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# Treatment of Prostate Cancer with High Dose Rate (HDR) Brachytherapy in combination with External Beam Radiotherapy (EBRT)

Radiotherapy

A guide for patients and carers

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## Introduction

Your oncologist (specialist cancer doctor) has recommended HDR Brachytherapy in combination with External Beam Radiotherapy. This information booklet will tell you about this combined treatment, your radiotherapy treatment plan, what to expect when you attend, what to expect after treatment and any long term side effects.

We have 2 other leaflets; 'Preparation for Planning and Treatment (Prostate cancer)' and the 'Radiotherapy' booklet which describes what to expect when you attend for planning and a course of treatment.

## What is combined EBRT and HDR Brachytherapy treatment?

Radiotherapy can be given as external beam radiotherapy (EBRT) (radiation delivered from outside the body) or brachytherapy (radiation delivered internally) or sometimes both together.

The combination of EBRT and brachytherapy is considered for certain patients and there is good evidence for this approach. It is offered as an alternative to EBRT alone for some men as research shows that this combination of treatments is well-tolerated with low levels of side effects reported to date, whilst being at least as effective as a long course of EBRT alone.

The advantage of this treatment plan is that it requires fewer visits to hospital in comparison to EBRT only, but the person must be fit enough for a general anaesthetic. Your oncologist feels that this combination of treatment is likely to be suitable for you.

## Your radiotherapy treatment plan

After your appointment with the Oncologist, we will look at your scans to begin to design the brachytherapy treatment which will then be 'fine-tuned' during the actual procedure.

Brachytherapy will be done in our Brachytherapy Suite at Clatterbridge Cancer Centre - Liverpool and the EBRT treatment either at Clatterbridge Cancer Centre - Liverpool, Wirral or Aintree. You may receive separate letters notifying you of each of these appointments; don't worry if they arrive 'out-of-order' as described in the treatment plan.

## Pre-operative assessment

In preparation for your visit to theatre you will need to attend a pre-assessment clinic at Clatterbridge Cancer Centre - Liverpool. We will contact you by letter to arrange this appointment. We will do blood tests, take a medical history, explain the procedure and answer any questions you have. You can drive unaccompanied to this appointment. Please allow 1 hour and bring a list of your medications with you. N.B. Those people attending from the Isle of Man will be admitted on the day of the procedure instead.

You will be given a separate appointment time for the actual brachytherapy treatment which is usually about two weeks after this pre-operative assessment.



### **Advice re: medication taken to thin the blood**

Warfarin should be stopped 5 days before the visit to theatre unless your oncology doctor advises against it. Restart Warfarin at your usual dosage the day after the procedure.

Clopidogrel should be stopped 7 days before a visit to theatre; restart Clopidogrel at your usual dosage the day after the procedure.

If you take Aspirin, this should be continued. If you have any concerns prior to commencing treatment, please contact Brachytherapy on **0151 556 5342**.

### **What to expect when you attend**

Brachytherapy is given as a single treatment requiring a stay overnight. All being well, you will be able to leave early afternoon the day after your treatment. Your EBRT will start about 2 weeks later. The majority of people will receive 15 EBRT treatment sessions. Those patients who also need their pelvic nodes treated will receive 23 treatments. All treatments are given as an outpatient.

## More about prostate brachytherapy

Prostate brachytherapy delivers radiation into body tissues using fine, hollow needles.

The treatment involves temporary placement of needles into the prostate. This, and the actual delivery of brachytherapy, are done under general anaesthetic in our Brachytherapy Suite at Clatterbridge Cancer Centre - Liverpool.

The radiation comes from a small solid radioactive source that is stored in a specialised brachytherapy treatment machine. To deliver the treatment, flexible tubes from the brachytherapy treatment machine are attached to each needle in order to send the radioactive source into the needles. You do not become radioactive as a result of this type of brachytherapy and so it is safe to be with children and pregnant women.



