



University Hospitals Birmingham
NHS Foundation Trust



Stereotactic Radiotherapy for Prostate Cancer using CyberKnife

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www.uhb.nhs.uk/patient-information-leaflets.htm

This leaflet has been given to you to provide some written information about the treatment that is being planned for you in addition to the explanations that you have received from your doctor. If you have any questions, please get in touch with the specialist radiographers (contact details can be found at the end of this leaflet).

Throughout your care there may be different health professionals who can guide and support you during and after treatment. To help you manage your care you will be allocated a key worker during your treatment. Your key worker is a named person who can act as a point of contact. The key worker will be a member of the team who is currently involved in your care and so may change during the course of your care as appropriate. The key worker will not provide all the care and support you need, but will be able to put you in touch with the right people to help you or will help you to get the information you need.

The key worker will always be a trained health professional who may also have another role to play in your care. For example, it may be a clinical nurse specialist, radiographer, Macmillan Nurse, doctor, community nurse, psychologist, physiotherapist, or social worker.

What are the treatment options for prostate cancer?

Prostate cancer is relatively common and treatment will vary depending on:

- The grade of your cancer
- Whether your cancer is contained within the prostate gland (localised), spread just outside the prostate gland (locally advanced) or spread elsewhere in the body (advanced)
- How well you are

Treatment may involve:

- Surgery to remove the prostate
- Hormone therapy to control the cancer

- Radiotherapy to the prostate and surrounding tissues
- Radiotherapy targeted specifically at the prostate, for example stereotactic radiotherapy or brachytherapy (internal radiotherapy)
- Surveillance

Your team of doctors (surgeons and oncologists) will decide which treatment or combination of treatments is right for you based on the stage and grade of your prostate cancer. Your doctor will discuss the options with you in clinic.

What is stereotactic radiotherapy?

Stereotactic radiotherapy is a highly focussed and accurate treatment which involves precisely targeting multiple X-rays at the prostate. The aim is to destroy the cancer cells within the targeted region.

Stereotactic ablative body radiotherapy (SABR) to the prostate is only available as part of a clinical trial or as a private patient. We use the “CyberKnife” to deliver SABR to the prostate. This is a specialised radiotherapy machine mounted on a robot arm so that the radiotherapy can be given very accurately to the prostate. In the same way that having a normal X-ray does not hurt, you will not feel anything whilst you are having radiotherapy. **Having radiotherapy does not make you radioactive. There is no need to restrict your contact with other people, including children and pregnant women.**

Why do I need to have stereotactic radiotherapy?

Stereotactic radiotherapy for prostate cancer using CyberKnife has been recommended for you as a treatment option by your team of doctors. This is either through a clinical trial or privately. This treatment is best suited for patients with prostate cancer confined within the capsule, that are otherwise well.

What are the benefits of stereotactic radiotherapy?

The accuracy of CyberKnife means that a high dose of radiotherapy can be focussed on a very precise area. This means that 5 treatments are needed. The treatment is given to try and permanently stop the growth of the prostate cancer. The overall aim of this treatment is to achieve cure of the cancer.

When is stereotactic radiotherapy given?

Stereotactic radiotherapy is given on alternate weekdays (excluding weekends) with a total of five treatments being given. The treatment is delivered in the CyberKnife suite (Radiotherapy Room 9) in the Radiotherapy Department in the Heritage Building (Queen Elizabeth Hospital).

What needs to happen before I start stereotactic radiotherapy?

Stereotactic radiotherapy requires careful planning and preparation and there are 3 important steps prior to the start of your treatment:

1. Insertion of gold markers
2. CT scan (for radiotherapy planning)
3. MRI scan (for radiotherapy planning)

We will need to implant some fiducial markers (small gold seeds) into the prostate prior to treatment and this will happen on your first visit in preparation for stereotactic radiotherapy. This is so that we can see the prostate whilst we are treating you. The CyberKnife unit uses X-rays to monitor the position of your prostate during treatment. X-rays are good at showing bone and markers but not soft tissue and this is why we need to implant some little gold seeds into your prostate. These seeds will remain in your prostate. The implantation is done using ultrasound guidance, an anaesthetic and X-rays to check the position of these markers. The procedure is very similar to how

prostate biopsies are taken. You will not need to stay in hospital overnight.

