

## Information for Patients Receiving Radiation Therapy to the Prostate/Prostate Bed

This information sheet has been written to provide answers to some questions you may have about radiation therapy treatment for prostate cancer at Auckland Radiation Oncology (ARO).

### The following topics will be discussed:

- Treatment options for localised prostate cancer
- What is Radiation Therapy?
- Auckland Radiation Oncology Team
- Treatment Planning Appointment & CT
- Treatment Delivery and Doctor Clinics
- Potential Side Effects
- Follow-up Arrangements

### TREATMENT OPTIONS FOR LOCALISED PROSTATE CANCER

When all of the diagnostic tests indicate that the cancer is confined to the prostate, there are a number of different treatments available to try to eliminate the cancer. These options currently include:

**Radical Prostatectomy:** A major surgical operation to remove the prostate completely

**Radiation Therapy:** The use of radiation to destroy the cancer

**Hormone Therapy:** Treatment using hormone injections

The information that follows describes what External Beam Radiation Therapy is and how the treatment is delivered. The aim of treatment is to achieve local control, and ultimately, cure of the cancer.

### WHAT IS RADIATION THERAPY?

Radiation therapy is a treatment in which an x-ray beam, coming out of a machine called a linear accelerator, is aimed specifically at the site of the cancer. The x-rays damage the DNA (genetic code) in the cancer cells, and this damage then results in the death of the cancer cells. Radiation therapy is planned to treat as little of the normal body as possible. You do not feel the radiation as it is being delivered.

Treatments are usually delivered over a period of weeks, which allows the normal cells to recover between successive treatments. Treatment prescriptions can differ depending on the needs of the individual and can last up to 39 treatments over 8 weeks.

### ARO TREATMENT TEAM

Your radiation treatment will be given at Auckland Radiation Oncology located on the Mercy Hospital campus in Epsom. ARO is a partnership between MercyAscot and Southern Cross Hospitals. You will meet various employees of ARO during your visits. The following is a brief description of who we are and what we do.

**Radiation Oncologist:** A specialist doctor who is qualified in the treatment of cancer by radiation.

**Radiation Therapists:** Qualified technical professionals involved in the planning and operation of the radiation equipment during your treatment.

**Medical Physicist:** A scientific officer who performs regular checks to ensure the safety of radiation equipment and treatment plans.

**Registered Nurse:** A nurse whom has advanced knowledge of caring for cancer patients. The nurses, along with the radiation therapists, will advise you on how to look after yourself while you are on treatment.

**Receptionist/Scheduler:** These people will help you with scheduling your appointments, and will be able to discuss your account details.

**Engineer:** This is a person that has been trained on the operation and maintenance of the equipment.

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As this is also a training facility, there may be students involved in your treatment. You have the right to ask that students not be present during your procedures.

We aim to give you the best possible care during your treatment, so if there is anything else you need to know, please ask any one of us at ARO.

### TREATMENT PLANNING AND CT

In order to deliver the treatment accurately and at the correct dose, we need to be able to locate the exact area to be treated in relation to the surrounding normal tissues. This process is called treatment planning.

The planning process will require you to have a CT scan. Small permanent tattoo marks will be made on your skin to assist in the daily set-up for treatment. Using the information obtained during planning we calculate the best method of giving a dose of radiation to the treatment area, whilst avoiding as much normal tissue as possible. The treatment beam can be delivered from several different directions in relation to the area to be treated.

You will have the opportunity to view your treatment plan with a radiation therapist.

### TREATMENT DELIVERY

After the treatment planning appointment, time is required to complete the planning and checking calculations. Treatment is started as soon as possible following the completion of this process.

Treatment is usually given once a day, five days per week, with the exception of public holidays. Depending on the complexity of your treatment, you will spend around 15 minutes in the treatment room where the machine is housed. Every effort is made to treat you within 20 minutes of your scheduled time, but some delays may be unavoidable.

You will be required to lie in the same position as during the CT scanning, and we ask that you try to keep as still as possible during the procedure. During your treatment it is best if you relax, breathe normally, and allow the therapists to move you as necessary.

The therapists must leave the room during the treatment; however they monitor you on a camera from outside the room. There is also an intercom system, so call out or give an indication if you need assistance.

You are welcome to bring support people with you when you come for appointments. At a convenient time your support person may accompany you into the room to see the machine, but will be asked to return to the waiting room before the therapists begin positioning you for your treatment.

