NHS Foundation Trust

Patient information

Stereotactic Body Radiotherapy for prostate cancer

This factsheet describes what you can expect if you are suitable for Stereotactic Body Radiotherapy (SBRT) treatment for your prostate cancer.

SBRT is a way of delivering high dose radiotherapy using highly precise techniques. It can be delivered using a conventional radiotherapy machine known as a linear accelerator (Linac), an MR-linac which is a linear accelerator combined with an MRI scanner, or using CyberKnife which is a dedicated SBRT machine involving the use of a robot. Treatment is usually given in five sessions which can be consecutive days or alternate days.

Before treatment starts, there is a preparation phase which is described below. During and after treatment there may be side effects, but these are often short-term. Once treatment is complete, we will monitor you in clinic to check that the cancer is controlled or cured.

The difference between SBRT and other radiotherapy treatment for prostate cancer?

Most localised prostate cancer is treated using radiotherapy or surgery (prostatectomy), with or without hormone treatment. These treatments have been used for decades, and we know that they work very well. External radiotherapy treatments have continued to develop over the last 10 years, including the development of SBRT, which has been used extensively there for several years. Using these techniques, prostate cancer can be treated with SBRT, however not all patients are suitable. Eligibility is based on individual diagnosis and clinical history.

SBRT for prostate cancer is delivered in 5 treatment sessions, called fractions. The Royal Marsden has led and taken part in a number of large trials of SBRT, where patients are allocated treatment options on a random basis and are followed up for many years to see which option is best. From these trials, particularly the PACE trials, we know that for early prostate cancer, SBRT cures as many patients as longer courses of treatment. We also know that there is no difference in the chance of long-term bowel side effects, but more men have medium term bladder side effects after SBRT. These are usually short-lived but can be bothersome for a small number of men. Those with poor bladder function at baseline may be recommended a longer course of treatment.

If I decide to proceed with SBRT, what happens next?

If your doctor agrees that SBRT is suitable for your particular prostate cancer, they will go through the preparation for treatment in detail with you. If you are being treated in Chelsea, your SBRT treatment will usually be given using CyberKnife. If you are being seen in Sutton, you will be treated using a linear accelerator, an MR-linac or Cyberknife. Your doctor will discuss the possible short and

long-term effects that you might experience. If you are happy to proceed, you will be asked to sign a consent form for treatment. To prepare for your treatment, appointments will be arranged for



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gold marker insertion (unless you are having treatment on the MR-linac, as gold markers are not needed for this) and planning scans as described below:

Gold marker insertion (for Cyberknife and standard linac treatment)

Gold markers (sometimes known as gold 'seeds') are inserted into your prostate in a procedure similar to the prostate biopsy, which you will have had to diagnose your prostate cancer. This is to allow accurate tracking of the prostate during treatment. You will be provided with a separate factsheet which provides details about the gold marker procedure and how to prepare for it.

You will be prescribed some antibiotics to start prior to the procedure and will have a rectal swab to confirm that the prescribed antibiotics are suitable for you. If you are taking Aspirin, Warfarin, Clopidogrel, Rivaroxaban or similar, or any other medication to thin the blood, these will need to be stopped well in advance of the gold marker procedure so please mention this now. The Urology team will advise you when to stop your blood thinners and when they can be restarted.

Planning scans

Planning scans will take place at least seven days after gold marker insertion to give time for the markers to settle in. These scans enable us to individualise the treatment for you, and to design the best way to get the radiation beams to focus on the prostate. You may have a CT scan (in the Radiotherapy Pre-treatment Department) and will have an MRI scan (in the Imaging Department). At the end of your CT scan the radiographers may give you three very small permanent marks (tattoos) to ensure your position is reproducible for each treatment session. The planning process for the technical team can take up to two weeks but may be shorter.

You will be prescribed some enemas to ensure that your back passage (rectum) is empty when we do your planning scans and treatment. Two days prior to the scans, you should start taking the enemas as directed by the Urology team. The enemas work quickly so make sure you can stay near to a toilet for 30 minutes after insertion. You will also be asked to attend 90 minutes before your first preparation scan to insert an enema brought in from home and to fill your bladder as directed by the radiographers.