*Brachytherapy treatment room showing the treatment machine*



## About the brachytherapy procedure

You will be admitted onto the ward the morning of the procedure. You will have a general anaesthetic, so will be advised to stop eating and drinking at least 7 hours before the procedure. You will be given an enema shortly before going to theatre. Once under general anaesthetic in the brachytherapy suite, a catheter will be placed into the bladder to drain any urine. Then the needles will be passed through the skin behind your scrotum (perineum), guided by an ultrasound scan, into the prostate gland. Usually approximately 14 -18 needles are required. When the number and position of the needles is satisfactory, a treatment plan will be calculated. You will stay under anaesthetic for around 3 to 4 hours; the actual radiation delivery time is about 15 minutes. The machine will automatically remove the radioactive source when the treatment is finished and the needles will be removed before you wake. We will put a cold compress next to the perineum to help reduce swelling and the catheter will remain in place overnight.

3 small gold markers will be placed into the prostate during the brachytherapy procedure; See section later About External Beam Radiotherapy.

## What to expect after the brachytherapy procedure

On returning from theatre your visitors may be concerned at your appearance. It is normal to look “washed out” and pale after an anaesthetic, but after short sleep we expect you to look much better! The nurses on the ward will check on you regularly and give you painkillers, if required. Because of the duration and position we place you in to be able to complete the procedure you will be given an injection to reduce the risk of a Deep Vein Thrombosis (DVT) a few hours after the procedure. The ward staff will talk to you about the risk etc. of DVT.

It is usual to see blood in your urine. This may be quite heavy for the first few hours following the procedure but usually settles quickly after that. Occasionally, it may persist for longer. The catheter will be removed before you go home.

As there is a small risk of infection, antibiotics will also be given; first by injection while you are in theatre and then a short course of tablets which will be supplied before you go home. It is important to complete the course of antibiotics and seek help if you feel unwell; our nurse practitioners will give you contact details.

Once home, take plenty of rest for the first few days. The procedure is generally well-tolerated with few problems. You should be able to return to normal activities within 7-14 days. However, the effect of the procedure (both physical and radiation





induced) can result in the prostate swelling a little, sometimes causing pressure upon the urethra (tube from bladder to body surface) which passes through the prostate.

**As a result you may notice that you:**

- Have a weak flow when you empty your bladder
- Get an urgent need to empty your bladder
- Have difficulties starting to pass water
- Get a stinging sensation when you pass urine

We will give you a 28 day supply of tablets (Tamsulosin (Flomaxtra)) to reduce these symptoms. A repeat prescription should be obtained from your GP. You may need to take it for 6-12 months. **In the unlikely event that you are unable to pass urine, you should seek urgent medical attention.**

**You may also:**

- Get bruising beneath your scrotum that can spread to your upper thighs; this will gradually disappear
- Have discomfort when you sit down and at the site of the needle punctures. You can use an over-the-counter painkiller such as Paracetamol or Ibuprofen (unless you are allergic to them) to relieve the discomfort

You can help yourself by drinking approximately 1.5 - 2 litres each day until any urinary symptoms settle. Avoid large quantities of

caffeine (tea, coffee, energy and cola-type drinks) as caffeine can increase the flow of urine. Decaffeinated drinks are OK. Moderate amounts of alcohol can be taken, but stop if you notice any irritation. Some people find cranberry juice helpful, but do not drink it if you take Warfarin. Also, more than a couple of glasses a day can cause your bowels to be loose. Drink less after 7pm so that you do not have to get up during the night to pass water.

## About External Beam Radiotherapy (EBRT)

A week after brachytherapy, we will do a planning CT scan of your pelvis in the radiotherapy department. It will be used to design EBRT treatment.