When scheduling appointment times, effort is made to accommodate you in regards to work, travel times and your other commitments, but unfortunately this is not always possible. You will receive a copy of your complete schedule on the first day of treatment. We advise you to check these times against your calendar and let us know where there are areas of conflict. We will do our best to change your scheduled times to meet your needs. The more notice you can give us, the more likely we are to be able to assist you with this.

### DOCTOR CLINICS

You will see your oncologist in a review clinic while you are on treatment. Clinic days and times are specific to each doctor and every effort will be made for these times to coincide with your treatment times.

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Please feel free to speak to the therapists about any questions, concerns or problems you may have; it is not necessary to wait for your visit with the doctor. If the therapists feel you need further, immediate management, they will have you seen by a nurse and/or doctor.

### POTENTIAL SIDE EFFECTS

As stated previously, the x-rays used in radiation therapy can damage the DNA (genetic code) of cells. The radiation also affects the normal tissues of the body, and this can cause side effects. However, we know that normal tissues are better able than cancer cells to heal the radiation damage, and most of the normal tissues will recover.

#### Side effects depend on:

- the amount of radiation given
- the area of the body treated
- individual response

Due to improvements in treatment planning systems and treatment delivery, the side effects of radiation therapy have been reduced remarkably. However, some side effects still occur and can be categorised as Acute (short term) or Chronic (long term) side effects. Any concerns about developing side effects should be discussed with your oncologist, ideally before treatment commences.

#### Acute Side Effects (Short Term)

These are side effects that occur *during* the treatment course and usually take a few weeks to resolve after completion of treatment. At the beginning of the course you may notice little change. The acute side effects may appear at about half way through your treatment course and then become increasingly apparent toward the end.

Please speak to your treatment team if any of the following reactions occur so that these can be managed.

#### **Bladder Irritation**

Due to the position of the prostate a portion of the bladder may become inflamed. This means you may experience:

- More urgent and frequent urination (including at night).
- Slowing of the stream and difficulty starting.
- A sensation of burning discomfort during or at the end of the stream.

#### **Bowel Irritation**

Also due to the position of the prostate a portion of the bowel may become inflamed. This means you may experience:

- More urgent and frequent bowel motions.
- Increased amount of flatulence (wind) and mucus.
- The anus may become sore when motions are passed, and there may be some bleeding, particularly if you have haemorrhoids.

#### **Fatigue**

General tiredness often occurs during and after the treatment course. Some people may still be able to work and only take time off for the daily appointment, but others may find it too tiring and prefer to stay at home. Initially people may not get tired, but find once the treatment course has finished the tiredness occurs.

Advice to help combat fatigue includes:

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- Keep well hydrated - The recommended consumption is 2-2.5lt total of fluid per day. Limit those with caffeine (eg coffee, tea and cola) as this is a diuretic and will actually make you lose fluid you have drunk throughout the day.
- Perform some gentle exercise, such as a 30 minute walk several times a week. However, it is important that you listen to your body and do not over exert yourself.
- Getting plenty of rest each day helps the normal body tissues to recover on a daily basis from the effects of the radiation therapy.

**The peak of any side effects you may experience will occur around 7-14 days after the completion of your radiation treatment. This is due to the cumulative nature of the treatment. It is likely it will take several months for you to recover completely from the treatment.**

### **Chronic Side Effects** (Long Term)

Most people return to “normal” after completion of their treatment, but a few patients experience some long term side effects. These can develop gradually over several months or years. The changes that result may cause no clinical symptoms, or so rarely that they present minimal risk to the individual. Your doctor will not be able to tell you before you are treated whether any of the permanent side effects will happen to you, however with more advanced treatment techniques and individualised planning the risk of long term side effects are kept to a minimum. Your oncologist should discuss these with you before you start your treatment as part of the informed consent process.

**Please speak to your Radiation oncologist about these long term side effects if you are concerned.**

### **Disturbances to Bowel Habits**

This is the most common chronic side effect, and can vary in severity. Permanent changes can include the following:

- A feeling of wanting to pass a motion or straining (whether or not you actually need to).
- Slight bleeding when passing a bowel motion.
- Bowel movements may continue to be looser or more frequent that they were before your treatment.

For most individuals, the condition is mild and no active treatment is required.

### **Bladder Changes**

- Approximately 10% of men can develop permanent urinary irritation resulting in frequent urination and urgency.
- Radiation treatment can also cause a narrowing of the tube (urethra) from the bladder to the penis, which can make it difficult for you to pass urine. This ‘stricture’ can be treated with surgery if necessary.
- Due to changes in the bladder, blood can be passed when urinating. This may require investigation and active treatment.