Treatment

Before your first SBRT treatment, you should take the enemas again, starting two days before your first treatment and continue daily before each treatment. On each day of treatment please use one enema to clear your bowel at home just before leaving for your appointment.

On your first treatment day, please arrive well before your appointment. The team will advise you when to attend. We are happy for you to be accompanied and there is a dedicated waiting room. One of the radiographers (professionals who deliver the treatment) will talk you through the procedure and will also give you instructions about emptying and then re-filling your bladder. A moderately full bladder pushes the small bowel out of the radiation field and can help to reduce bowel side effects.

Linac treatment

You will be asked to lie still on the treatment bed. It is very important to get you in exactly the right position so there may be up to 10 minutes of moving and shuffling on the bed before the radiographers are happy to start the treatment. During this time, you will have a mini-CT scan to





check the position of your prostate. The machine will move around (rotate) but will not touch you and you will not feel anything while the radiotherapy is being delivered. The radiation delivery takes about three minutes. Please lie as still as you can - if you need to move or need assistance the radiographers can see and hear you while you are in the room.

MR-linac treatment

We will ask you to lie still on the treatment bed. An MRI scan will be acquired each day which will be used to plan your treatment. MRI scans are noisy, and the scanner will be working intermittently throughout your time on the bed. Once a plan has been created, the treatment will be delivered; you will not feel anything during treatment. Please lie as still as you can – if you need to move or need assistance, press the buzzer. The planning and treatment can take around 45-60 minutes each day.

CyberKnife treatment

We will ask you to lie on the treatment bed in the CyberKnife room. It is very important to get you in exactly the right position so there may be up to 15 minutes of moving and shuffling on the bed before the radiographers are happy to start the treatment. During the treatment the system will take x-rays of your prostate every 30-60 seconds to make sure that the radiation is exactly on target. The robot will move around you but will not touch you. Please lie as still as you can - if you need to move or need assistance, the radiographers can hear you. The treatment time varies but is usually 25-50 minutes.

After treatment

You are not likely to feel anything immediately after your treatment and will be able to go home in the car or on public transport, as you wish. It is not necessary to have someone accompany you. Towards the end of your treatment, you may start to experience some side effects which tend to be worst at the end of treatment and for one to three weeks after treatment. If you are experiencing side effects which concern you, please contact the Specialist Urology Radiographers or your key worker. Possible side effects are listed below.

Common side effects during and immediately after treatment (short-term)

Most patients (more than 50%) will experience one or more of these but often medication can help with these symptoms:

- Tiredness
- Loose bowel motions or diarrhoea
- Discomfort in the back passage
- Needing to pass water more frequently, discomfort (pain) on passing water
- Rarely (about 1%) patients may need a catheter short term (for example, two weeks) due to prostate swelling after SBRT.

Common side effects in the long-term (these occur months or years after treatment):

- Impotence or erectile dysfunction (30-50% risk)
- Infertility (almost 100% risk)





• Minor change in bowel habit (around 30% risk).

Rare side effects

Likely to affect less than one in 10 patients, occurring in the months and years after treatment:

- Narrowing of the urethra (tube to the bladder) causing problems passing water (less than 1%)
- Permanent change in bowel habit (less than 10% risk)
- Bleeding from the back passage needing surgical treatment (less than 5%)
- Bowel or bladder incontinence (less than 1%)
- Possible small increase in the risk of bowel or bladder cancer.

Follow up in clinic

We will usually arrange a telephone consultation with you six weeks after you have completed treatment to check any side effects have settled down. Following this, you will have either a face-to-face appointment or a telephone consultation approximately every six months and a PSA blood test should be checked at least twice a year until five years after treatment. The PSA is the best measure of how the treatment has worked, but it takes many months to fall to its lowest level after treatment. It can also 'bounce' up and down over time, so if it rises once or twice this is not necessarily cause for concern.

If you have any further questions, please write them down here and bring this list to your next clinic appointment or call your key worker for more information.

Contact details

The Royal Marsden Hotline: 020 8915 6899 (available 24 hours a day, 7 days a week)

For further information, please visit The Royal Marsden website: The Royal Marsden Hotline | The Royal Marsden