Permanent small gold seed markers were placed into the prostate during the brachytherapy treatment as preparation for external beam radiotherapy. Their use allows us to:

- Ensure we can target the prostate with great accuracy
- Reduce the amount of tissue around the prostate (used as a safety margin) which receives the same dose as the prostate. This may help to reduce side effects during treatment and in the long term

The markers are implanted into the prostate before the planning scan to allow them to settle in place. They cause no problems once they are in position. They don't interfere with treatment and you should be unaware of their presence. It is safe to have MRI scans and they don't interfere with airport security scanners.



## When and how are the markers used

The markers, prostate and other organs/structures are clearly seen on the planning CT scan which we use to design your radiotherapy treatment plan.

Before each treatment, we will take x-ray images of you from the front and the side. The gold markers are clearly seen on the images. This tells us exactly where the prostate is. This allows us to fine-tune the position of the treating x-ray beams each day before we treat you. The measurements and any adjustments are done by the radiographers from outside the room. The checking process takes only a minute or so and you should lie still and breathe normally throughout as treatment will be given immediately afterwards. You may notice that the table you are lying on moves slightly just before we treat you. This is the fine-tuning and known as Image Guided Radiotherapy. The total time inside the treatment room is usually about 10 minutes.

You will be reviewed during your EBRT treatment and medicines and support will be given as required. We also have a Urological Cancer Clinical Nurse Specialist available to you and/or your carers. If you think contact would be useful, please discuss a referral with staff.

## What to expect after this combined treatment and long term effects

Treatment is usually well-tolerated. Many men may already have experienced similar symptoms to those caused by the treatment either because of their cancer or increasing age, e.g. urinary frequency (especially during the night), weak stream, urgency. Those men experiencing these symptoms for the first time may find the first few months following treatment more challenging with a potentially greater impact on your daily life/mood.

Following treatment, and within the first 3 months, the following symptoms are most common but usually mild; pain in the bladder and rectum, blood in the urine, diarrhoea and fatigue.

Urinary symptoms (frequency and retention) are most troublesome approximately 1 month following the initial brachytherapy treatment, which is towards the end of the EBRT treatment. Less than 1 in 20 men will experience urinary retention (inability to pass urine) which requires temporary placement of a catheter. After this time, and for the next few months, the bladder symptoms may continue to be bothersome. Those men who have bladder symptoms before treatment are more likely to develop acute and late effects which require medication.

When EBRT is given to the prostate only (i.e. not including pelvic nodes) long-term effects are not expected. When the pelvic nodes are treated, some men experience looser and more frequent bowel movements.



However, all symptoms will slowly improve over the following months though some men experience fatigue that may persist for many months.

**You may find the following advice helpful:**

- Drinking more fluid to soothe and flush the bladder; plain water is best and avoid excessive quantities of caffeine (found in tea, coffee, energy and cola-type drinks) which can increase the flow of urine
- Be aware that it may take longer to start to pass urine and the flow may be different; be patient!
- Take painkillers, if necessary
- Avoid foods which increase your bowel activity
- If fatigued, do activities for shorter periods and plan regular rest times into your day

If you have any concerns, please contact your GP.

Erectile dysfunction can occur, particularly in the first 6 months and for some men it can be permanent. With this combination of treatment, the risk of this is not expected to be any worse than with external radiotherapy alone.

A noticeable reduction in the volume and consistency of the semen produced on ejaculation is common, becoming clearer and more “liquid” than before. Eventually, you may not ejaculate any semen at all. This is called dry ejaculation and does not affect your ability to reach orgasm.

Prostate cancer treatment can impair sperm production and cause infertility (inability to have children) but you cannot assume that you are not able to make someone pregnant. You should therefore take contraceptive precautions, if this is relevant. If you want keep the option of having children in the future, discuss this before having brachytherapy. One of the options is sperm banking.

## Follow-up and recovery

As you complete your radiotherapy, your care needs will be assessed. A doctor from the oncology team will see the majority of patients within 4-6 weeks after completion of treatment. This appointment is usually at your local hospital. Meanwhile, if you have any concerns you should contact your GP or staff at the radiotherapy department - (see references section).