### **Impotence**

Radiotherapy can damage the blood vessels supplying the penis or the nerves that control getting an erection. Approximately 30-50% of men treated find that their ability to achieve and maintain an erection declines slowly over the following months or years after treatment. This is more likely to occur if the erections were already declining prior to radiation therapy (such as following prostate surgery, hormone treatment or from other causes), but is otherwise hard to predict. You may wish to discuss the available remedies for impotence with your Radiation Oncologist.

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### WHY HAVE A MODERATELY FULL BLADDER AND AN EMPTY RECTUM?

It is recommended that you have a moderately full bladder and an empty rectum for the planning CT scan appointment and also for each day you have a radiation therapy treatment. This is necessary to maintain the relative positions of the area being treated and the nearby organs to ensure that the treatment is delivered accurately. It will also help reduce the severity of acute side effects experienced.

You will find special instructions on how to achieve the above in this information packet.

### FOLLOW-UP ARRANGEMENTS

Your first follow-up visit with your oncologist is around 2-4 weeks after the completion of treatment. Arrangements will be made for ongoing re-assessment and may include examination of the prostate and blood tests.

A Prostate Specific Antigen (PSA) blood test will be used to monitor the activity of prostate cancer. We expect the PSA level to fall steadily over a period of 12 months or more. Providing the PSA level does fall and stays low, this usually indicates there is no cancer activity.

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### BOWEL & BLADDER PREPARATION FOR RADIATION TREATMENT OF THE PROSTATE/ PROSTATE BED

#### Bowel Preparation

It is recommended that you have a relatively empty (of gas and faecal matter) bowel for your planning CT scan appointment and for each day of your radiation therapy treatment. The aim of this is to maintain the relative positions of both the area being treated and the nearby organs, helping to ensure that the treatment is delivered accurately.

A common side effect of radiation therapy to the prostate is loosening of the bowels. This will not usually happen until the latter part of the treatment. We want to recreate an empty bowel for your treatment so the radiotherapy plan created can be reproduced daily.

This information is designed to help ensure that your bowel habits are regular and consistent on the day of your CT appointment and throughout treatment.

If your bowel habits are currently not normal for you, please contact the department to discuss this.

Most days of your treatment, you will be asked questions by the treatment staff concerning your bowel habits. It is important that you inform them of any changes, problems or irregularities (e.g. constipation, diarrhoea) and they will advise you of changes that need to be made or refer you to the nurse on duty.

#### Bladder Preparation

Another organ which is near the area of the prostate is the bladder. It is recommended that you have a moderately full bladder for your planning CT scan appointment and for each day of your treatment. **It is important that you keep well hydrated and drink 2-2.5lt of fluid total per day as this helps achieve the moderately full bladder each day.** If you are dehydrated, the water you drink will always go to the rest of your body before it goes to your bladder. Therefore you should be hydrated before you begin the bladder filling procedure. Limit drinks with caffeine e.g. coffee, tea and energy drinks as they act as a diuretic (make you pass more water) and can be dehydrating.

A 'moderately full bladder' will vary from person to person, and you are the best judge as to what is moderately full for you (400mL – 2 large glasses of fluid is a recommended starting point). If you are

worried about being able to hold this amount of fluid in your bladder, practice the day before the CT scan and ensure that you can comfortably hold this for approximately half an hour. Over the course of

treatment you may be advised by staff how to alter your bladder preparation to achieve the desired amount of fluid in your bladder.

We ask that while you are on treatment, you refrain from drinking wine. Wine increases the acidity of urine which can result in more urgent, frequent urination (including during the night) and a sensation of burning during or at the end of the stream.

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### WHAT DO WE REQUIRE OF YOU?

#### In the week prior to your planning CT scan appointment:

- At least one week prior to your scan, follow the flowchart to find a diet that achieves the desired bowel habits.
- You will receive a phone call prior to your CT appointment from a radiation therapist, who will discuss your bowel and bladder habits with you and give you advice, where needed, on dietary changes.

#### On the day of your planning CT scan appointment:

- On the morning of your CT appointment, attempt a bowel motion. If you are unable to pass a motion, please discuss this with the radiation therapist at your appointment.
- Approximately one hour before the set-up appointment, empty your bladder.
- Try to finish the 400ml fluid approximately 30 minutes before your CT scan appointment. Remember you may have an appointment prior to the CT which will last approx 30 min. Please ask the schedulers if this is the case and adjust your bladder filling as necessary.

