

High Dose Rate (HDR) Prostate Brachytherapy

Guide for patients

Why have I been given this leaflet?

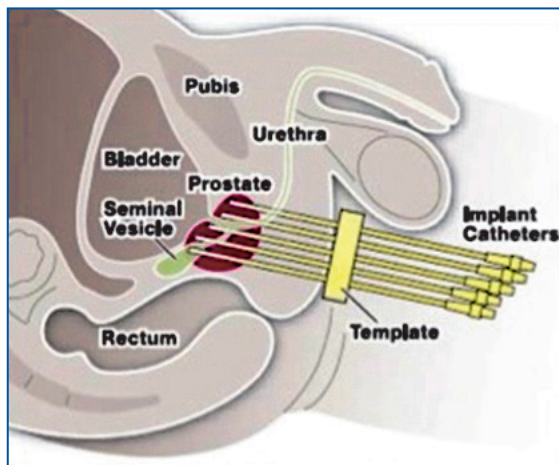
This leaflet was given to you because your Consultant Oncologist has offered you brachytherapy treatment for your prostate cancer.

Please note that this is for your information only and contains details about brachytherapy at the Sussex Cancer Centre, Royal Sussex County Hospital in Brighton (RSCH). This information is not exhaustive, therefore please ask any member of the brachytherapy team for further details/ information.

What is HDR brachytherapy?

The term of Brachytherapy derives from the Greek term 'brachys' which means 'short distance'. Brachytherapy is a highly targeted form of radiation cancer treatment that allows delivery of the radiation dose directly inside the tumour.

HDR stands for High Dose Rate and refers to the type of brachytherapy we offer at the Sussex Cancer Centre. There are different types of brachytherapy, such as Low Dose Rate (seed implant). Your Consultant will decide the type of treatment suitable for your diagnosis and stage of prostate cancer.



Picture 1

The type of brachytherapy you are about to receive may be referred to as interstitial temporary HDR brachytherapy. The treatment is delivered by inserting a radioactive source into the prostate for a short period of time and then removing it.

HDR Brachytherapy for prostate cancer treatment allows the prostate to receive a uniformly distributed high dose of radiation, while minimising the dose to the surrounding tissues and organs (bowel, rectum and bladder).

What does prostate brachytherapy entail?

Brachytherapy is delivered through a set of flexible plastic catheters (refer to Picture 1) also referred to as needles. They are inserted into the prostate through the perineum (the area between the anus and testicles).

The insertion of the flexible catheters is carried out in the operating theatre, under general anaesthetic whilst using rectal ultrasound for guidance. The catheters are held into place by a template surgically stitched to the perineum (refer to Picture 1).

The radiation dose is delivered by connecting the flexible catheters to the HDR machine (refer to Picture 2) using a set of tubes (refer to Picture 3). An Iridium (Ir192) radioactive source (smaller than a grain of rice) is then remotely driven through each of the catheters into the prostate, stopping at set points for a set amount of time. The treatment can take between 10 and 30 minutes.



Picture 2



Picture 3

Pre treatment procedure

You should receive a letter with an appointment for a preoperative assessment. This appointment will take place at the Princess Royal Hospital in Haywards Heath, Hickstead Urology Unit.

At this appointment you will have blood tests, heart monitoring (ECG) and instructions on preparing for the brachytherapy day. You will be given supplementary drinks with instructions on how to use them. This appointment may take up to 3 hours.

The day before the Brachytherapy, you will need to follow instructions for bowel preparation. These are attached at the end of this leaflet as an Appendix.

Brachytherapy pre theatre procedure

On the morning of your brachytherapy you will arrive at Theatre Admissions at 7.30 am. It is advisable to be dropped off and preferable not to have visitors until after the procedure as it is a long day. You will then meet the Anaesthetist and one of the Clinical Oncologists.

When instructed you will need to use a small enema and get changed into your theatre gown and surgical stockings.

Theatre procedure

The anaesthetist will give you the anaesthetic. Once you are asleep the Oncologist will insert the catheters/needles, which takes approximately one hour. A urinary catheter will be inserted during this time and will remain in situ throughout the day.

Once the procedure is completed, you will be taken to theatre recovery where a nurse will look after you while you are waking up from the

anaesthetic. Until the catheters are removed you will need to remain in bed, we will be able to raise your head slightly so that you are as comfortable as possible. You will now be able to have a drink.

CT planning scans

The brachytherapy staff will collect you from the recovery ward and take you for your first CT scan. This is the scan that will be used by the Consultant Oncologist and the physics team to plan your treatment.

The CT scan will take approximately 5 minutes.

We will then take you to a ward while the treatment is planned. There will be a nurse with you at all times. At this stage food and more drinks can be arranged for you. It is advisable to maintain a good fluid intake throughout the day. This is also the time when you or we can contact your family/friends.

The planning procedure can take approximately 2 - 3 hours. When the plan has been approved and checked we will take you for a second CT scan. The consultant and planning team use the second scan to check the catheter positions to ensure none have moved since the first scan. If any displacement is noted then the catheters will be gently repositioned prior to treatment. We will take you to the brachytherapy treatment room in the Sussex Cancer Centre.

Treatment in the Brachytherapy room

The catheters will be connected to the machine through tubes as in Picture 2. You will be informed of how long delivery of the treatment will take. You will be alone in the treatment room, however there is a camera and a microphone system so we can see and talk to you during the treatment. There is nothing to feel with radiation treatment; you will hear mechanical noises from the machine.

Once the treatment is delivered, the catheters are disconnected from the machine and the Consultant Oncologist will remove the template from your perineum followed by the removal of catheters. You will be offered Entonox gas which provides pain relief for any discomfort.