The diagnosis of cancer together with the impact of treatment and any side effects can have a major impact on how you feel, which then affects how you behave. Sometimes, your relationship(s), including sexual intimacy, are affected. You might find that you lack interest in sex and may have difficulty getting and maintaining an erection. Please discuss any sexual problems that arise with your consultant/nurse specialist, as various treatments or referral to specialist teams are available to help.

If you are able, talking about how you feel can be a great help. Some men and/or their partners may find it useful to visit the Prostate Cancer UK charity website, where people who have experience of cancer treatment share their experiences and advice.



Some find it useful to have the support of others who have experience of cancer by attending a local support group. Contact the Macmillan Information & Support Centre in the main reception of Clatterbridge Cancer Centre - Liverpool, Wirral or Aintree for more details.

If you find that you have long or frequent periods of low mood you should seek help from your GP. There are many ways to be helped, including but not always, a short course of anti-depressant tablets. Sometimes, more help is required to help you cope and overcome any negative feelings. Often, these feelings become more apparent once you have completed all your treatments and you are beginning to recover. You should discuss these issues with your GP or your oncology doctor at your follow up appointments. Referrals to specialist staff, e.g. a psychologist or sexual health practitioner alone or with your partner can be beneficial.

## Diet and prostate cancer

Research is emerging which suggests that some foods may slow down the growth of prostate cancer in men who already have the disease or reduce the chance of prostate cancer returning after treatment. Please visit the "Prostate Cancer UK" website for more information.

## Prostate Cancer UK and Macmillan Cancer Care Charities

Prostate Cancer UK and Macmillan Cancer Care have lots of information on coping and living with cancer that are available free of charge. These can be ordered by telephone or by visiting a Macmillan Information Centre (sited in the main entrances of Clatterbridge Cancer Centre - Liverpool, Wirral and Aintree).

### Useful Contact details

#### **The Clatterbridge Cancer Centre**

0151 556 5000 or [www.clatterbridgecc.nhs.uk](http://www.clatterbridgecc.nhs.uk)

#### **Macmillan Cancer Support**

0808 808 0000 or [www.macmillan.org.uk](http://www.macmillan.org.uk)

#### **Macmillan Cancer Information and Support at:**

Clatterbridge Cancer Centre - Liverpool 0151 318 8805

Clatterbridge Cancer Centre - Wirral 0151 556 5570

Clatterbridge Cancer Centre - Aintree 0151 556 5959

**Email:** [ccf-tr.informationcentre@nhs.net](mailto:ccf-tr.informationcentre@nhs.net)

#### **Prostate Cancer UK**

[www.prostatecanceruk.org](http://www.prostatecanceruk.org) or 0800 074 8383

#### **Brachytherapy Clinical Specialist Radiographer**

Direct Dial - 0151 556 5341

#### **Pre-assessment contact Brachytherapy - Liverpool**

Direct Dial - 0151 556 5065











## How we produce our information

All of our leaflets are produced by staff at The Clatterbridge Cancer Centre and this information is not sponsored or influenced in any way. Every effort is made to ensure that the information included in this leaflet is accurate and complete and we hope that it will add to any professional advice you have had. All our leaflets are evidence based where appropriate and they are regularly reviewed and updated. If you are concerned about your health in any way, you should consult your healthcare team.

We rely on a number of sources to gather evidence for our information. All of our information is in line with accepted national or international guidelines where possible. Where no guidelines exist, we rely on other reliable sources such as systematic reviews, published clinical trials data or a consensus review of experts. We also use medical textbooks, journals and government publications.

References for this leaflet can be obtained by telephoning 0151 556 5570.

If you need this leaflet in large print, Braille, audio or different language, please call 0151 556 5570.

**If you have a comment, concern, compliment or complaint, please call 0151 556 5203.**

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