#### Each day of your radiation treatments:

- Continue the diet discussed above, adjusting where necessary to achieve the desired bowel habits.  
*NB: if you start to experience diarrhoea while on treatment, inform a staff member and decrease the fibre in your diet in small amounts, replacing it with low fibre foods (use the list of foods attached)*
- Each day, attempt to have a bowel motion before treatment. If this becomes a problem, please inform one of the treatment staff.
- Approximately one hour before treatment, empty your bladder and then start the filling process. Again, try to finish drinking the required amount approximately 30 minutes before your treatment.
- On arrival at ARO, if your bladder is feeling uncomfortably full, do not drink any more. If you empty your bladder before being taken in to the treatment room, please inform a radiation therapist. You will then be required to have some more to drink and wait 20 minutes for the bladder to fill again. You will be able to relieve yourself once the treatment for the day has been delivered.

**Report any concerns or problems with this programme to your radiation oncologist or to the nurses and radiation therapists who are looking after you. If you have any medical conditions that may affect your ability to follow these instructions, please inform us.**

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### FOOD LIST GUIDELINES

<b>Gassy Food to Avoid</b>	<b>High Fibre Food</b>	<b>Low Fibre Food</b>
<p><b><i>This list contains food that may make you feel gassy</i></b> <u>COOKED DRIED BEANS</u> Baked beans Kidney beans <u>FRUIT</u> Apples Apricots Oranges Mandarins Grapefruit Pears Prunes Cranberries <u>VEGETABLES</u> Broccoli Bok Choy Mushrooms Beets, cooked Brussel sprouts Cabbage Cauliflower Green beans Peppers Onions <u>OTHER</u> Barley Oats Linseed/Flaxseed Beer Soda (fizzy drinks) Pulpy fruit juices</p> <p><b>NB: Dairy products (unless intolerant); meat/chicken/fish; are all OK to eat</b></p> <p><b>Other helpful hints to reduce gas:</b> Eat slowly and chew food well Chew with your mouth closed Do not chew gum Sip beverages rather than gulping Do not drink through a straw Avoid hard candy Reduce foods with sorbitol (artificial sweetner)</p>	<p><b><i>Increase these high fibre food gradually. Increase fluid intake as you increase fibre.</i></b> <u>FRUIT</u> Blueberries Figs, dried Peaches Cherries Kiwifruit Raspberries Strawberries Fruit with edible seeds Raisins <u>VEGETABLES</u> Avocado Celery Corn Peas (small quantities) Carrots (small quantities) Potato baked with skin on Spinach, cooked (small quantities) Kumara with skin on Tomato Pumpkin with skin on Zucchini, cooked (courgettes) <u>WHOLEGRAIN BREADS AND CEREALS</u> Bran cereal Wholemeal/grain Bread Whole wheat pasta Brown Rice <u>NUTS AND SEEDS</u> Almonds Cashews Peanuts (crunchy peanut butter) Pistachio nuts Pumpkin seeds Soy beans, cooked Sunflower seeds Walnuts Lentils <b>NB: Dairy products (unless intolerant); meat/chicken/fish; are all OK to eat</b> <b>Other hints to promote regular bowel motions:</b> Eat regularly and avoid skipping meals Increase physical activity Drink 2-2.5 litres of fluid per day</p>	<p><b><i>If you have diarrhoea eating a lower fibre diet may help</i></b> <u>FRUIT AND VEGETABLES</u> Clear fruit juice Canned fruit in fruit juice Unsweetened stewed apple Vegetable juice Potatoes without the skin Vegetables without skin Eggplant without skin Asparagus Lettuce Cucumbers Radishes <u>BREADS AND CEREALS</u> White or wheatmeal Bread, buns, bagels, English muffins Plain Cereals – Cornflakes, Rice Bubbles, Plain biscuits - Arrowroot cookies, tea biscuits White Rice, pasta and noodles <u>OTHER</u> Well cooked, tender meat, chicken, fish and eggs Milk, cheese, yoghurt (unless intolerant) Soy sauce Herbs &amp; spices Smooth peanut butter Marmite/vegemite Seedless jams Tomato sauces and pastes</p> <p><b>NB: If you are experiencing diarrhoea, please inform your treatment team and nurse and continue drinking plenty of fluid.</b></p>

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## BOWEL MOTION GUIDELINES

