

# **Prostate Cancer: High Dose Rate Brachytherapy**

**Information for patients,  
families and friends**

## **About this booklet**

This booklet is designed to give you information about high dose-rate (or HDR) brachytherapy for prostate cancer and what to expect.

If you have any questions please speak to your Radiation Oncologist or the other helpful staff at Alfred Health Radiation Oncology during your next visit.

### **How does high dose-rate brachytherapy fit in with other treatments for prostate cancer?**

The most common combination for this form of treatment is high dose-rate brachytherapy and external beam radiation therapy with hormone treatment. Different combinations are used in different situations. Your Radiation Oncologist will discuss prostate cancer treatment combinations with you in detail.

### **Why use high dose-rate brachytherapy to treat prostate cancer?**

High dose-rate brachytherapy is most commonly used to boost or escalate the radiation dose to the prostate provided by a course of external beam radiation therapy treatment. This dose escalation has been shown to increase the cure rate.

Many men prefer the side effect profile and the convenience of radiation therapy with brachytherapy, compared with the side effect risks of major surgery. Other men might have other medical problems that make surgery a bad choice.

## **What is involved in the high dose-rate brachytherapy procedure?**

The high dose-rate brachytherapy implant is done at The Alfred Centre operating theatre suite in the morning. You will usually be given a spinal anaesthetic, but sometimes a general anaesthetic, the final decision is up to the anaesthetist.

Under anaesthetic, your Radiation Oncologist will insert 15-18 plastic hollow catheters through the skin of the perineum (the skin between the scrotum and anus) into the prostate.



**An implant at The Alfred Centre**

The placement of the plastic catheters is guided by ultrasound, x-ray and a template. The template secures the catheters so they cannot move and once all catheters are in place the template is sutured to the perineum.

A urinary catheter will also be inserted to drain urine, as you will be lying flat in bed for approximately 24 hours, not able to sit up or walk around. Most patients do not experience pain due to the template or the catheters in the prostate, however the urinary catheter tends to cause more discomfort.

The procedure will take 1-1.5 hours.

## **How is high dose-rate brachytherapy planned?**

You will have a CT-scan at the Alfred Health Radiation Oncology to determine the exact position of the catheters in relation to the prostate. With this information, we can individually calculate the dose of radiation to your prostate. This planning process takes a few hours.

## **How is high dose-rate brachytherapy treated?**

At Alfred Health Radiation Oncology you will be given two treatments over a 24 hour period.

In the brachytherapy treatment room each plastic catheter is connected to the high dose-rate treatment machine by a special connecting cable.

Once the radiation therapist, physicist and your Radiation Oncologist are happy with the connection of all the cables the treatment can begin. We all leave the room during the treatment and sit at the treatment console around the corner. We are watching you on a video monitor and can easily hear you.

The high dose-rate treatment machine automatically transfers the tiny Iridium-192 radioactive source into each implanted catheter. The treatment is painless. You will only hear a 'clicking' sound and might feel some vibration in the connecting cables. The whole treatment takes 15-30 minutes depending on your treatment plan. After each treatment the catheters are disconnected and you are transferred back to the ward.

## How are the catheters removed?

After your last treatment the catheters and template are removed under light sedation. This is usually done by a registrar at Alfred Health Radiation Oncology.

## When can I get out of hospital?

There is usually some blood in the urine after the treatment catheters are removed. Once this settles, usually by the next morning, the urinary catheter is removed. Once you are able to pass urine without the catheter you can be discharged.

## Side effects

Below is a list of the most common side effects associated with high dose-rate brachytherapy to the prostate. Side effects may not be limited to the following, so if you have any concerns please speak to your Radiation Oncologist.

Side effects can be divided into two groups:

- Acute – Those which happen during treatment.
- Late – Those which happen after treatment is completed.

## Acute side effects

### Discomfort

- You will be given sufficient pain relief to alleviate any problems with the catheters and template during treatment.
- Lying flat in bed for 24 hours or so, unable to walk around or sit up.

## **Urinary**

- Difficulty passing urine.
- Blood in urine.
- Abnormal urine flow – Due to bruising and swelling in the prostate.
- Frequency – Needing to pass urine more often.
- Urgency – Needing to pass urine in a hurry.
- Nocturia – Needing to pass urine at night.
- Occasionally men are unable to pass urine. If this happens you will need a catheter.

## **Bowel**

- Constipation – For a week or so after treatment due to the alteration of diet.
- Mucous discharge or minor alteration in bowel habit – May persist for many months.
- Occasional blood in bowel motions.

## **Other**

Other surgical side effects can occur but are not very likely.

- Blood clots in leg veins – Are prevented by compression stockings and medication.
- Infections – Are prevented by antibiotics given in theatre.

## **Late side effects**

### **Urinary**

- Urethral stricture – Narrowing of the tube through which the urine flows out from the bladder. This is uncommon but might require stretching by a Urologic surgeon.
- Irritable bladder – The bladder is abnormally sensitive to filling, resulting in the need to pass urine frequently and in a hurry. There can also be associated penile discomfort. This is very uncommon and can be helped with simple medication.

### **Bowel**

- Serious bowel problems are very uncommon but may increase the frequency and urgency of bowel motions and/or cause mucous or blood to be mixed with bowel motions.
- Rectal ulceration – Very uncommon..
- Rectal fistulas – Very rare

### **Sexual**

- Impotence – There may be a period after the brachytherapy and external beam radiation therapy when men are temporarily impotent. In general terms, men who are fully potent prior to treatment, 60-70% will regain and maintain this.
- Discomfort with ejaculation.
- Decreased volume of ejaculate – Is common.

## **Alfred Health**

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[alfredhealth.org.au](http://alfredhealth.org.au)

## **Further information:**

### **The Alfred**

[alfredhealth.org.au](http://alfredhealth.org.au)

### **Alfred Health Radiation Oncology**

[alfredhealth.ro](http://alfredhealth.ro)

### **Latrobe Regional Hospital**

[lrh.com.au](http://lrh.com.au)

### **Melbourne Prostate Institute**

[melbourneprostate.org](http://melbourneprostate.org)

### **Cancer Council Victoria**

[cancervic.org.au](http://cancervic.org.au)

If you would like to provide feedback or request a copy of this information in a different format, contact us at [patient.information@alfred.org.au](mailto:patient.information@alfred.org.au)



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Developed & reviewed  
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