

A large, stylized teal graphic on the left side of the page, composed of several concentric, curved segments that resemble a partial rainbow or a stylized letter 'C'.

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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Your Oncologist (Cancer Doctor) has recommended HDR Brachytherapy. This information booklet will tell you about this treatment, what to expect when you attend, what to expect after treatment and any possible long term side effects.

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.

What is brachytherapy?

Brachytherapy delivers radiation into body cavities or tissues using hollow tubes known as applicators and is ideal to treat tissue that is close to the applicator. An applicator is put in place just before each treatment session. The radiation comes from a small solid radioactive source that is stored in a specialised treatment machine.

During treatment the radioactive source travels down a tube, into the applicator, delivers the radiation as per your specific patient plan and is then automatically returned to the machine. You are **NOT** radioactive following your HDR Brachytherapy treatment and are therefore fine to be around children and anyone who is pregnant. Brachytherapy treatments can be delivered alone or can be combined with external beam radiotherapy (EBRT).



HDR machine and treatment room



What is 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. 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.

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



EBRT machine and treatment room

should be unaware of their presence. It is safe to have MRI scans and they don't interfere with airport security scanners.

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.



Where is the treatment given?

Brachytherapy treatment is carried out in the Brachytherapy Suite at Clatterbridge Cancer Centre. We will arrange a floor clinic appointment for you during your course of EBRT treatment to give you more information and arrange the date for your first brachytherapy treatment. You will be asked to attend a pre-operative assessment during your EBRT to check that you are suitable for a general anaesthetic. Your first brachytherapy appointment is usually within a few days of finishing your course of EBRT treatment. The remaining treatments are given over the following 1-2 weeks (theatre sessions being twice a week).

Brachytherapy treatment is carried out in the Brachytherapy Suite also known as "Theatre" at:
Clatterbridge Cancer Centre
65 Pembroke Place,
Liverpool L7 8YA.
Please check in on Floor 1.



For further information regarding parking, hospital transport, on site facilities and visiting please go to our website: clatterbridgecc.nhs.uk

Pre-operative assessment

Before Brachytherapy Treatment you'll be asked to attend the department for a pre-operative assessment which is an in-person appointment with one of our Theatre Nurses.

This appointment is designed to check whether you have any medical problems that might influence decisions on the best way to deliver your treatment, the type of anaesthetic you may be offered and whether you'll need any special care during or after your surgical procedure.

At the appointment you will be asked questions about your health, medical and surgical history and home circumstances. Your blood pressure, heart rate, oxygen saturations and temperature will be measured and there may also be some additional tests such as an ECG, blood tests and routine swabs for MRSA.

You can drive unaccompanied to this appointment. Please allow 1 hour and bring a full list of your medications with you.

N.B If you are patient based outside of the North West, arrangements will be made to have your pre-operative assessment in a local hospital.



Preparation for treatment

It is very important that you prepare for your procedure in following ways:

- No food or drink should be consumed within the 6 hours before attending Brachytherapy for a procedure under general anaesthetic, except clear fluids (water) which can be taken in small amounts up to 2 hours before going into theatre.
- You must have someone available to pick you up the following day. This is because you will be under general anaesthetic (asleep) for the procedure and therefore, you must not drive for 24 hours after the treatment.
- If you are taking blood thinning medication you will be advised at your pre-operative assessment when to stop taking them.

What to expect when you attend for treatment

Prostate Brachytherapy requires an overnight stay after the procedure. All being well you will be able to leave early afternoon the day after your treatment.

On the day of your treatment you will be admitted on to a ward where you will have a private bedroom.



You will be given an enema shortly before going to for your treatment. Once under general anaesthetic in the brachytherapy suite, a catheter will be placed into the bladder to drain any urine. Needles will be passed through the skin behind your scrotum (perineum), guided by ultrasound, into the prostate gland. On average 12 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.

You will return to the ward and the nurses there will check on you regularly and give you painkillers, if required.

It's important to drink plenty of fluids after your procedure.

The catheter will be removed the day after the procedure and then you will be discharged home. You must have someone available to pick you up after the procedure is finished. You must have someone available to pick you up after the procedure is finished. You must not drive for 24 hours after the anaesthetic.



Possible side effects after your treatment

After your treatment, you may experience some side effects. These symptoms are normal and should last a few days only. However, if they continue or worsen, you should contact your GP.

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.

You may experience bruising beneath your scrotum that can spread to your upper thighs; this will gradually disappear.

You may 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.

The effect of the procedure 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.

Therefore you may also experience:

- A weak flow when passing urine
- An urgent need to pass urine
- A stinging sensation when passing urine
- Difficulty passing urine - If you are unable to pass urine at all you **MUST** go to A&E and explain you have had Prostate Brachytherapy and need to be catheterised immediately.

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.

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; contact details for any post-operative concerns will be provided to you.

You can help your urinary symptoms by drinking approximately 1.5-2 litres of non-caffeinated drinks each day.

Possible late effects

Long term side effects can occur months or even years after completing treatment. These include:

Erectile dysfunction can occur, particularly in the first 6 months and for some men it can be permanent.

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 to keep the option of having children in the future, discuss this with your Cancer Doctor before having brachytherapy. The option of sperm banking is available.

Follow-up and recovery

It is important to attend your follow-up appointments. The first appointment is usually about 6 weeks after finishing treatment. If you do not receive an appointment either by text or post within 2 weeks of finishing treatment, please contact your Cancer Doctor's Secretary.

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 Cancer Doctor /nurse specialist, as various treatments or referral to specialist teams are available to help.

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 Cancer 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.

Additional information

There is an information video available on our website: www.clatterbridgecc.nhs.uk/patients/treatment-and-support/brachytherapy

There are also links to additional information leaflets:

- Radiotherapy booklet
- Radiotherapy to the female pelvis
- Use of vaginal dilators when receiving radiotherapy to the pelvis

Macmillan booklets about coping and living with cancer and treatment side effects are available free of charge. These can be ordered by telephoning **0808 808 00 00** or by visiting a Macmillan Information Centre (sited in the main entrances of Clatterbridge Cancer Centre - Liverpool, Clatterbridge Cancer Centre - Aintree and Clatterbridge Cancer Centre - Wirral).



Useful contact details

The Clatterbridge Cancer Centre

www.clatterbridgecc.nhs.uk telephone 0151 556 5000

Macmillan Cancer Support

www.macmillan.org.uk telephone 0808 808 0000

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

Brachytherapy Clinical Specialist Radiographer

Direct dial 0151 556 5342

The Clatterbridge Cancer Centre Hotline 0800 169 5555

If you are unwell during or up to six weeks following your cancer treatment please call The Clatterbridge Cancer Centre Hotline.

Your call will be answered by a dedicated nurse advisor. This line is available 24 hours a day, 7 days a week.

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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Issue date: November 2023

Issue no: 3.3

Reference: LRAAPREBR

Review date: November 2025