There will be some bleeding from your perineum. In most cases after brachytherapy there is blood in the urine. The Oncologist may decide to irrigate the bladder via the urinary catheter which means flushing the bladder with sterile water to help clear the urine and bladder of blood.

The Brachytherapy Radiographers will give you letter informing you to continue taking paracetamol (if required). This letter will also be sent to your GP to ask them to issue a prescription which you can obtain on repeat.

Once the treatment is complete you will be transferred to an inpatient ward. A Trial Without Catheter (TWOC) will be performed to assess how you empty your bladder without the catheter. Based on circumstances this may be done on the same evening as treatment or the following morning. If you are able to pass urine over a period of time you may be discharged, it is important to keep hydrated throughout the day. It is important to ensure you have somebody that can pick you up and are able to stay with you for 24 hours after treatment.

This flowchart summarises the procedure:

- Arrive at Theatre admissions at Royal Sussex County Hospital at 7:30 a.m
- Prepared for theatre including use of enema
- Given general anaesthetic
- Brachytherapy needles inserted in theatre
- Recovery Ward
- 1st CT scan for Brachytherapy planning
- Held in ward with a designated nurse whilst treatment is planned. Able to eat, drink and use telephone to call relatives.
- 2nd CT scan to check needle positions
- Brachytherapy Treatment in Cancer Centre

- Needles removed
- Admission to ward for possible overnight stay
- Irrigation removed (if required)
- Catheter removed
- Discharged in evening/morning when able to pass urine.

What happens after Brachytherapy?

This is a frequently performed treatment that patients tolerate well. You should take it easy for a few days after the procedure. You may experience bruising and discomfort in the perineum. It is important that you continue to keep well hydrated during the day and reduce water intake late at night and during the night.

There may be short term bladder and bowel side effects post brachytherapy insertion. Your frequency and urgency to urinate may increase. One complication you may experience is urinary retention. You may feel discomfort when passing urine. Your bowel movements may become loose and more frequent. There may be blood present in your stools, urine and semen. These are all normal effects of the treatment which can continue for up to 2/3 weeks.

You should continue to take Tamsulosin daily as recommended by your Oncologist. When you have your follow up appointment with your Oncologist they will advise whether you need to continue taking Tamsulosin.

If you are concerned about the side effects please do not hesitate to contact the brachytherapy team; all necessary phone numbers are at the back of this leaflet.

One of the brachytherapy radiographers will contact you one week post treatment to ensure you are managing your side effects, offer advice and arrange further appointments with the consultant should this be necessary.

Long term side effects of radiation treatment for prostate cancer include an increased risk of developing a narrowing of the urethra, impotence and bowel changes.

The narrowing of the urethra can lead to slow urinary flow and can be treated by internal dilatation under anaesthetic. The bowel changes long term are related to frequency and consistency.

Please do not hesitate to ask if you have any concerns about the treatment or its side effects.

Appendix: Medication instructions

On the Monday before your procedure you need to take one Tamsulosin tablet with water. Continue to take Tamsulosin until further notice. If you experience any problems after taking this medication then contact your GP. You will be provided with this medicine by the Radiographers.

Appendix: Bowel Preparation Instructions

You have been prescribed Picolax to make sure that your bowel is empty for your Brachytherapy procedure. Continue to take all other medication as normal. You will be provided with this medicine by the Radiographers.

DAY BEFORE BRACHYTHERAPY:

STEP 1: Have a light breakfast before 8 a.m.

This could include:

- Cereal (no bran)
- Toast (white bread)
- Water biscuits, cream crackers, rich tea biscuits
- Eggs
- Tea/Coffee.

STEP 2: Take one sachet of Picolax at 10 a.m.

You should expect frequent loose bowel motions to start at any time after taking Picolax. Please ensure you have access to a toilet at all times until the effects wear off.

It is important that you drink plenty of fluids throughout the day to replace the fluids that you have lost. You should try to drink a glass of water (about 250ml) every hour whilst you are experiencing the effects of Picolax.

STEP 3: From the time you take your Picolax until midnight

You will have been given supplementary drinks at your pre-op appointment. Take these as instructed.

You are unable to eat anything and may only have clear fluids such as:

- Water
- Black tea or black coffee, herbal tea (any without milk)
- Bovril/Stock cube dissolved in hot water
- Miso soup
- Clear broth drained of any solids

STEP 4: Midnight until 6 a.m.

You may drink water only.

MORNING OF BRACHYTHERAPY PROCEDURE:

STEP 5: Nil by mouth after 6 a.m.

STEP 6: Administer enema at theatre admissions when instructed.

Patient notes

(Please feel free to write any questions you would like to ask your Consultant or Radiographer here)

Important contacts

We wish you well with your treatment. If you have any concerns or questions about this leaflet or your Brachytherapy treatment including External Beam Radiotherapy, please don't hesitate to telephone us.

Audine Johns Brachytherapy Radiographer.
01273 696955 Ext. 67754

Raxa Ford Review Radiographer
01273 696955 Ext. 67286

Hannah Cassap Assistant Practitioner
Hannah.cassap@bsuh.nhs.uk

Dr Nikapota's Secretary: **01273 696955 Ext. 64328**

Dr Robinson's Secretary: **01273696955 Ext. 64690**

Radiotherapy Reception: **01273 664901**

Howard 1 Ward: **4051**

Other useful sources of information:

The Prostate Cancer Charity
Freephone Helpline: 0800 074 8383
E-mail: info@prostate-cancer.org.uk
Website: www.prostate-cancer.org.uk

Prostate Cancer Support Association
Helpline: 0845 601 0766
E-mail: helpline@prostatecancersupport.info
Website: www.prostatecancersupport.co.uk

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The information in this leaflet is for guidance purposes only and is in no way intended to replace professional clinical advice by a qualified practitioner.

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