to move around. If you find it difficult to “hold on” for an hour after drinking two glasses, please discuss with your radiation therapists or doctor about reducing the amount that you drink.

- Please avoid drinking more than one cup of coffee before your radiotherapy treatment, as this is a stimulant that will make you want to empty your bladder sooner.

- If your treatment machine is running late and your appointment will be delayed, the radiation therapists will let you know if you need to empty your bladder and drink the water again.