You will need to have some further scans done in order to plan your treatment appropriately. These will be done at least a week after the fiducial markers have been implanted. These will include a planning CT scan, which is carried out within the Radiotherapy Department (Heritage building) and a MRI scan which will be done in the main hospital. At the CT scan, with your permission, you will be given three permanent marks on the skin of your pelvis (one on either side and one on your front). These are very small, around the size of a freckle but are permanent. We need these markers to ensure you are in the same position for treatment as you were for your planning scans.

To make your treatment as accurate as possible and to minimise side effects, we need to try and keep your bladder and bowel state consistent for the planning CT and treatment appointments. When you attend your planning CT scan the radiographers will discuss this with you.

After your CT scan, the radiographers will give you the details of your first radiotherapy treatment appointment and show you where the CyberKnife suite is (Radiotherapy Room 9). They will try to accommodate you if you have a preference for morning or afternoon appointments and will arrange hospital transport for your treatment if necessary.

After your scans the team will plan your treatment. The planning is complex and time consuming so you will not start your treatment until at least a fortnight after your scans.

What happens when I come to the CyberKnife unit?

Your treatment will be on a weekday. This appointment normally takes up to an hour and a half. The radiographers will explain what is going to happen and show you the CyberKnife unit. The machine moves around the room and can make some noises. When all your questions have been answered, the radiographers

will ask you to lie on the treatment couch and then move you into the correct position.

The radiographers will then take some X-ray images to confirm your position before they start the treatment. They may come in and out of the room and adjust your position slightly. The treatment machine will then move around you, and will only be on for brief periods before moving to the next position. You do not feel anything whilst the treatment is being delivered but you may hear and see the machine moving. You must stay as still as possible.

Whilst you are on the treatment couch, the radiographers will continue to take and assess X-ray images during your treatment to ensure your position remains perfect. Assessing these images may take some time and need discussion with other members of the team. These images involve a very small additional dose of X-rays, but are essential to ensure accurate treatment.



CyberKnife

The radiographers cannot stay in the room with you whilst the machine is on but they are operating the machine and watching you all the time on cameras. If for any reason you need the radiographers, simply raise a hand and they will immediately stop the treatment and come in. You are welcome to bring a CD with you so you have something to listen to whilst you have your treatment.

CCTV use

The treatment rooms are monitored during your preparation, positioning and treatment delivery by television cameras. This is part of ensuring the accuracy of your treatment and your safety and well being in the rooms at all times. We assure you that the camera image feed is live and it is not possible to make a recording. The images are viewable on screens situated in the machine control areas. The control areas are only accessed by authorised radiotherapy staff, some of whom may not be directly involved in your care at the time. If you have any concerns about your privacy or dignity, that you have not already discussed then please do not hesitate to highlight your concerns during the information discussion with the radiographers at your first appointment.

What happens after my treatment?

You can go home each day after your treatment.

What side effects may occur after my stereotactic radiotherapy treatment?

Stereotactic radiotherapy has relatively few side effects, and the side effects that do occur can differ between patients.

Commonly patients experience tiredness. The prostate is very close to the bowel and bladder and so some patients can experience bowel changes (loose bowel movements or diarrhoea) and urinary changes (increase in frequency or discomfort when passing urine).

Long term side effects can include continued bowel changes and urinary changes as well as erection problems and infertility.

Ionising radiation carries a small risk of causing another cancer many years after treatment; however this risk is extremely small compared to other factors such as tobacco.

Your consultant will discuss the possible side effects in more detail before you consent to treatment. If you have any concerns

with side effects, either those mentioned above or those raised through discussion, please do contact your consultant or key worker.

Following your treatment

You will have a follow-up appointment with the urology radiotherapy oncology team 6-8 weeks after treatment. The team will also discuss the timing of any further blood tests and scans.

Other information

Car parking

Car park D is directly opposite the doors to the Cancer Centre on the hospital drive. If you park here and bring in the ticket you have taken to access the car park, the radiographers on the treatment room will exchange this for a prepaid one so you can exit the car park. This has only been negotiated for patients who are attending for radiotherapy planning or treatment appointments so unfortunately the radiographers will not be able to give you a ticket if you are attending for a follow-up appointment.

Contact details

CyberKnife radiographers

Telephone: 0121 371 5060

If there is no answer then please leave a message so one of the radiographers can call you back. This telephone will be checked regularly throughout the week but not checked at weekends.

Radiotherapy
Heritage Building (Queen Elizabeth Hospital)
Mindelsohn Way, Edgbaston
Birmingham B15 2TH
